

User Manual

QM85F

The color and the appearance may differ depending on the product, and the content in the manual is subject to change without prior notice to improve the performance.

- 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.

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Chapter 01

Before Using the Product

Safety Precautions

The following safety instructions are to ensure your personal safety and prevent property damage. Please read the following to ensure the proper use of the product.

Safety symbols

Symbol	Name	Meaning
	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.
	Prohibition	Do NOT attempt.
	Instruction	Follow directions.

CAUTION			
RISK OF ELECTRIC SHOCK. DO NOT OPEN.			
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.			
	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.		AC voltage: Rated voltage marked with this symbol is AC voltage.
	This symbol indicates that this product has included important literature concerning operation and maintenance.		DC voltage: Rated voltage marked with this symbol is DC voltage.
	Class II product: This symbol indicates that a safety connection to electrical earth (ground) is not required.		Caution. Consult instructions for use: This symbol instructs the user to consult the user manual for further safety related information.

Electricity and Safety

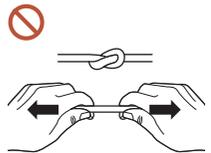
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



Do not touch the power plug with wet hands.

Otherwise, an electric shock may result.



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

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

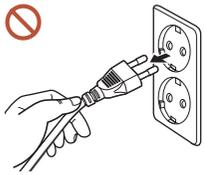


Do not connect multiple products to a single power socket.

Overheated power sockets may cause a fire.

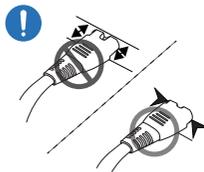
-  **Insert the power plug all the way in so it is not loose.**
An unsecure connection may cause a fire.
-  **Clean any dust around the pins of the power plug or the power socket with a dry cloth.**
A fire may result.
-  **Connect the power plug to a grounded power socket. (Except for devices that do not provide grounding)**
An electric shock or injury may result.
-  **Do not use a damaged power plug or a loose power socket.**
An electric shock or fire may result.

Caution



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

An electric shock or fire may result.



When connecting the power plug to the port, be sure to connect it completely.

If the power plug is not completely connected to the port, the plug may be unexpectedly disconnected, or there is a risk of overheating due to overcurrent, leading to safety accidents.

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

An electric shock or fire may result.

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

When a problem occurs with the product, the power cord must be unplugged to completely cut off power to the product. The power is not completely cut off by using only the Power button on the body of the product.

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

The product may become damaged by an electric shock.

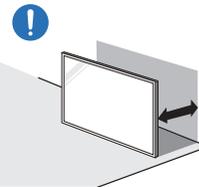
Installation

Warning



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

Damage to the cable may cause a fire or electric shock.



When installing the product, keep it at a distance from the wall so that it is well ventilated.

An increased internal temperature may cause a fire.



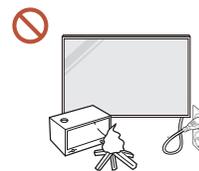
Do not install the product in a poorly ventilated space such as bookcase or closet.

An increased internal temperature may cause a fire.



Keep the plastic packaging out of the reach of children.

Children's misuse of the plastic packaging may cause suffocation.



Do not install the power cable (DC power supply) and the product near head sources.

(Candles, mosquito repellents, cigarettes, sprays, heating devices, places exposed to direct sunlight, and more)



When installing the product, fix it firmly so that it does not fall.

If the product is not fixed firmly and a child touches the product while playing, the product may fall, causing damage to the product or injury to the child.



Do not install the product in a kitchen or near a kitchen counter.

Edible oil or oil vapor can damage or deform the product.



Have a technician install the wall-mount hanger.

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

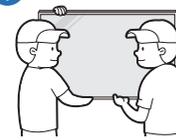


If the product is installed in an unusual location, the surrounding environment may cause a serious quality problem. Therefore, be sure to contact Samsung Customer Service Center before installation.

(Places where many fine dusts are generated, places where chemicals are used, places with too high or low temperatures, places with a lot of moisture or water, transportation equipment such as vehicles, airports and stations used continuously for a long time, and more)



Caution



When lifting and moving the product, do not touch the screen display, and make sure that at least two people work together.

The product may fall, causing personal injury or product damage.



Do not lay down the product on its front.

The screen may become damaged.



Prolonged exposure to direct sunlight may discolor the surface of the screen display.

Operation

Warning



If the product generates a strange noise, a burning smell, or smoke, unplug the power plug immediately and contact your Samsung Customer Service Center.

An electric shock or fire may result.



Keep the remote control batteries and the small accessories out of the reach of children. Ensure children do not swallow any of them.

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



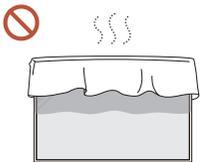
If the product is dropped or its appearance is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

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



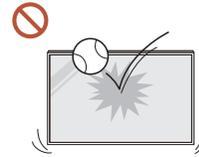
Do not move the product by pulling the power cord or any cable.

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



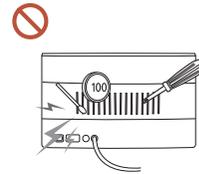
Ensure the vents are not blocked by tablecloths or curtains.

An increased internal temperature may cause a fire.



Do not apply an impact to the product.

- The screen display may be damaged.
- An electric shock or fire may result.



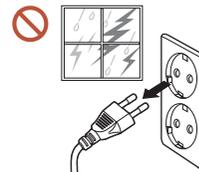
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

- If foreign substances enter the product, be sure to power off the product and disconnect the power cord. 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.

- If foreign substances such as water enter the product, be sure to disconnect the power cord. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.



During a lightning or thunderstorm, power off the product and disconnect the power cord.

An electric shock or fire may result.



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.



Do not hang on or climb on the product.

- The product may fall, causing personal injury or even death.
- Be especially careful that children do not hang on or climb on the product.



While the power plug is plugged into a power socket, do not insert a chopstick or other conductor into a remaining power socket. Also, after disconnecting the power plug from the power socket, do not touch the pins of the plug immediately.

Otherwise, an electric shock may result.



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

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



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

Sparks can cause an explosion or fire.



Do not use humidifiers or stoves around the product.

An electric shock or fire may result.

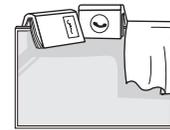


Caution



Insert each battery so that its polarity (+, -) is correct.

If the polarity is not correct, the battery may rupture or the internal fluid may leak, causing contamination and damage to the surroundings, fire, or personal injury.



Do not place heavy objects on the product.

Product failure or personal injury may result.



When you do not use the product for a long time due to vacation or other reason, disconnect the power cord from the power socket.

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.



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.



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

Eye fatigue will be relieved.



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

When you do not use the product for a long time, activate power-saving mode or set the screen saver to moving-picture mode.



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

An explosion or fire may result.

- ⊘ **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.

- ⊘ **Do not watch the product screen too closely and continuously for a long time.**

Your eyesight may deteriorate.

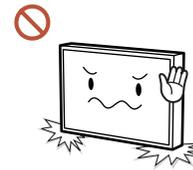
- ⊘ **Do not lift or move the product when it is in operation.**

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

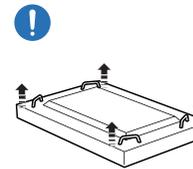
- ⊘ **When using headphones or earphones, do not turn the volume too high or use them for a long time.**

Damage to your hearing may result.

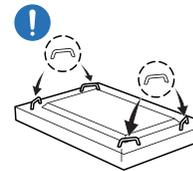
Precautions when handling the panel



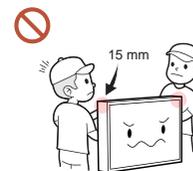
Do not stand the product as shown in the image. The panel is fragile and can get damaged.



Lay the product down to handle it as shown in the image. (the packaging can be used).



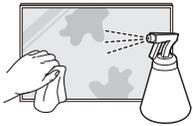
Ensure you use the handles on the back when moving the product.



Do not hold or grasp any area of the product within 15 mm from the front.

Cleaning

Warning



Do not spray water or cleaner directly on the product.

- The product's surface may be damaged, or the markings may be erased.
- An electric shock or fire may result.

Caution



When cleaning, be sure to disconnect the power plug and wipe gently with a soft and dry cloth such as superfine fibers or cotton flannels to prevent scratches.

The product's surface may be damaged, or the markings may be erased.



Be sure to use a soft and dry cloth such as superfine fibers or cotton flannels because the surface of the product and the screen display are vulnerable to scratches.

The product's surface or the screen display can be easily scratched with foreign substances.



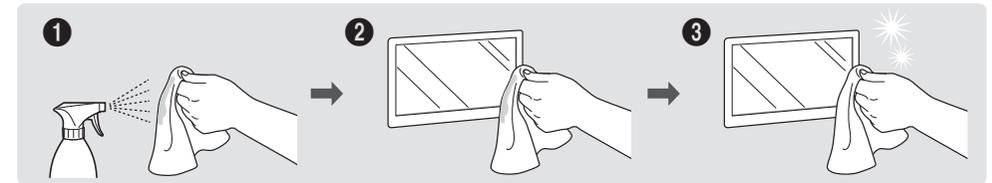
Do not apply chemicals containing alcohol, solvent, or surfactant such as wax, benzene, thinner, pesticide, air freshener, lubricant, or cleaner to the product.

The product's exterior may be discolored or cracked, the surface of the panel may be peeled off, or the markings may be erased.

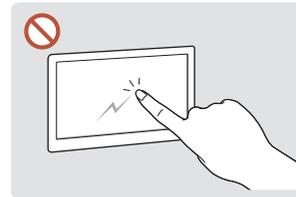
Storage and Maintenance

Cleaning the exterior and display

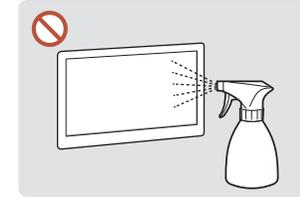
Wipe the surface with a slightly wet, soft cloth, and then wipe with a dry cloth.



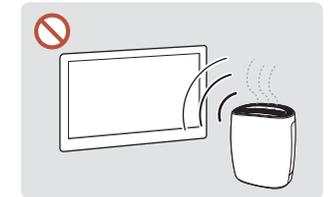
Precautions



Do not scratch the screen with nails or sharp objects. Scratches may leave marks or damage the product.



Do not spray water directly on any part of the product. Product failure, an electric shock or fire may result from water that enters the product.



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

- Removing a sticker attached on the screen may leave residues. Clean the residues before watching the screen.
- Do not strongly press and rub the product. Damage to the product may result.
- Do not wipe the screen with chemicals. Product failure may result.
- Contact Customer Service Center if the inside of the product needs cleaning (service fee will be charged).

Chapter 02

Preparations

Checking the 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.



Quick setup guide



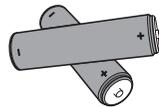
Warranty card
(Not available in some locations)



Regulatory guide



Power cord



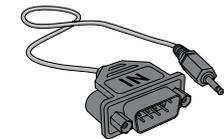
Batteries
(Not available in some locations)



Remote Control



DP cable



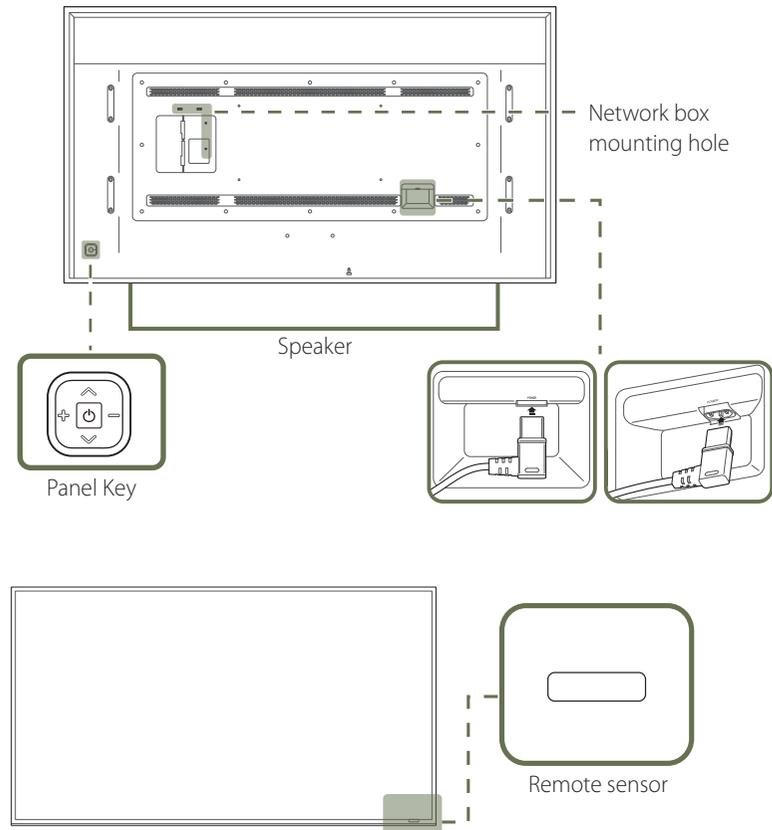
RS232C(IN) adapter



HOLDER-CABLE X 3

Parts

Control Panel

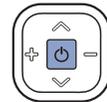


— The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Panel Key

Buttons

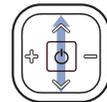
Description



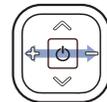
Power on the product.

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

— To exit the OSD menu, press and hold the panel key for at least one second.



Move to the upper or lower menu. You can also adjust the value of an option.



Move to the left or right menu.

— You can adjust the volume by moving the panel key left or right when the control menu is not displayed.

Remote sensor

Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function.

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

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

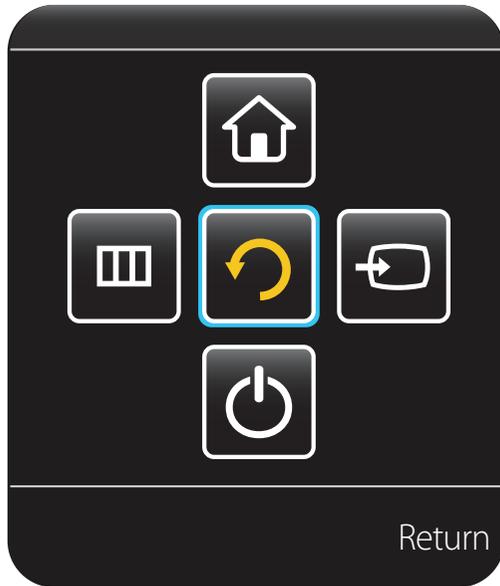
— Store used batteries out of reach of children and recycle.

— Do not use a new and used battery together. Replace both batteries at the same time.

— Remove batteries when the remote control is not to be used for an extended period of time.

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

Control menu



Buttons

Description



Source

Select the connected input source.

Move the panel key right to select **Source**  in the control menu. When the list of input sources is displayed, move the panel key left or right to select the desired input source. Next, press the panel key.



Menu

Display the OSD menu.

Move the panel key left to select **Menu**  in the control menu. The OSD control screen will appear. Move the panel key right to select the desired menu. You can select a sub-menu item by moving the panel key up, down, left, or right. To change settings, select the desired menu and press the panel key.



Home

Enter **Go to Home** mode.

Move the panel key up to select **Home**  in the control menu.



Power Off

Power off the product.

Move the panel key down to select **Power Off**  in the control menu. Next, press the panel key.

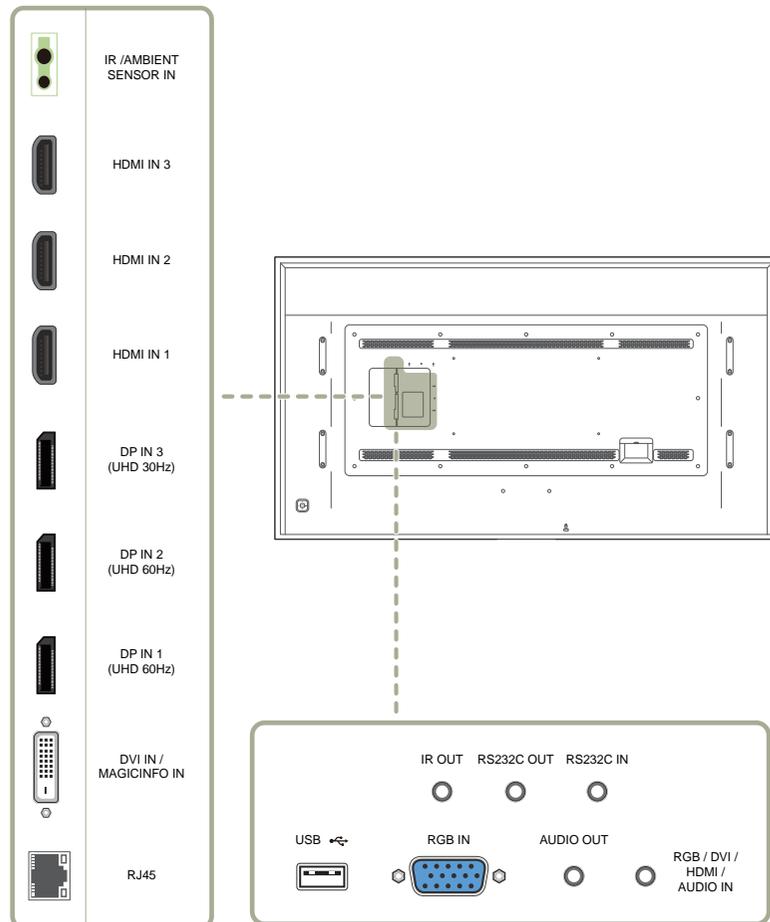


Return

Exit the control menu.

Reverse Side

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



Port

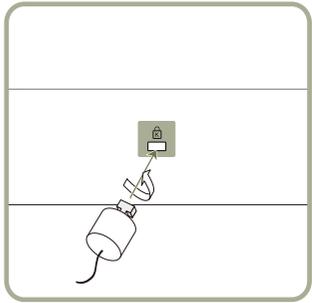
Description

IR / AMBIENT SENSOR IN	Supplies power to the external sensor board or receives the light sensor signal.
HDMI IN 1, HDMI IN 2, HDMI IN 3	Connects to a source device using a HDMI cable or HDMI-DVI cable.
DP IN 3 (UHD 30Hz)	Connects to a PC using a DP cable. — Obtain sharp picture quality when viewing UHD content at 30 Hz. — The recommended resolution for the DP IN 3 (UHD 30Hz) port is 3840 x 2160 @ 30 Hz. The resolution can be changed to the optimal resolution of 3840 x 2160 @ 30 Hz, if required.
DP IN 2 (UHD 60Hz)	Connects to a PC using a DP cable. — Obtain sharp picture quality when viewing UHD content at 60 Hz.
DP IN 1 (UHD 60Hz)	
DVI IN / MAGICINFO IN	DVI IN: Connects to a source device using a DVI cable or HDMI-DVI cable. MAGICINFO IN: To use MagicInfo, make sure to connect the DP-DVI cable.
RJ45	Connects to MDC using a LAN cable. — Use Cat7(*STP Type) cable for the connection. *Shielded Twist Pair.
IR OUT	Receives the remote control signal via the external sensor board and outputs the signal via LOOP OUT.
RS232C OUT	Connects to MDC using an RS232C adapter.
RS232C IN	
USB	Connects to a USB device when upgrading software.
RGB IN	Connects to a source device using a D-SUB cable.
AUDIO OUT	Outputs sound to an audio device via an audio cable.
RGB / DVI / HDMI / AUDIO IN	Receives sound from a source device via an audio cable.

Anti-theft Lock

- An anti-theft lock allows you to use the product securely even in public places.
- The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.

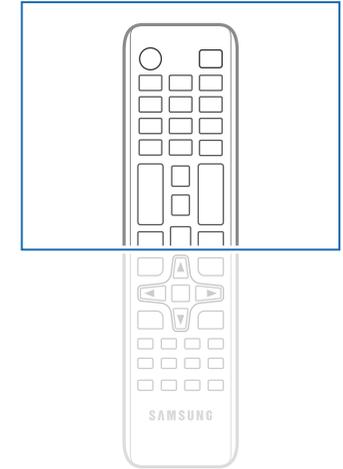
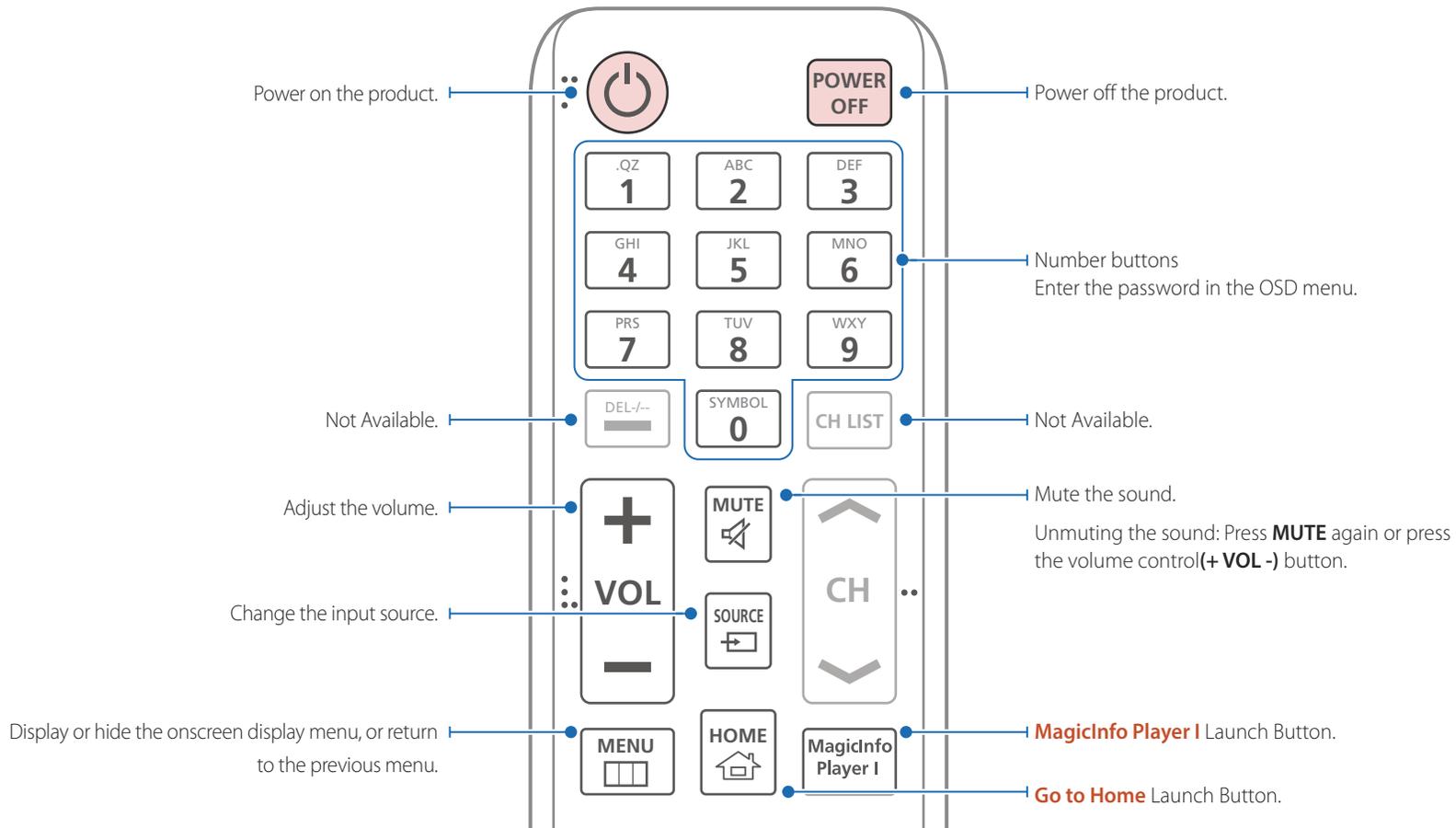
To lock an anti-theft locking device:



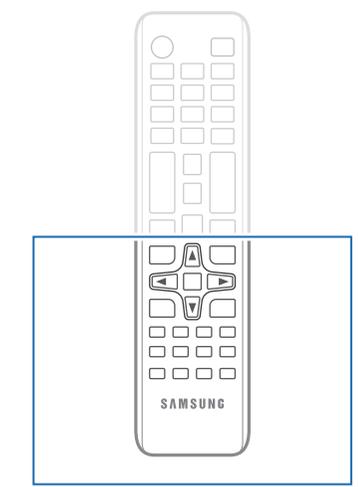
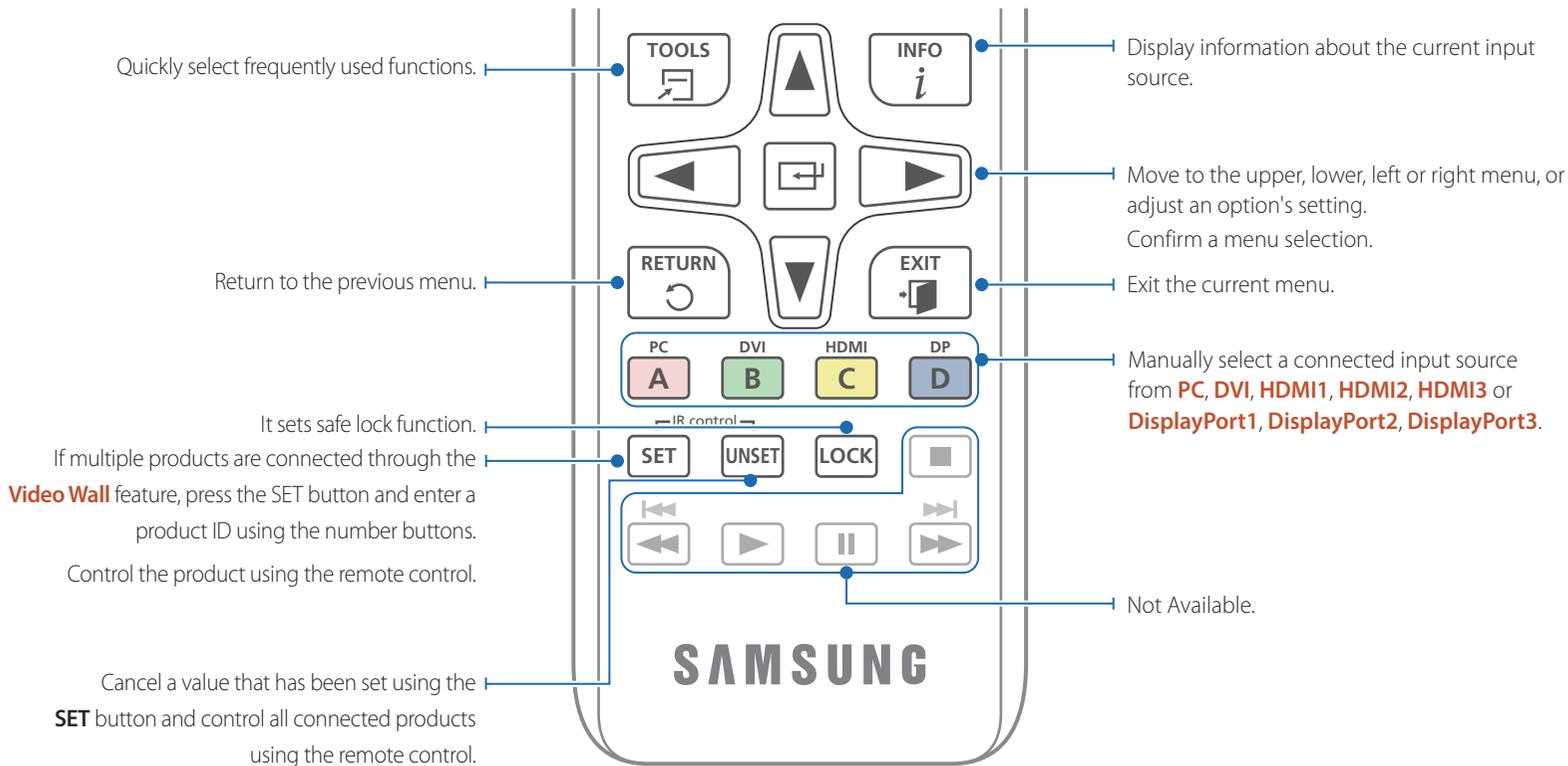
- 1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.
- 2 Put one end of the cable through the loop on the other end.
- 3 Insert the locking device into the anti-theft lock slot at the back of the product.
- 4 Lock the locking device.
 - An anti-theft locking device can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

Remote Control

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

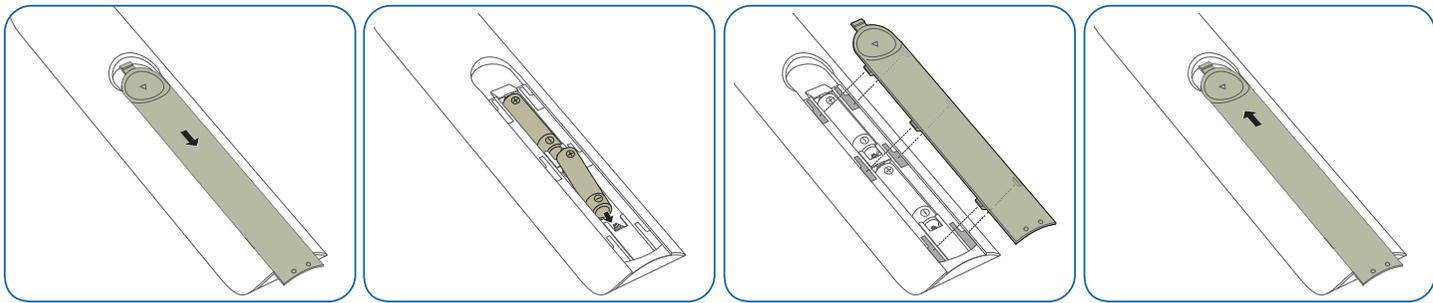


Remote control button functions may differ for different products.



- Remote control button functions may differ for different products.

To place batteries in the remote control



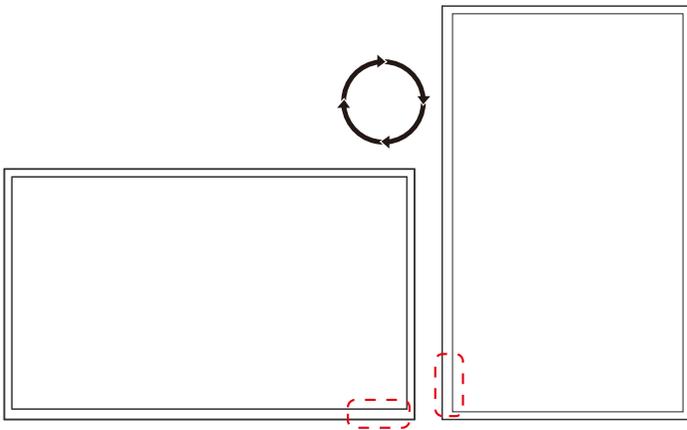
Before Installing the Product (Installation Guide)

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

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

Tilting Angle and Rotation

— Contact Samsung Customer Service Center for further details.



Ventilation

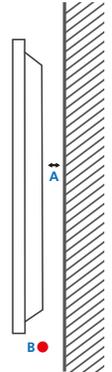
— Contact Samsung Customer Service Center for further details.

Installation on a Perpendicular Wall

A Minimum 40 mm

B Ambient temperature: Under 35 °C

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



Installation on an Indented Wall

A Minimum 40 mm

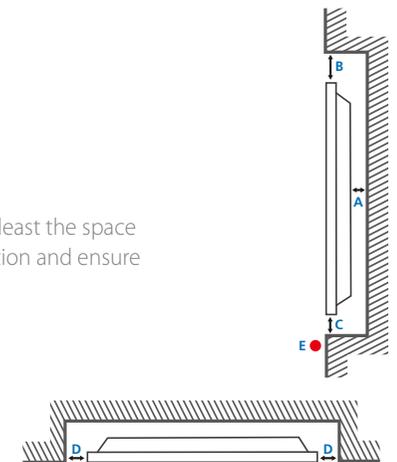
B Minimum 70 mm

C Minimum 50 mm

D Minimum 50 mm

E Ambient temperature: Under 35 °C

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



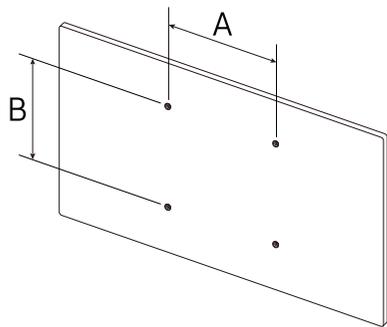
Installing the Wall Mount

Installing the Wall Mount

- The wall mount kit (sold separately) allows you to mount the product on the wall.
- For detailed information on installing the wall mount, see the instructions provided with the wall mount.
- We recommend you contact a technician for assistance when installing the wall mount bracket.
- Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

Wall Mount Kit Specifications (VESA)

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



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

VESA screw hole specs (A * B) in millimeters (inches)	Standard Screw	Quantity
600 x 400 (23.62 x 15.75)	M8 / L 14~16	4

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

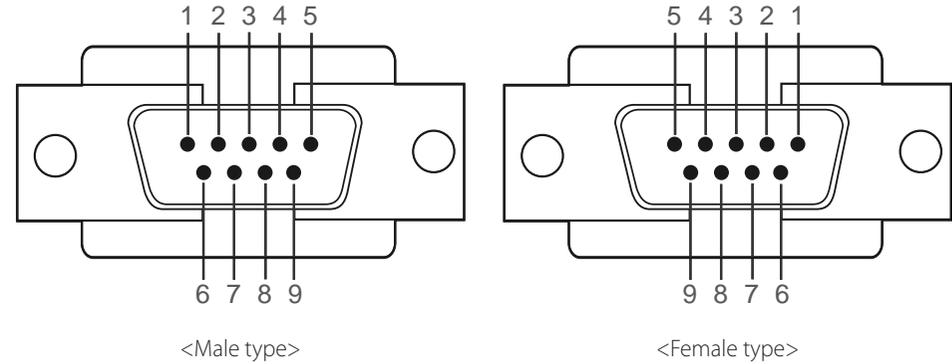
Remote Control (RS232C)

Cable Connection

RS232C Cable

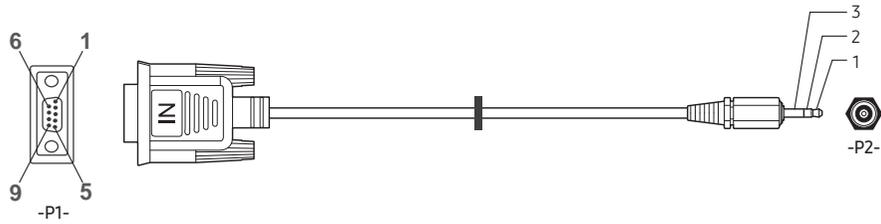
Interface	RS232C (9 pins)
Pin	TxD (No.2), RxD (No.3), GND (No.5)
Bit rate	9600 bps
Data bits	8 bit
Parity	None
Stop bit	1 bit
Flow control	None
Maximum length	15 m (only shielded type)

- 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

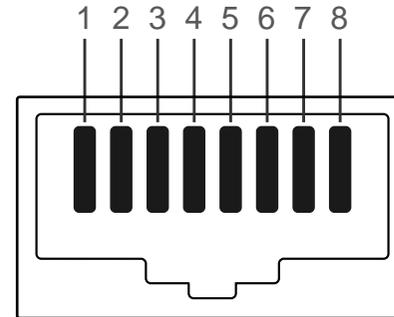
- RS232C cable
Connector: 9-Pin D-Sub to Stereo Cable



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

LAN Cable

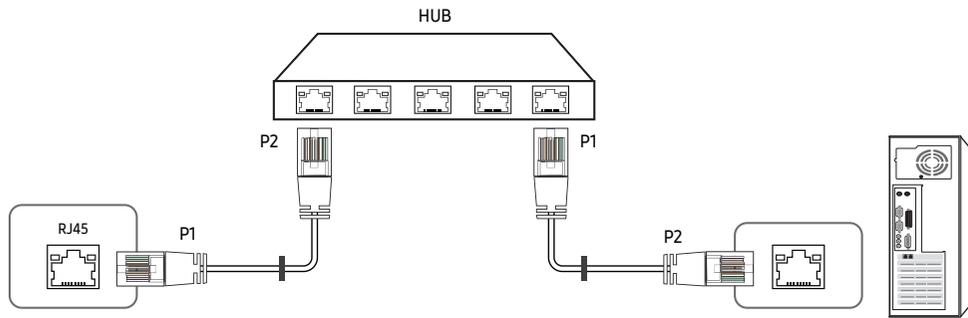
- Pin assignment



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

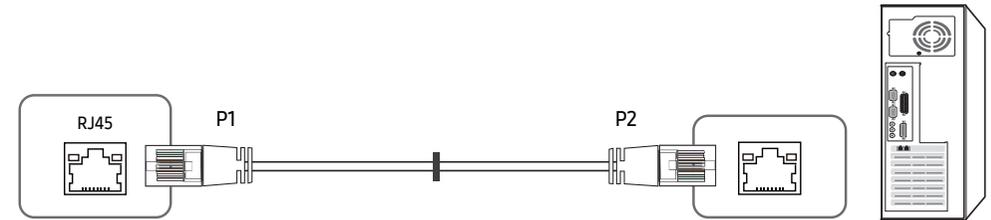
- Connector: RJ45

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-

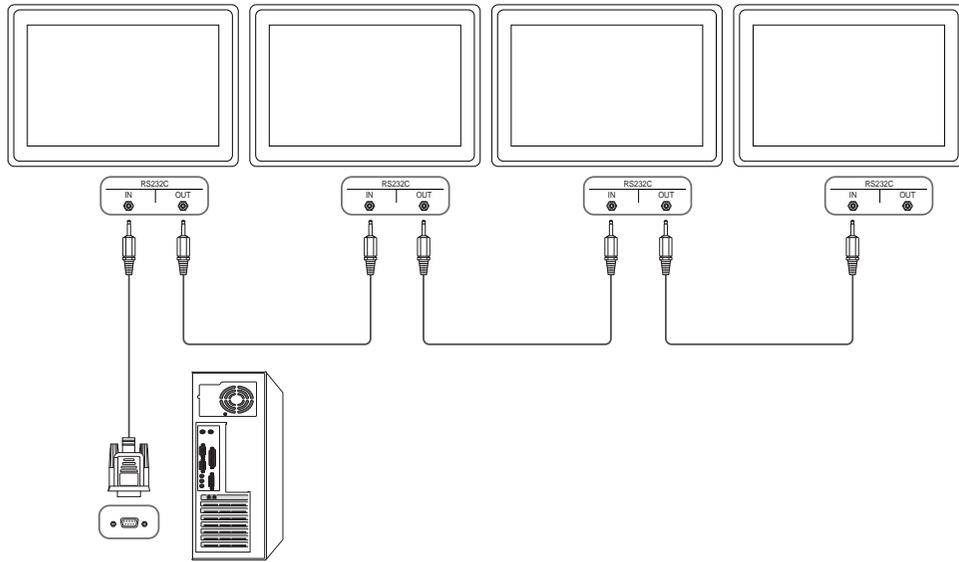
Cross LAN cable (PC to PC)



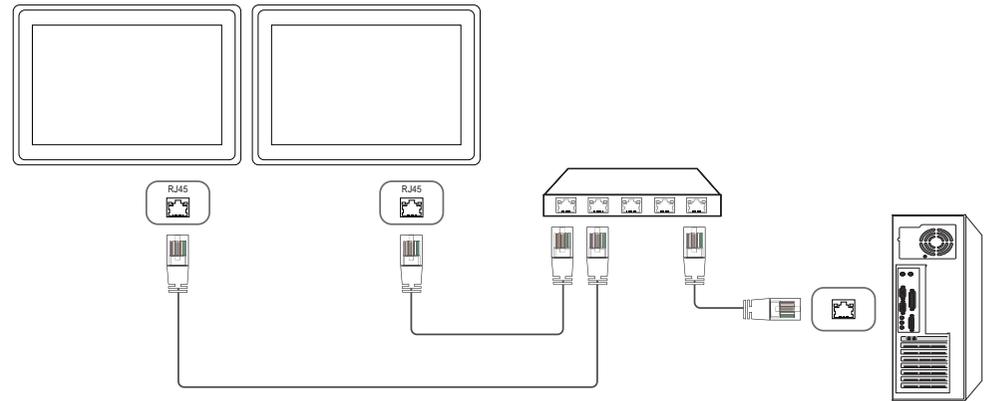
Signal	P1		P2	Signal
TX+	1	↔	3	RX+
TX-	2	↔	6	RX-
RX+	3	↔	1	TX+
RX-	6	↔	2	TX-

Connection

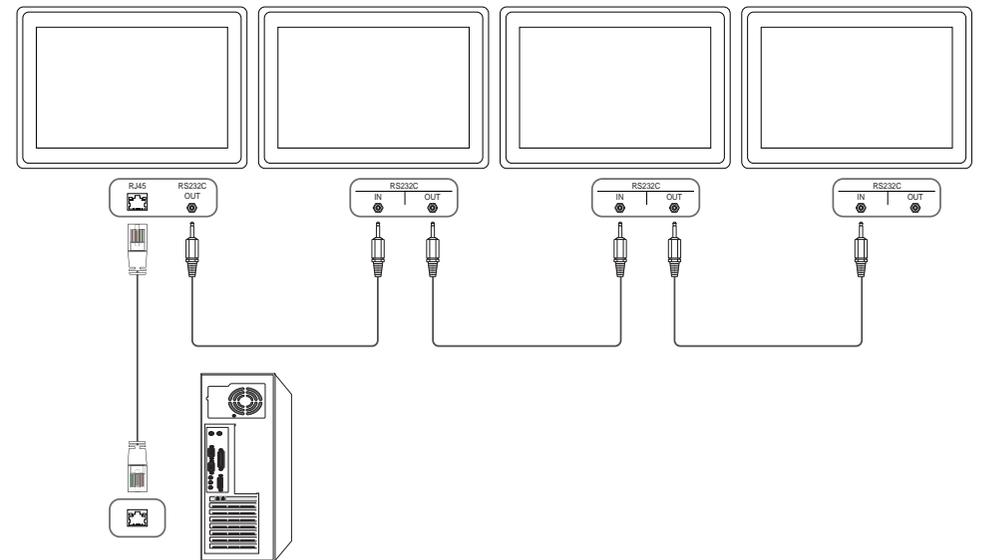
- Connection 1



- Connection 2



- Connection 3



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
9	Safety Lock	0x5D	0~1

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

- All communications take place in hexadecimal. 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	12
0xAA	0x11		1	1	

- 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
0x26	DisplayPort2
0x27	DisplayPort3
0x31	HDMI3
0x32	HDMI3_PC

— DVI_video, HDMI1_PC and HDMI2_PC cannot be used with the Set command. They only respond to "Get" commands.

— Available ports may differ depending on the model.

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

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

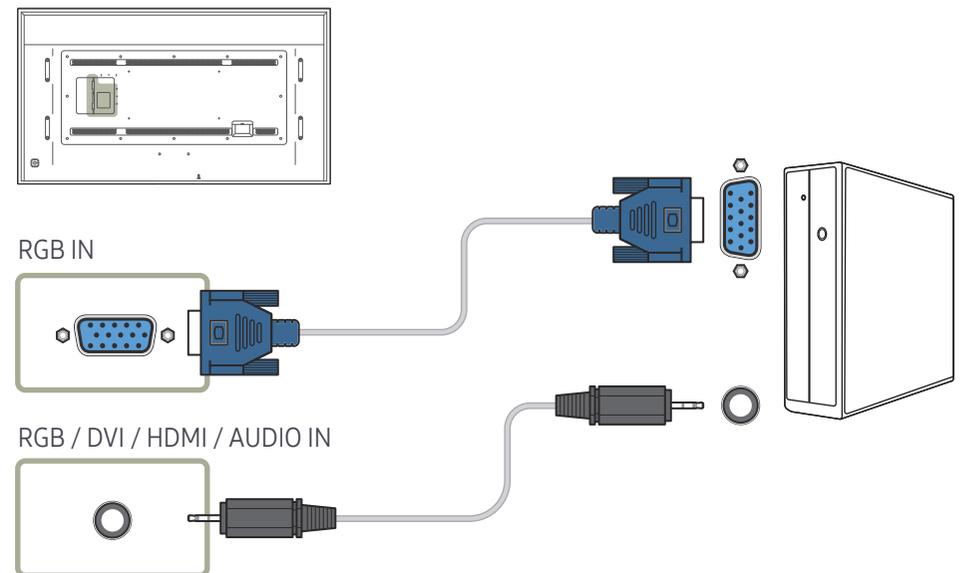
Pre-connection Checkpoints

- 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.

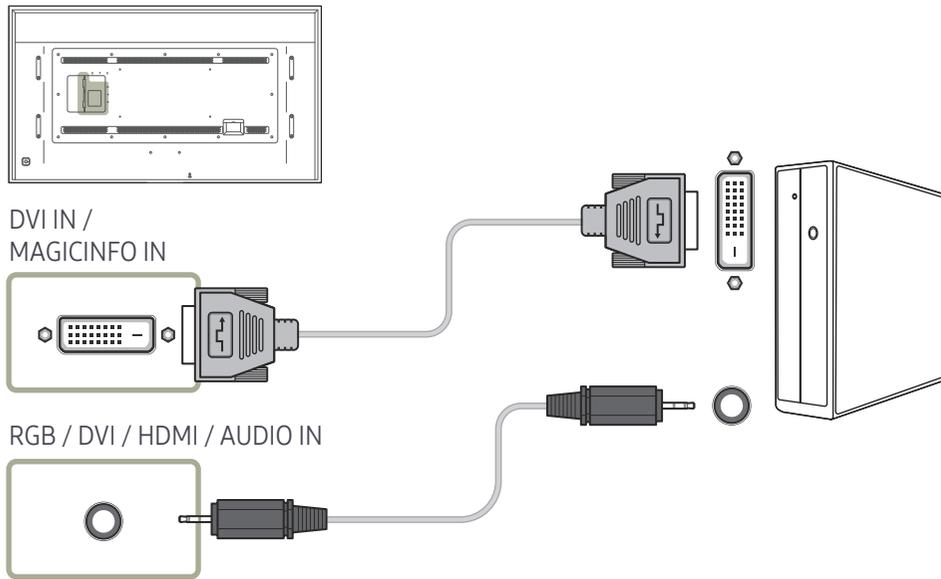
Connecting to a PC

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

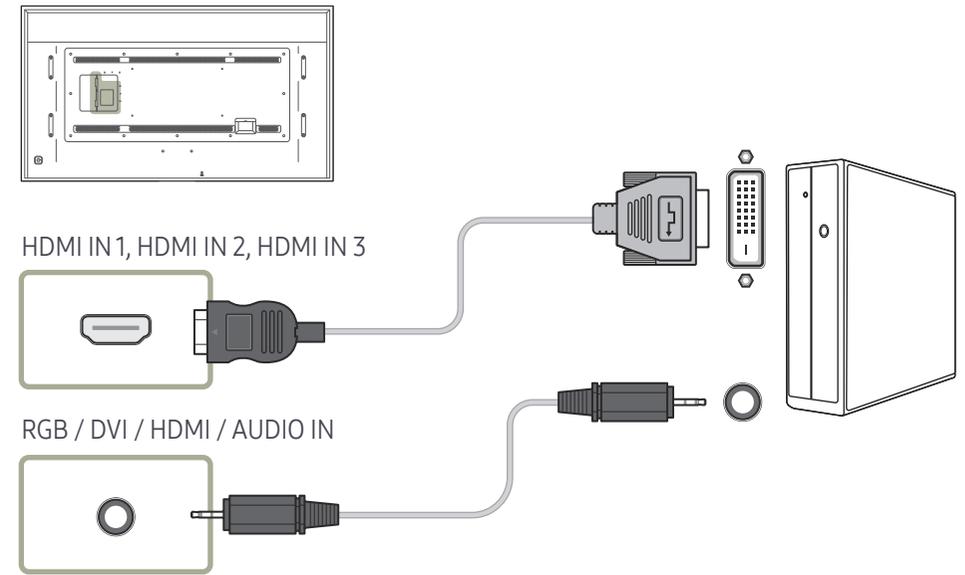
Connection using the D-SUB cable (Analog type)



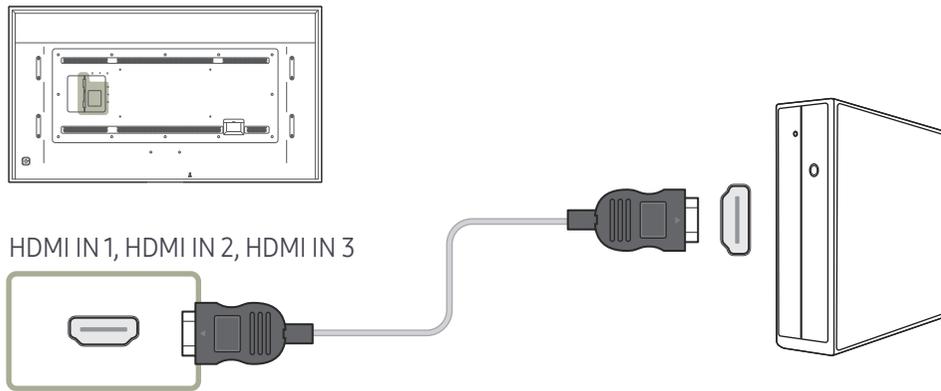
Connection using a DVI cable (Digital type)



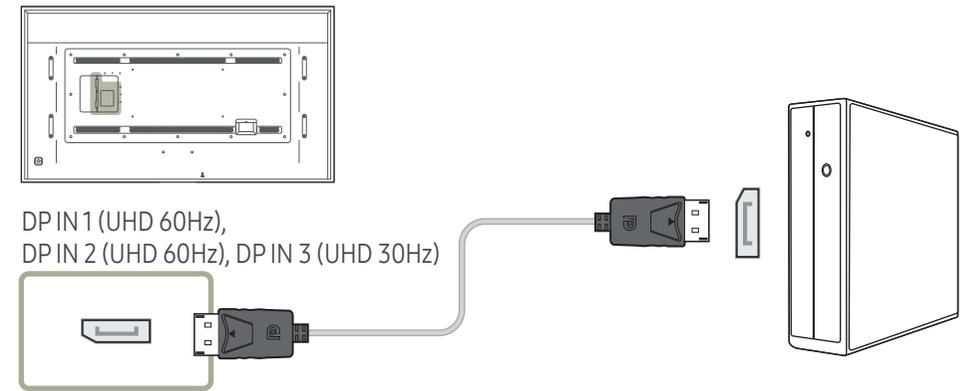
Connection Using an HDMI-DVI Cable



Connection Using an HDMI Cable



Connection Using a DP Cable



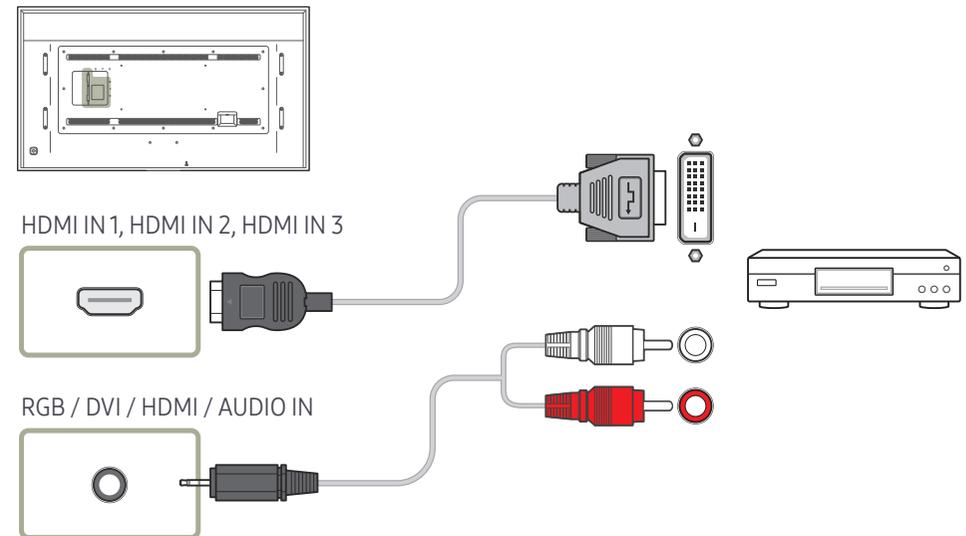
- Precautions for using DP
 - Some graphics cards that are not compliant with the DP standard may prevent the Windows Booting/Bios screen from being displayed when the product is in power-saving mode. If this is the case, make sure to turn on the product first before turning on your PC.
 - The interface **DP IN 1 (UHD 60Hz)**, **DP IN 2 (UHD 60Hz)**, **DP IN 3 (UHD 30Hz)** 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**, **DisplayPort2** or **DisplayPort3** 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

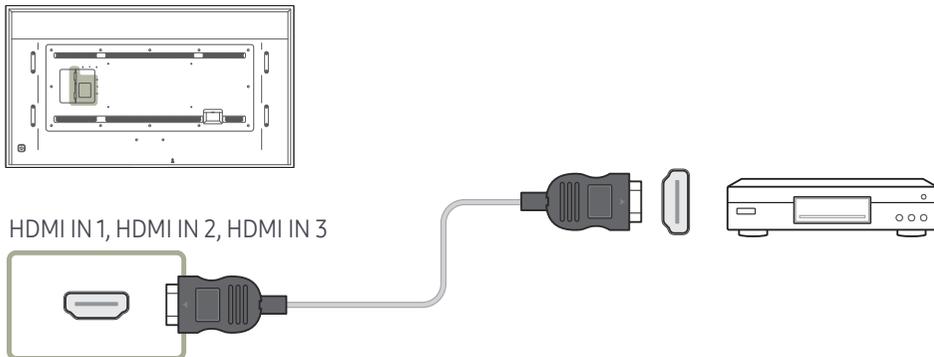
- Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device.
- Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.



Connection Using an HDMI Cable

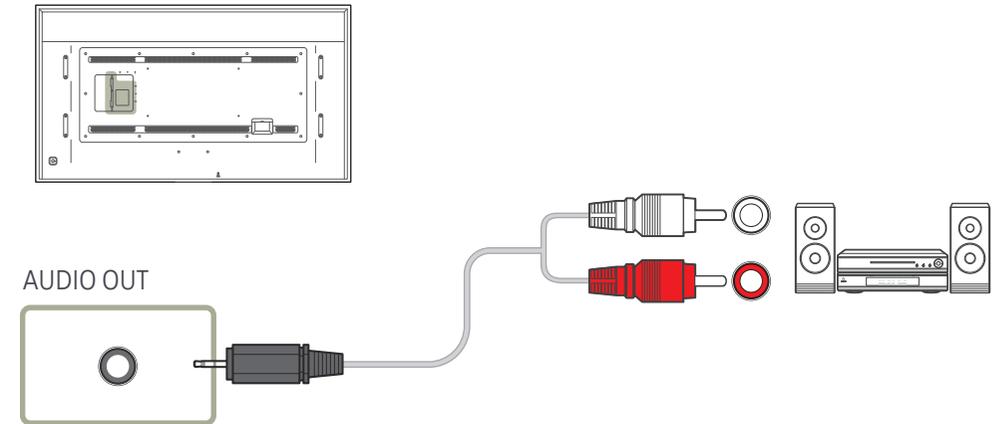
Using an HDMI cable or HDMI to DVI Cable (up to 1080p)

- 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.



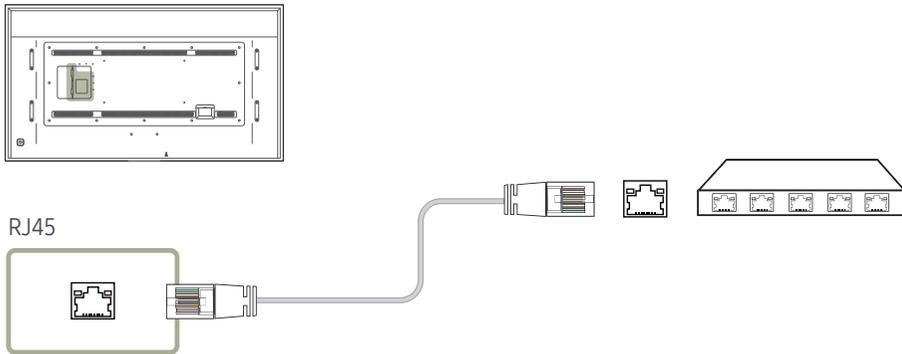
Connecting to an Audio System

— Connecting parts may differ in different products.



Connecting the LAN Cable

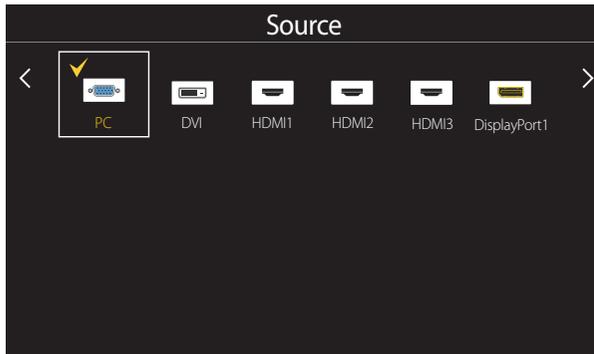
Connecting parts may differ in different products.



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 ↵

Sometimes the screen will not display properly unless the name of a source device is specified in **Edit Name**.

In addition, it is best to rename the source device in **Edit Name** to obtain optimal picture quality.

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

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

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

- When connecting a PC to the **HDMI IN 1, HDMI IN 2, HDMI IN 3** port, set **Edit Name** to **PC**. In other cases, set **Edit Name** to AV devices.
- When connecting a PC to the **HDMI IN 1, HDMI IN 2, HDMI IN 3** port with HDMI cable, you should set the product to **PC** mode under **Edit Name**.
- When connecting a PC to the **HDMI IN 1, HDMI IN 2, HDMI IN 3** port with HDMI to DVI cable, you should set the product to **DVI PC** mode under **Edit Name**.
- When connecting an AV devices to the **HDMI IN 1, HDMI IN 2, HDMI IN 3** port with HDMI to DVI cable, you should set the product to **DVI Devices** mode under **Edit Name**.

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 can be downloaded from 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.

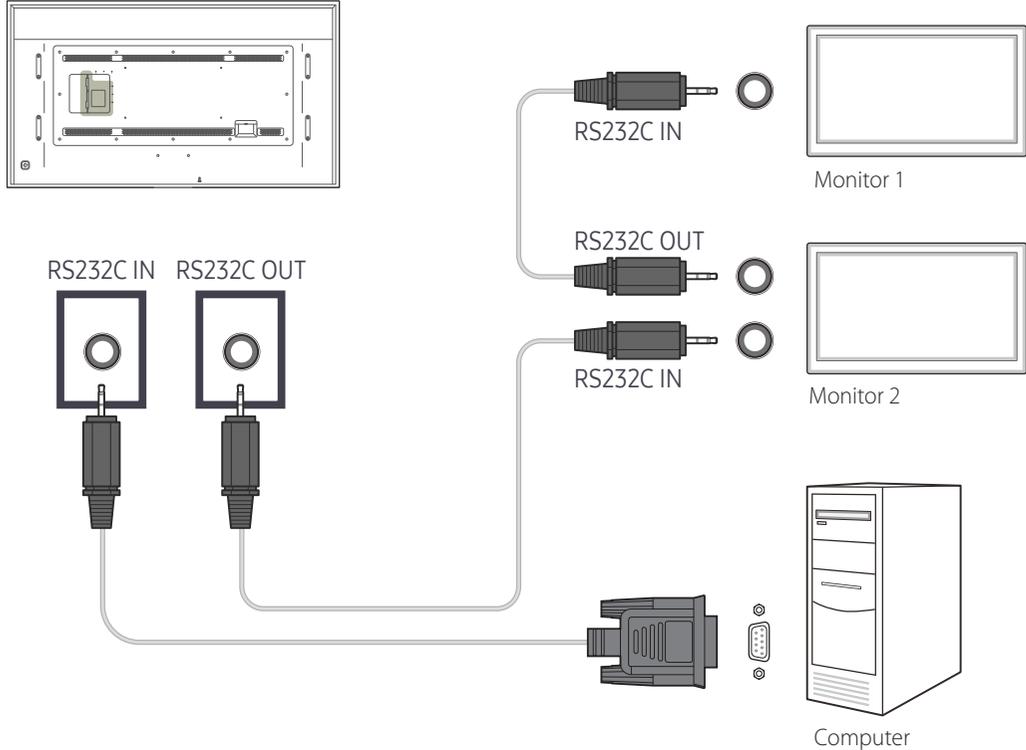
Uninstallation

- 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.

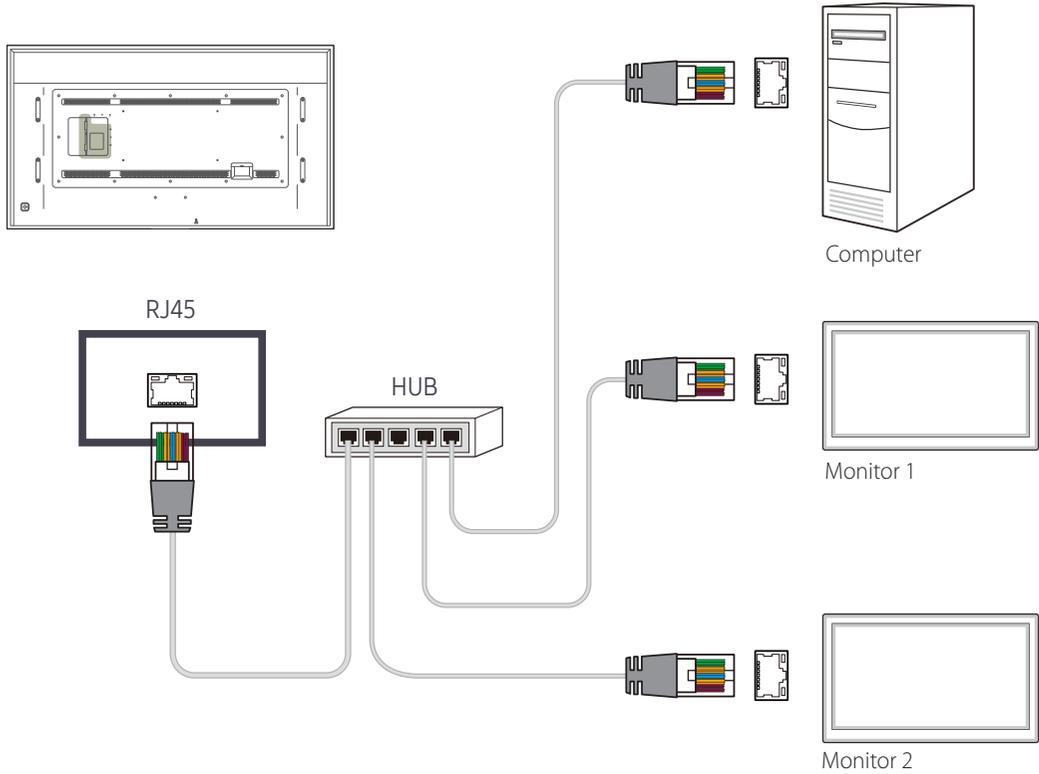


Using MDC via Ethernet

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.

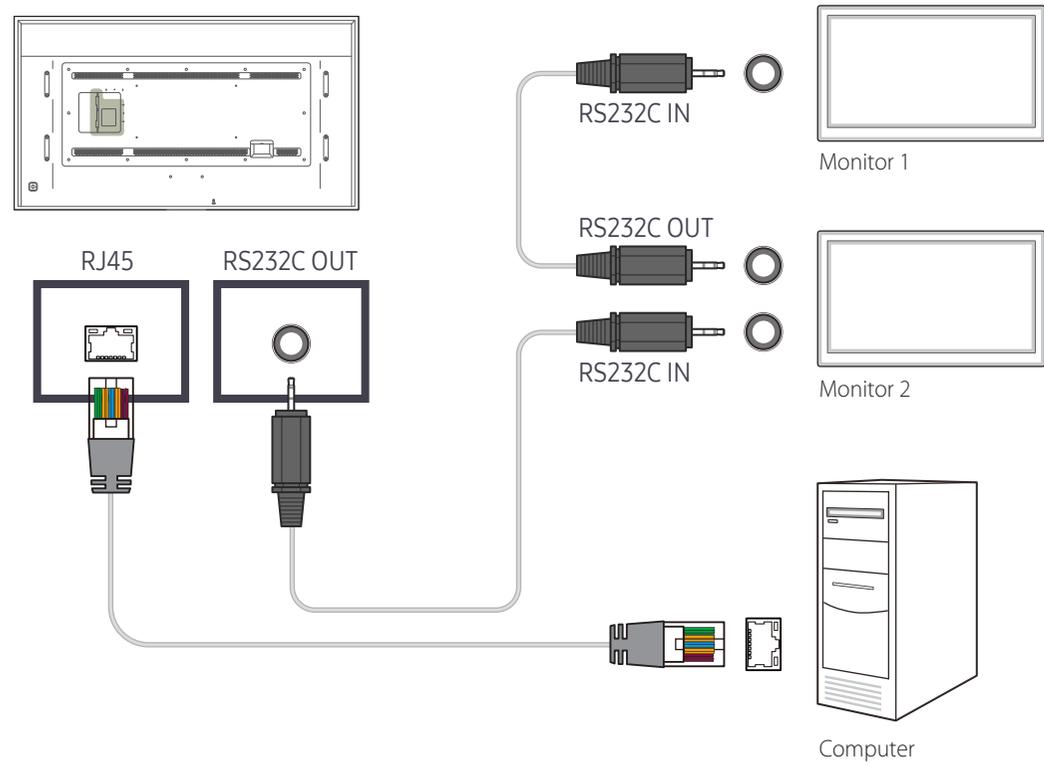
Connection using a direct LAN cable

Multiple products can be connected using the **RJ45** port on the product and the LAN ports on the HUB.



Connection using a cross LAN cable

Multiple products can be connected using the **RS232C IN / OUT** port on the product.



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** 



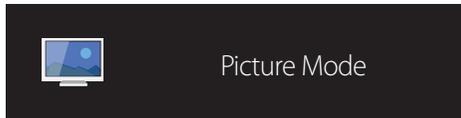
- The displayed image may differ depending on the model.
- Refer to **Multi Screen** under the chapter **OnScreen Display** for more information on sub-features.

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 



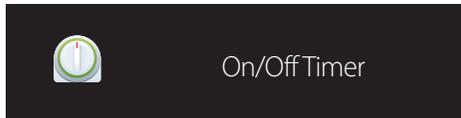
– The displayed image may differ depending on the model.

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

- **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.

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 Timer 1 ~ On Timer 7**)

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

Off Timer

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

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

Holiday Management

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

- **Add Holiday:** Specify the period you want to add as a holiday.
Select the start and end dates of the holiday you want to add using the ▲/▼ buttons, and click the **Save** button.
The period will be added to the list of holidays.
 - **Start:** Set the start date of the holiday.
 - **End:** Set the end date of the holiday.
- **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.

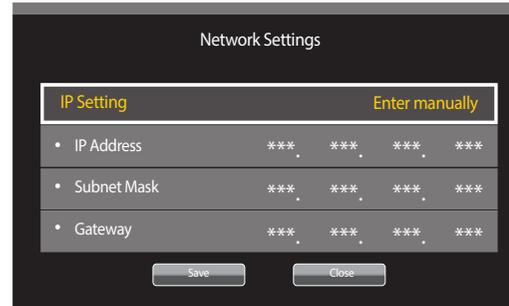
Network Settings

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**.

— When **Obtain automatically** is set, **IP Address/Subnet Mask/Gateway** information are not displayed.

MagicInfo Player I

HOME  → **MagicInfo Player I** → ENTER 



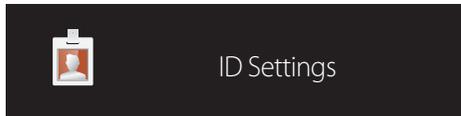
Change source to **MagicInfo Player I**.

MagicInfo Player I publishes and plays a variety of content, including created content and multimedia content (images, videos and audio content), from the server or a connected device.

– The displayed image may differ depending on the model.

ID Settings

HOME  → ID Settings → ENTER 



— The displayed image may differ depending on the model.

Assign an ID to a set.

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

Device ID

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

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

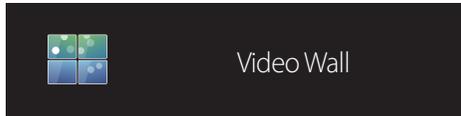
PC Connection Cable

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.

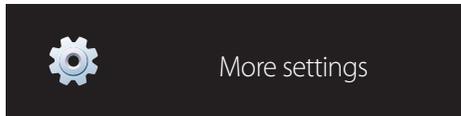
- **Full:** Display images in full screen.
- **Natural:** Display images in the original aspect ratio.

— 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

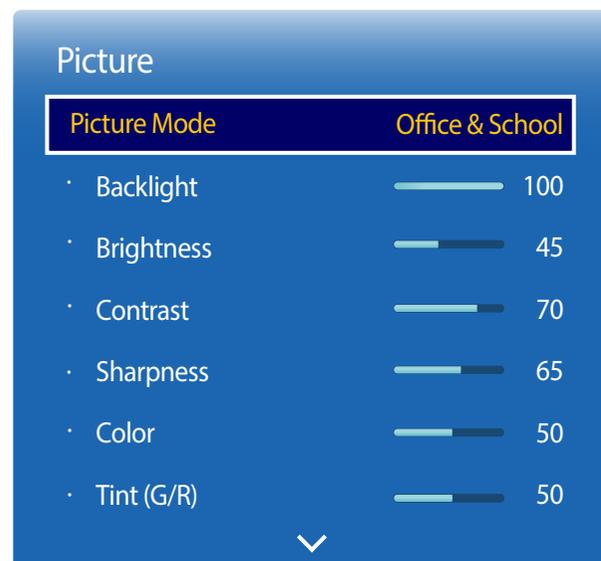
Screen Adjustment

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 



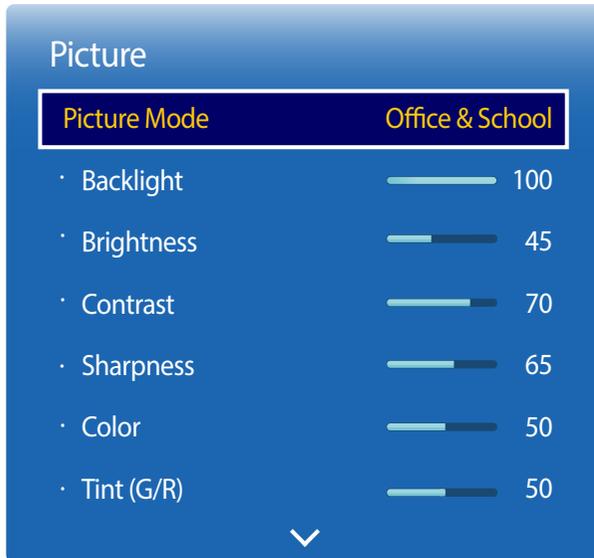
– The displayed image may differ depending on the model.

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

- **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.

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.

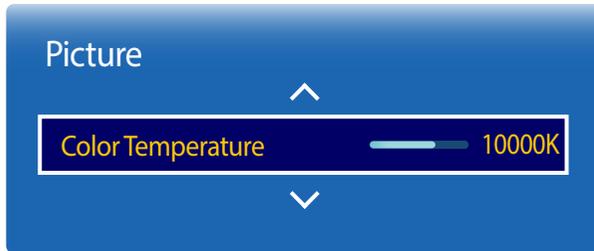
Picture Mode	Picture Mode settings	Adjustable options
Shop & Mall, Office & School, Terminal & Station, Video Wall	Video/Image	Backlight / Brightness / Contrast / Sharpness / Color / Tint (G/R)
	Text	Backlight / Brightness / Contrast / Sharpness
Calibration		Backlight

- 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

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

MENU  → Picture → Color Temperature → ENTER 

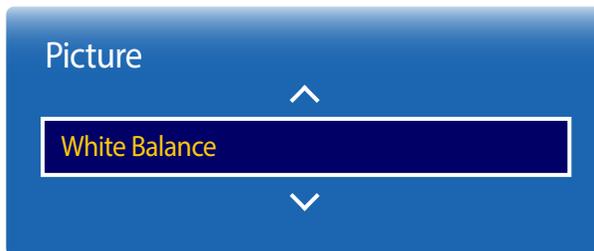


– The displayed image may differ depending on the model.

White Balance

Adjust the color temperature for a more natural picture.

MENU  → Picture → White Balance → ENTER 

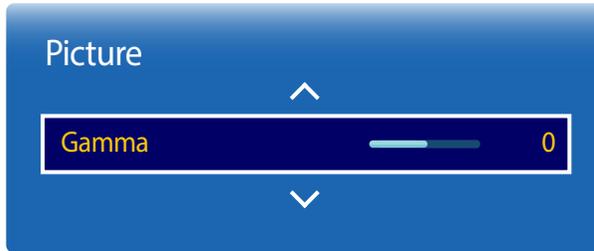


– The displayed image may differ depending on the model.

- **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.

— 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 / Auto Motion Plus / Dynamic Backlight
	Text	Color Tone / Digital NR / HDMI Black Level / Dynamic Backlight
Calibration		Digital NR / HDMI Black Level / Dynamic Backlight

Picture Options

Color Tone	Off
Digital NR	Off
HDMI Black Level	Normal
Film Mode	Off
Auto Motion Plus	Custom
Dynamic Backlight	Off

– The displayed image may differ depending on the model.

Color Tone

If the input source is **PC**, **DVI** or **HDMI1** (PC connection), **HDMI2** (PC connection), **HDMI3** (PC connection), **DisplayPort1**, **DisplayPort2**, **DisplayPort3**.

- **Off / Cool / Normal / Warm**

If the input source is **HDMI1**, **HDMI2** or **HDMI3**.

- **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.

- **Low / Normal**

— This option is not available if the input source is set to **PC**.

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.

Picture Options

Color Tone	Off
Digital NR	Off
HDMI Black Level	Low
Film Mode	Off
Auto Motion Plus	Custom
Dynamic Backlight	Off

— The displayed image may differ depending on the model.

Auto Motion Plus

Auto Motion Plus

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

The menu names may vary depending on the country.

- **Off** : Switches **Auto Motion Plus** off.
- **Clear** : Sets **Auto Motion Plus** to **Clear** (suitable for viewing moving images clearly) mode.
- **Standard** : Sets **Auto Motion Plus** to **Standard** mode.
- **Smooth** : Sets **Auto Motion Plus** to **Smooth** (suitable for viewing moving images naturally) mode.
- **Custom** : Use to reduce the afterimage and judder as much as you want.

Blur Reduction

Use to reduce the afterimage as much as you want.

— This is only supported if the **Auto Motion Plus** is set to **Custom**.

Judder Reduction

Use to reduce the judder as much as you want.

— This is only supported if the **Auto Motion Plus** is set to **Custom**.

Reset

Restore **Auto Motion Plus** settings to default values.

— The color on screen may vary with this option unintentionally.

Dynamic Backlight

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

- **Off / On**

— This function is not available if either **Multi Screen** or **Video Wall** is set to **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 1** is enabled only in **HDMI1, HDMI2, HDMI3** mode.
- **Smart View 2**: Reduces the **16:9** picture by 25%.
 - **Smart View 2** is enabled only in **HDMI1, HDMI2, HDMI3** mode.
- **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, HDMI3** (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.



– 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.

Resolution

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

Available resolutions: **Off** / **1024 x 768** / **1280 x 768** / **1360 x 768** / **1366 x 768**

Auto Adjustment

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

MENU  → Picture → Auto Adjustment → ENTER 



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

PC Screen Adjustment

MENU  → Picture → PC Screen Adjustment → ENTER 



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

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

Picture Off

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

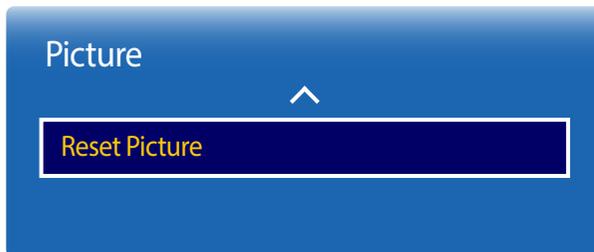


– The displayed image may differ depending on the model.

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.

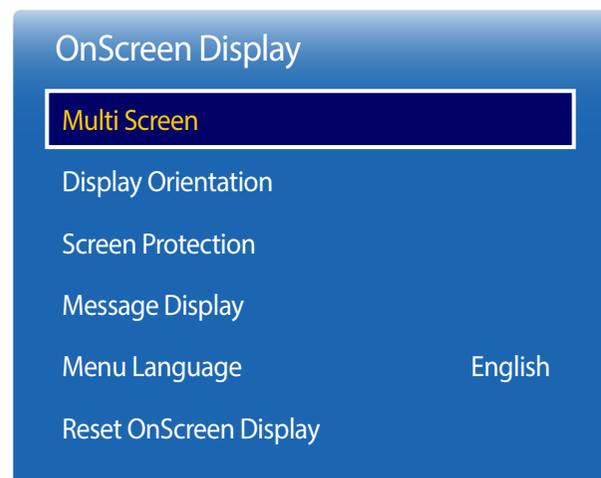
Resets your current picture mode to its default settings.

Chapter 07

OnScreen Display

Multi Screen

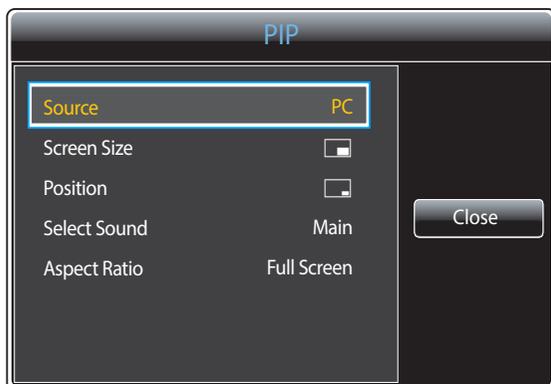
MENU  → OnScreen Display → Multi Screen → ENTER 



- The displayed image may differ depending on the model.
- 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/60 Hz). When using this mode, screen burn in (picture quality degradation) may occur.

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.

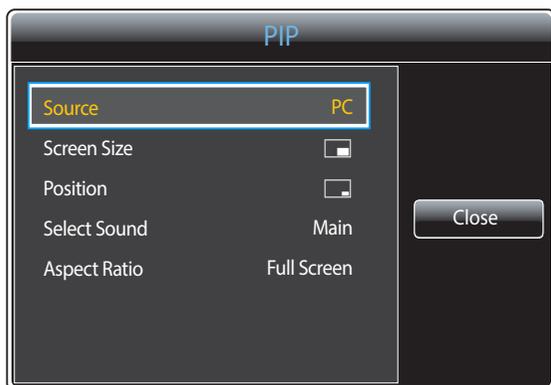


PIP (Landscape)

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 (Full Screen / Original):** Set the screen mode to either **Full Screen** 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 (Full Screen / Original):** Set the screen mode to either **Full Screen** or **Original**.

— The displayed image may differ depending on the model.

Restrictions

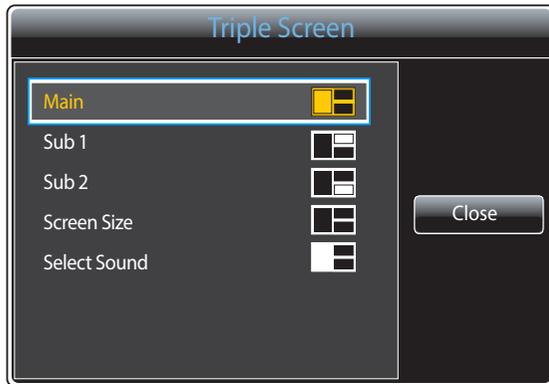
- Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.
- If the screen is split, the input sources **HDMI3** and **DVI** cannot be used simultaneously.

When a Network box (Sold separately) is not connected

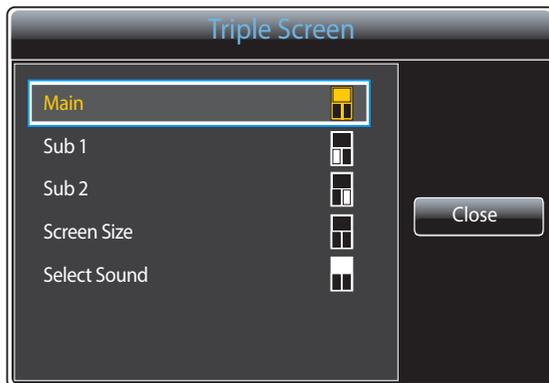
Main picture	Sub picture
PC	DVI, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
DVI	PC, HDMI1, HDMI2, DisplayPort1, DisplayPort2, DisplayPort3
HDMI1	PC, DVI, HDMI2, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
HDMI2	PC, DVI, HDMI1, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
HDMI3	PC, HDMI1, HDMI2, DisplayPort1, DisplayPort2, DisplayPort3
DisplayPort1	PC, DVI, HDMI1, HDMI2, HDMI3, DisplayPort2, DisplayPort3
DisplayPort2	PC, DVI, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort3
DisplayPort3	PC, DVI, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort2

When a Network box (Sold separately) is connected

Main picture	Sub picture
PC	MagicInfo, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
HDMI1	PC, MagicInfo, HDMI2, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
HDMI2	PC, MagicInfo, HDMI1, HDMI3, DisplayPort1, DisplayPort2, DisplayPort3
HDMI3	PC, HDMI1, HDMI2, DisplayPort1, DisplayPort2, DisplayPort3
DisplayPort1	PC, MagicInfo, HDMI1, HDMI2, HDMI3, DisplayPort2, DisplayPort3
DisplayPort2	PC, MagicInfo, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort3
DisplayPort3	PC, MagicInfo, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort2
MagicInfo	PC, HDMI1, HDMI2, DisplayPort1, DisplayPort2, DisplayPort3



— 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.

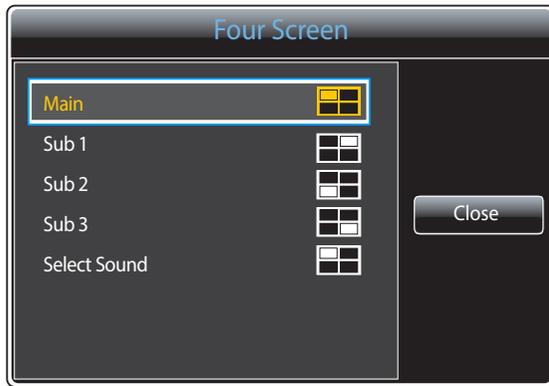
Triple Screen (Portrait)

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.

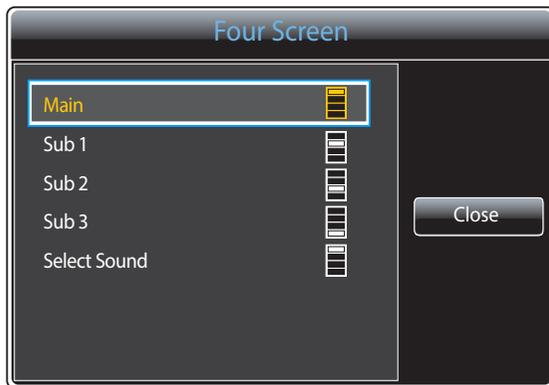
— Available only when **Source Content Orientation** is set to **Portrait**.

— 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.

Source Content Orientation

Rotate the product screen orientation.

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

— The **Source Content Orientation** feature is not available in **Multi Screen** mode.

Aspect Ratio

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

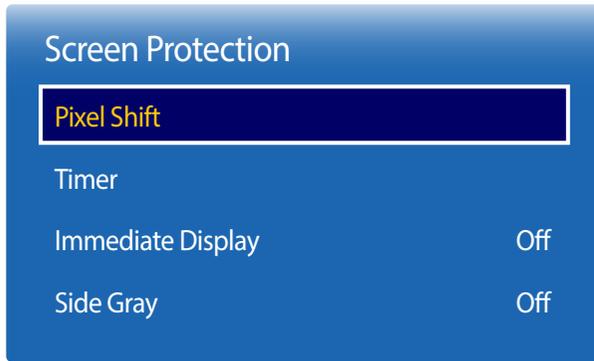
- **Full Screen**: Display the rotated screen in full screen.
- **Original**: Display the rotated screen in the original aspect ratio.

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

— The **Aspect Ratio** feature is not available in **Multi Screen** mode.

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
Horizontal (pixels)	0 ~ 4	4
Vertical (pixels)	0 ~ 4	4
Time (minute)	1 min. ~ 4 min.	4 min.

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

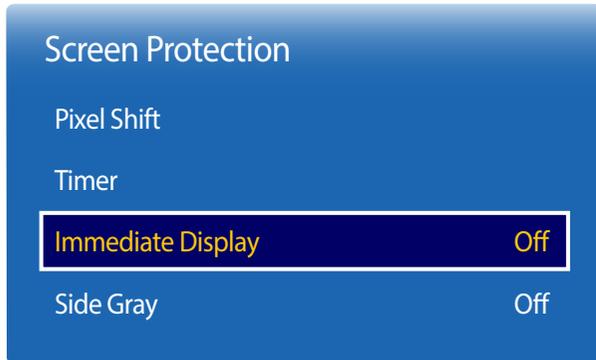
– Displaying a still image or a **4:3** output for an extended period of time may cause image retention. This is not a defect in the product.

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

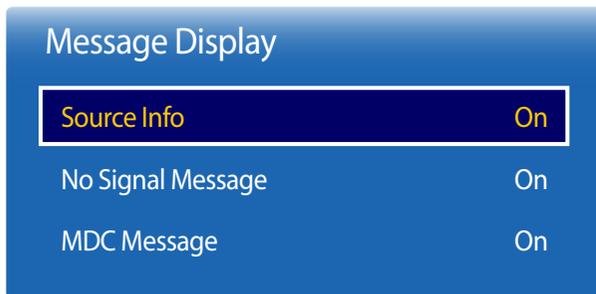
When the screen is set to 4:3 aspect ratio, adjust the brightness of white margins on sides to protect the screen.

- **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

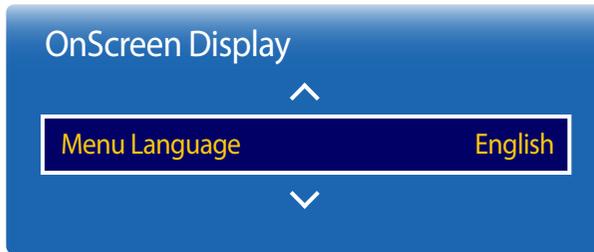
Select whether to display the MDC OSD when the product is controlled by the MDC.

- **Off / On**

– The displayed image may differ depending on the model.

Menu Language

MENU  → OnScreen Display → Menu Language → ENTER 



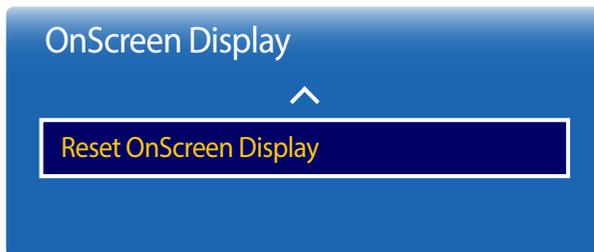
– The displayed image may differ depending on the model.

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.

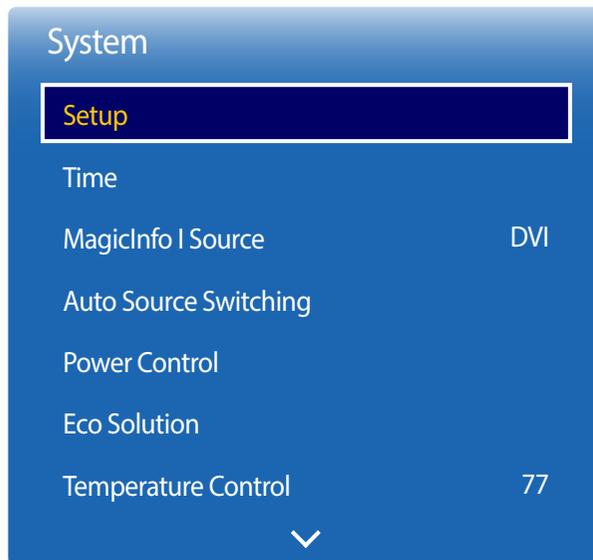
This option returns the current settings under **OnScreen Display** to the default factory settings.

Chapter 08

System

Setup

MENU  → System → Setup → ENTER 



Initial settings (System)

Change the initial settings that were configured when you first used the product.
Press the  button.

– 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**. Configure various time-related settings.

– 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).

MagicInfo I Source

MENU  → System → MagicInfo I Source → ENTER 



– The displayed image may differ depending on the model.

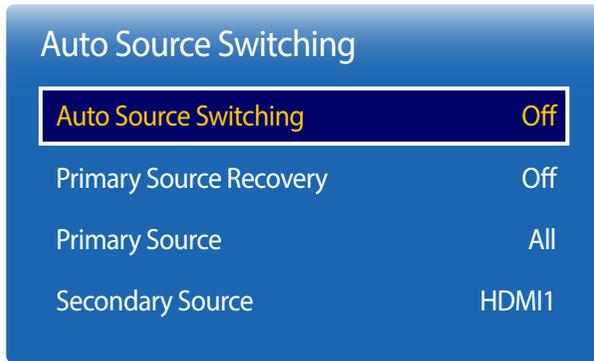
– The **MagicInfo I Source** feature is available if a network box (sold separately) is connected.

Pressing **MagicInfo Player I** on the remote control displays content connected to the network box (sold separately).

- **DVI / DisplayPort1**

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

PC Module Power

The PC module can be turned on/off separately from the LFD.

Synced Power-On

To turn off the LFD without turning off the PC module, select **Off**.

- Off / On

Synced Power-Off

To turn on the PC module without turning on the LFD, select **Off**.

- Off / On



– The displayed image may differ depending on the model.

Standby Control

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

- **Auto**
Power-saving mode will activate if no input signals are detected even though a source device is connected to the display. The message **No Signal** will appear if no source device is connected.
- **Off**
The message **No Signal** will appear if no input signals are detected.
 - 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**

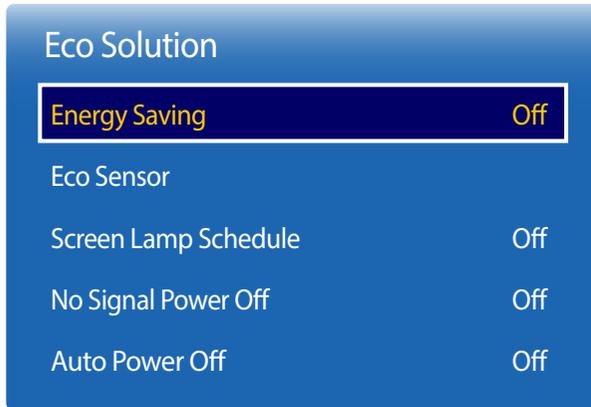
Power Button

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.

Eco Solution

MENU  → System → Eco Solution → ENTER 



– The displayed image may differ depending on the model.

Energy Saving

Reduce the power consumption by adjusting the screen brightness.

- Off / Low / Medium / High

Eco Sensor

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

- Off / On

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

Min. Backlight

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

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

Screen Lamp Schedule

The panel brightness is adjusted according to the **Screen Lamp Schedule**. A value closer to 100 makes the panel brighter.

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

- Off / On



- The displayed image may differ depending on the model.

No Signal Power Off

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

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

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

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

Auto Power Off

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

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

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

The default temperature is set to 77 °C.

Recommended temperature for **Temperature Control** is 75 °C ~ 80 °C (provided that the surrounding temperature is 40 °C).

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

Temperature Control

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



- The displayed image may differ depending on the model.

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 **Enter 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).

Button Lock

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

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

- **Off / On**

HDMI Hot Plug

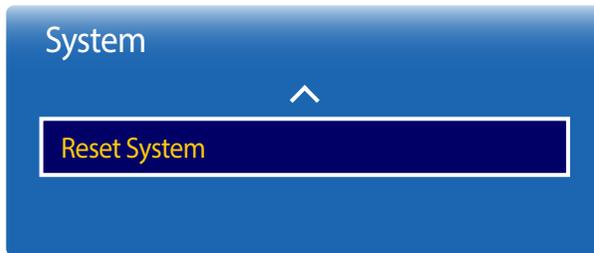
This feature is used to activate the time delay to turn on a DVI/HDMI source device.

- **Off / 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.

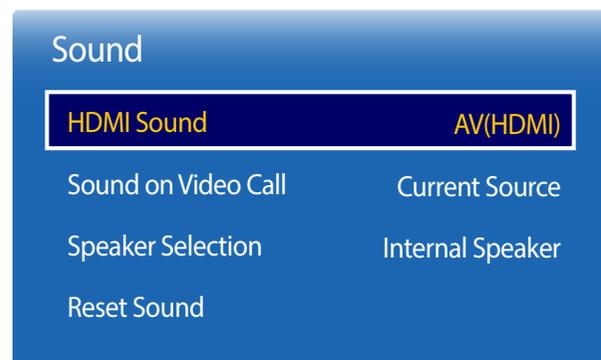
Chapter 09

Sound Adjustment

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

HDMI Sound

MENU  → **Sound** → **HDMI Sound** → ENTER 



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

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

– The displayed image may differ depending on the model.

Sound on Video Call

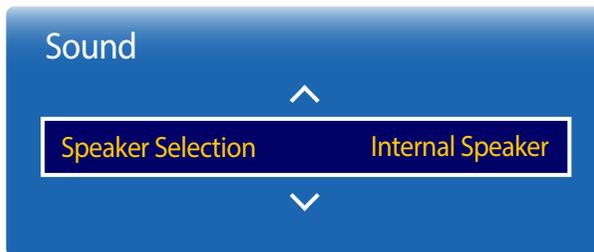
MENU  → Sound → Sound on Video Call → ENTER 



– The displayed image may differ depending on the model.

Speaker Selection

MENU  → Sound → Speaker Selection → ENTER 



– The displayed image may differ depending on the model.

Select sound output to listen to during a video call.

- **Current Source / Video Call**

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

- **Internal Speaker / External Speaker**

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

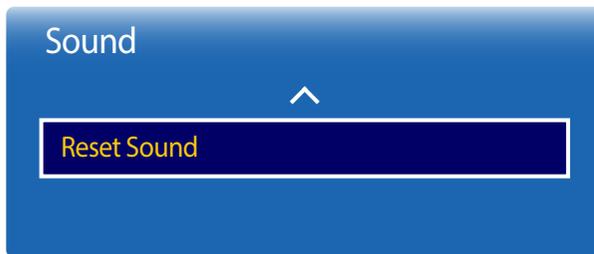
You will hear sound through the external speakers only. When the **Speaker Selection** is set to **Internal Speaker**, both the product speakers and the external speakers are on. You will hear sound through both.

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

Reset Sound

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

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



- The displayed image may differ depending on the model.

Chapter 10

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.

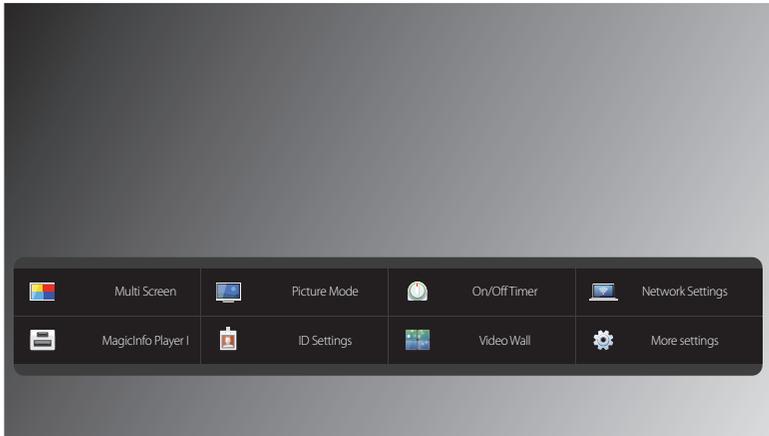
You can find information regarding our call centers and how to download products and software.

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

Go to Home

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

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



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

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

Multi Screen

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.

Picture Mode

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

On/Off Timer

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

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

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

Network Settings

View the network settings.

MagicInfo Player I

Change source to **MagicInfo Player I**.

MagicInfo Player I publishes and plays a variety of content, including created content and multimedia content (images, videos and audio content), from the server or a connected device.

ID Settings

Assign an ID to a set.

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

Video Wall

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.

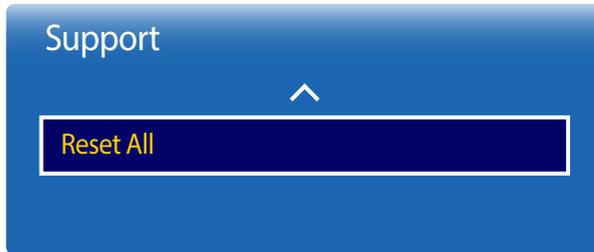
More settings

The picture settings menu appears.

Reset All

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

MENU  → Support → Reset All → ENTER 



– The displayed image may differ depending on the model.

Chapter 11

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.)

PC is shown in Source when a PC is not connected.

PC is always shown in **Source** irrespective of whether or not a PC is connected.

Screen issue

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

Make sure that the power cord is connected.

No Signal is displayed on the screen.

Check that the product is connected correctly with a cable.

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

Not Optimum Mode is displayed.

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

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

The images on the screen look distorted.

Check the cable connection to the product.

Screen issue

The screen is not clear. The screen is blurry.

Adjust **Coarse** and **Fine**.

Remove any accessories (video extension cable, etc) and try again.

Set the resolution and frequency to the recommended level.

The screen appears unstable and shaky.

Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table.

There are shadows or ghost images left on the screen.

The screen is too bright. The screen is too dark.

Adjust **Brightness** and **Contrast**.

White does not really look white.

Go to **Picture** and adjust the **White Balance** settings.

There is no image on the screen and the power LED blinks every 0.5 to 1 second.

The product is in power-saving mode.

Press any key on the keyboard or move the mouse to return to the previous screen.

The product will turn off automatically.

Go to **System** and make sure **Sleep Timer** is set to **Off**.

If a PC is connected to the product, check the power status of the PC.

Make sure the power cable is connected properly to the product and power outlet.

If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes.

Picture quality of the product is different from the dealer shop where it was purchased.

Use an HDMI cable to obtain high-definition (HD) picture quality.

Screen issue

The screen display does not look normal.

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

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

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

The brightness and color do not look normal.

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

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

Reset the screen settings to the default settings.

Broken lines are displayed on the edges of the screen.

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

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

These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the 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.

Sound issue

There is no sound.

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

Check the volume.

The volume is too low.

Adjust the volume.

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

Video is available but there is no sound.

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

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

If a source device is used

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

If a DVI-HDMI cable is used, a separate audio cable is required.

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

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

There is static coming from the speakers.

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

Check the signal strength after connecting a cable.

Low signal level can cause corrupted sound.

Sound issue

There is audible sound when the volume is muted.

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

Adjust the volume for the external speakers.

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

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

There is an echo sound coming from the speakers.

Different decoding speeds between the product speakers and external speakers can cause an echo.

In this case, set **Speaker Selection** to **External Speaker**.

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 Multi Screen menu is not available.	The menu is enabled or disabled depending on the Source mode.									
When I try to change the PC resolution, a message "The defined resolution is not currently supported." appears.	The message " The defined resolution is not currently supported. " 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.									
HDMI Black Level is not functioning properly on an HDMI device with YCbCr output.	This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable.									
There is no sound in HDMI mode.	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. <table><thead><tr><th></th><th>Sound input</th><th>Screen mode</th></tr></thead><tbody><tr><td>PC</td><td>Auto</td><td>PC settings</td></tr><tr><td>DVI PC</td><td>Audio In (Stereo ports)</td><td>PC settings</td></tr></tbody></table>		Sound input	Screen mode	PC	Auto	PC settings	DVI PC	Audio In (Stereo ports)	PC settings
	Sound input	Screen mode								
PC	Auto	PC settings								
DVI PC	Audio In (Stereo ports)	PC settings								

Other issue

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 HDMI1, HDMI2 and HDMI3 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.

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, DisplayPort3**, 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, DisplayPort3**.

Q & A

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

Question

How can I change the frequency?

Answer

Set the frequency on your graphics card.

- 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 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.

How do I set powersaving mode?

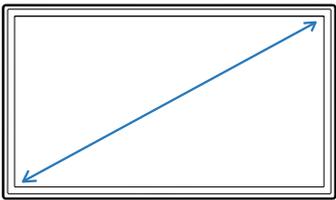
- Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
 - Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen 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 12

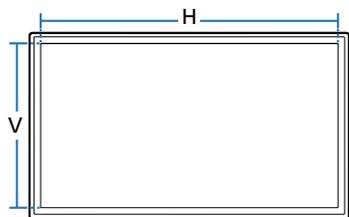
Specifications

General

– Size



– Display area



Model Name

QM85F

Panel	Size	85 CLASS (84.5 inches / 214 cm)
	Display area	1872.0 mm (H) x 1053.0 mm (V) / 73.70 inches x 41.46 inches

Power Supply	Power Supply	AC 100-240V~ 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 : 32 °F - 104 °F (0 °C - 40 °C) * For installing the housing, keep the internal temperature at 40 °C or below. Humidity : 10% - 80%, non-condensing
	Storage	Temperature : -4 °F - 113 °F (-20 °C - 45 °C) Humidity : 5% - 95%, non-condensing * Applicable before the product package is unpacked.

— 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 (1 ppm) 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.

[Recommendation] - EU Only



- Hereby, Samsung Electronics, declares that this Monitor is in compliance with the essential requirements and other relevant provisions of Directive 1999/5/EC.
- The official Declaration of Conformity may be found at www.samsung.com/displaysolutions, go to Support > Search Product Support and enter the model name.
- This equipment may be operated in all EU countries.

(USA only)

Dispose unwanted electronics through an approved recycler.

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

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 85 Hz, change the vertical frequency to 60 Hz using the CDT product before you exchange it with the LCD product.

Model Name

QM85F

Synchronization	Horizontal Frequency	30 - 81 kHz, 30 - 134 kHz (DisplayPort), 30 - 90 kHz (HDMI)
	Vertical Frequency	48 - 75 Hz, 56 - 75 Hz (DisplayPort), 24 - 75 Hz (HDMI)
Resolution	RGB Analog, DVI (Digital Visual Interface) Compliant Digital RGB	
	Optimum resolution	1920 x 1080 @ 60 Hz, 3840 x 2160 @ 60 Hz (DisplayPort1, DisplayPort2)
	Maximum resolution	1920 x 1080 @ 60 Hz, 3840 x 2160 @ 30 Hz (HDMI1, HDMI2, HDMI3, DisplayPort3)
Maximum Pixel Clock	148.5 MHz (Analog, Digital), 533 MHz (DisplayPort), 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	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1366 x 768	47.712	59.790	85.500	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900	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	+/-
VESA, 3840 x 2160	133.313	59.997	533.250	+/-
CEA, 3840 x 2160	133.313	59.997	533.250	+/-

Chapter 13

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.

Prevention of Afterimage Burn-in

What is afterimage burn-in?

Afterimage burn-in should not occur when the panel is operating normally. Normal operation refers to a continuously changing video pattern. If the 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.

- ⊘ This information is a guide to prevent afterimage burn-in. Viewing a fixed screen for an extended period of time may cause afterimage burn-in. This problem is not included in warranty.

Recommended prevention practices

Viewing a fixed screen for an extended period of time may cause afterimage burn-ins or smudges. Turn off the product when it is not used for a long time, activate the Power Saving mode, or run a moving screen saver.

- Change the colors regularly.



- Avoid combinations of a text color and background color of contrasting brightness.
- Avoid using colors of contrasting brightness (black and white; gray).



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