

**SAMSUNG**

# User Manual

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QM49F QM55F QM65F  
SMT-4933

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

Recommended hours of use per day of this product is under 24 hours.

If the product is used for longer than 24 hours a day, the warranty may be void.

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# Chapter 01

## Before Using the Product

### Copyright

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

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Microsoft, Windows are registered trademarks of Microsoft Corporation.

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

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

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

# Safety Precautions

## Caution

RISK OF ELECTRIC SHOCK DO NOT OPEN

Caution : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. (OR BACK)  
THERE ARE NO USER SERVICEABLE PARTS INSIDE.  
REFER ALL SERVICING TO QUALIFIED PERSONNEL.



This symbol indicates that high voltage is present inside.

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



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

## Symbols

### Warning

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

### Caution

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



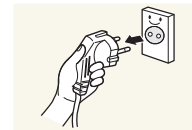
Activities marked by this symbol are prohibited.



Instructions marked by this symbol must be followed.

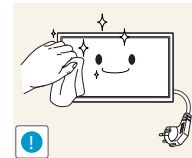
## Cleaning

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



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

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



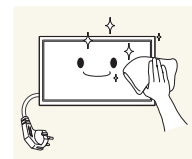
- 3 Wipe the product with a clean, soft and dry cloth.



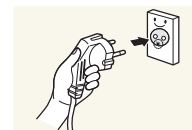
- Do not use detergents that contain alcohol, solvent or surface-active agents.



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



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



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

## Storage

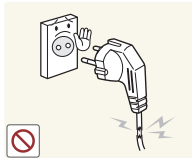
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create white-colored stains on the product.

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

## Electricity and Safety

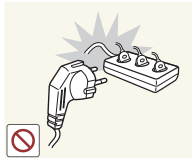
- The following images are for reference only. Real-life situations may differ from what is shown in the images.

### Warning



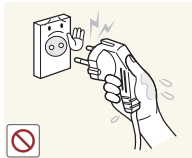
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.

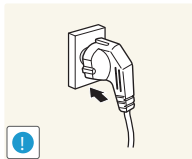


Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

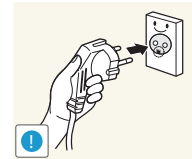


Do not touch the power plug with wet hands. Otherwise, an electric shock may result.



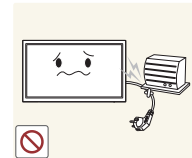
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.



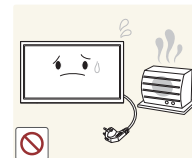
Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.



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

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



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

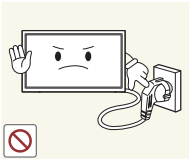
- A fire or electric shock may result.



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

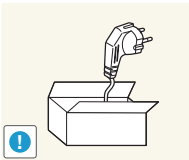
- A fire may result.

## Caution



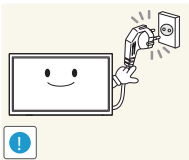
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.



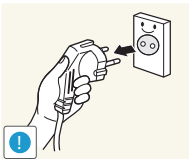
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

- A fire or electric shock may result.



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

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



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

- An electric shock or fire may result.

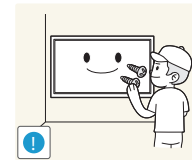
## Installation

### Warning



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

- A fire may result.



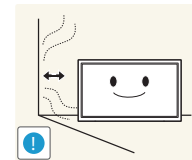
Have a technician install the wall-mount hanger.

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



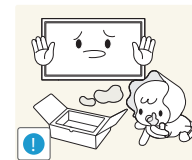
Do not install the product in poorly ventilated spaces such as a bookcase or closet.

- An increased internal temperature may cause a fire.



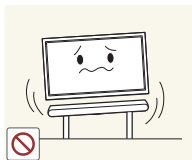
Install the product at least 10 cm away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.



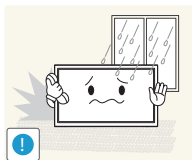
Keep the plastic packaging out of the reach of children.

- Children may suffocate.



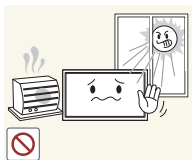
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)

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



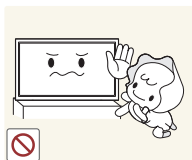
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- A fire or electric shock may result.



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

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



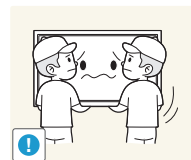
Do not install the product within the reach of young children.

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



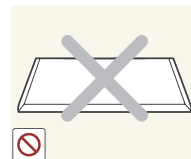
Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

## Caution



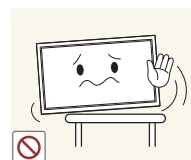
Do not drop the product while moving.

- Product failure or personal injury may result.



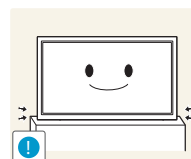
Do not set down the product on its front.

- The screen may become damaged.



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

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



Set down the product gently.

- Product failure or personal injury may result.



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

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

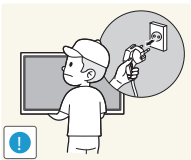
## Operation

### Warning



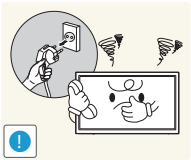
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

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



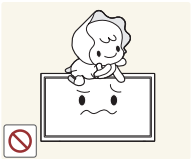
Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

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



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

- An electric shock or fire may result.



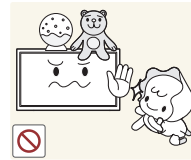
Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.



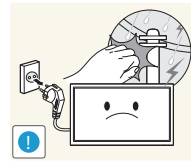
If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Center.

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



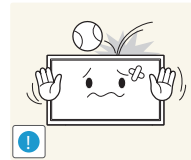
Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.

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



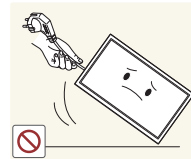
During a lightning or thunderstorm, power off the product and remove the power cable.

- A fire or electric shock may result.



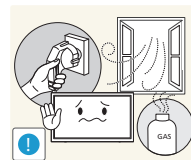
Do not drop objects on the product or apply impact.

- A fire or electric shock may result.



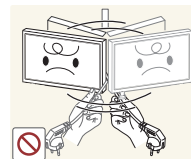
Do not move the product by pulling the power cord or any cable.

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



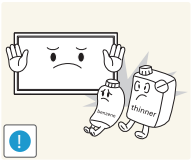
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



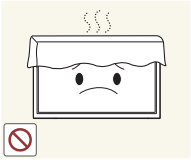
Do not lift or move the product by pulling the power cord or any cable.

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



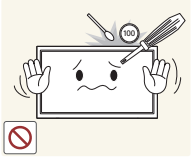
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.



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

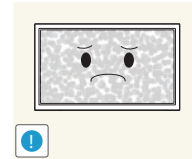
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.



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

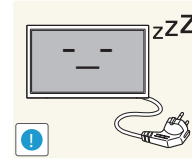
- Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
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## Caution



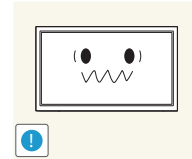
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

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



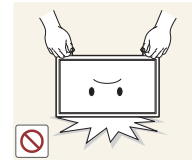
Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

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



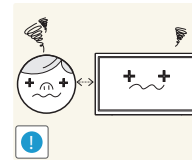
Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.

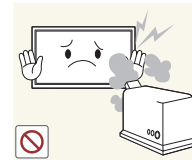


Do not hold the product upside-down or move it by holding the stand.

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

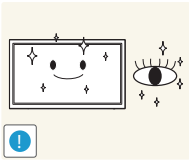


Looking at the screen too close for an extended period of time can deteriorate your eyesight.



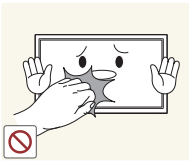
Do not use humidifiers or stoves around the product.

- A fire or electric shock may result.

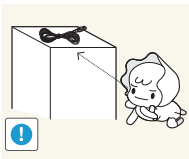


Rest your eyes for more than 5 minutes for every 1 hour of product use.

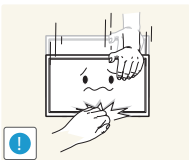
- Eye fatigue will be relieved.



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

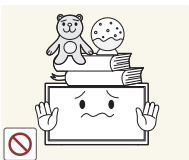


Store small accessories out of the reach of children.



Exercise caution when adjusting the product angle or stand height.

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



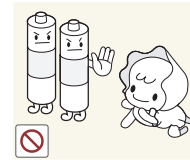
Do not place heavy objects on the product.

- Product failure or personal injury may result.



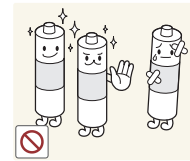
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.



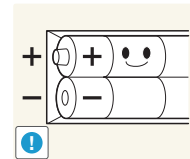
Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.

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



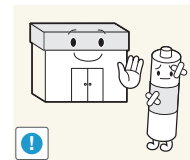
When replacing the battery, insert it with the right polarity (+, -).

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



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

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



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

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

# Chapter 02

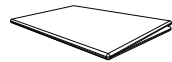
## Preparations

### Checking the Components

#### Components

— Components may differ in different locations.

- Contact the vendor where you purchased the product if any components are missing.
- The appearance of the components may differ from the images shown.
- A stand is not provided with the product. To install a stand, you can purchase one separately.
- The RS232C adapter can be used to connect to another monitor using the D-SUB (9-pin) type RS232C cable.



Quick setup guide



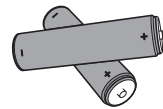
Warranty card  
(Not available in some locations)



Regulatory guide



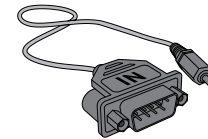
Power cord



Batteries  
(Not available in some locations)



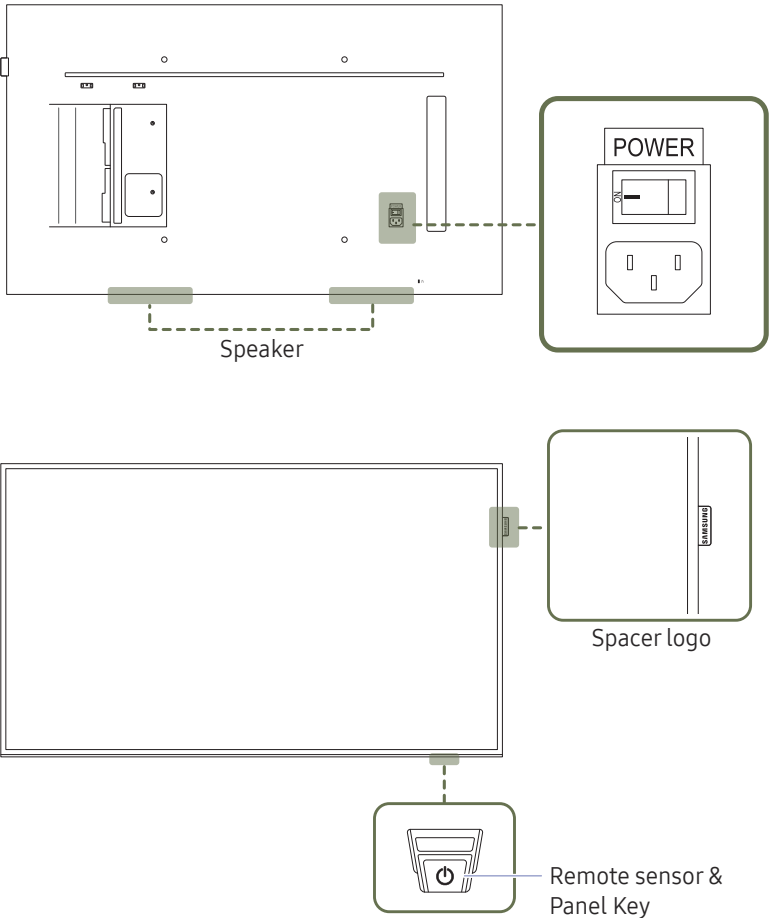
Remote Control



RS232C(IN) adapter

# 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.

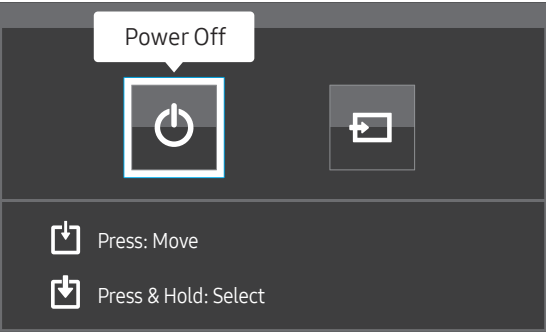
| Parts         | Description                                                                                                                                                                                                                                                                                                                                         |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Spacer logo   | Do not pull on the spacer logo using force. The logo may tear or break off.                                                                                                                                                                                                                                                                         |
| Remote sensor | <p>Press a button on the remote control pointing at the bottom of the product face to perform the function. The remote control sensor is located on the bottom of the product.</p> <p>— Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.</p> |
| Panel Key     | <p>To use remote/eco sensor, make sure the sliding panel key is protruding from the bottom of the product.</p> <p>To use the panel key, make sure the sliding panel key is not protruding from the bottom of the product.</p>                                                                                                                       |

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.

- The panel key is located on the bottom right front of the product.
- If you press the  button on the panel key when the product is turned on, the control menu will be displayed.

Control menu

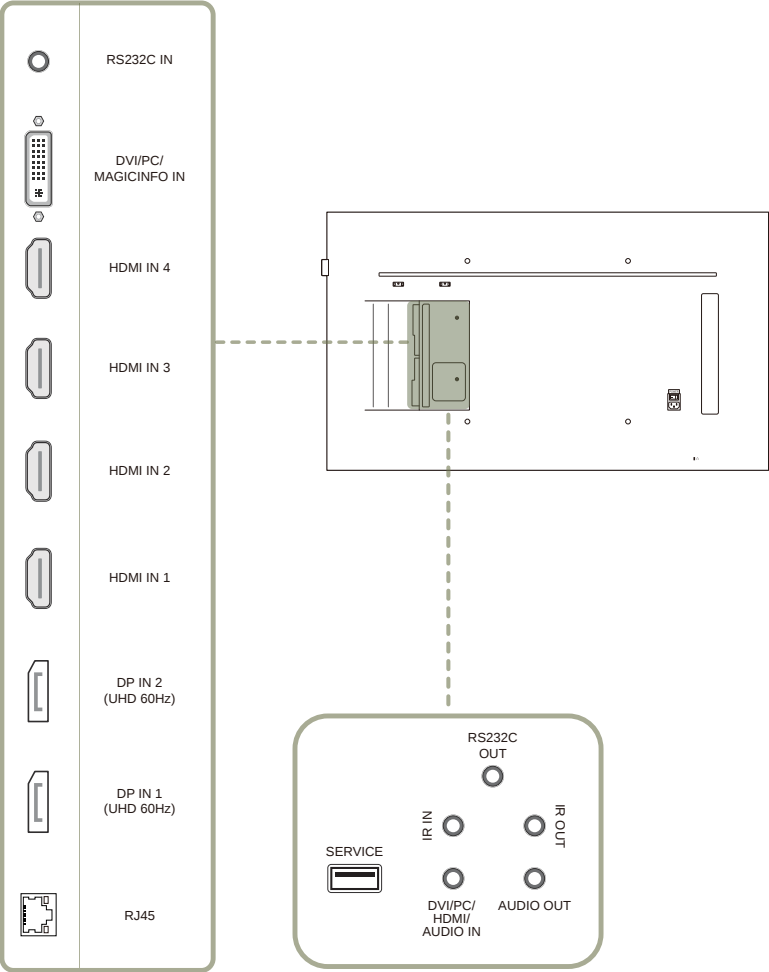


| Buttons                                                                                             | Description                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  <b>Power Off</b> | <p>Power off the product.</p> <p>With the control menu screen displayed, briefly press the panel key to move the cursor to <b>Power Off</b> , and then press and hold the panel key to turn off the product.</p>                                                                                                                                        |
|  <b>Source</b>    | <p>Select the connected input source.</p> <p>With the control menu screen displayed, briefly press the panel key to move the cursor to <b>Source</b> , and then press and hold the panel key to display the input source screen.</p> <p>With the input source screen displayed, press and hold the panel key to switch to the desired input source.</p> |

- The panel key can only be used for **Power Off** and **Source**.
- To exit from the control menu screen, wait for 3 seconds or more without pressing the panel key.

# Reverse Side

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



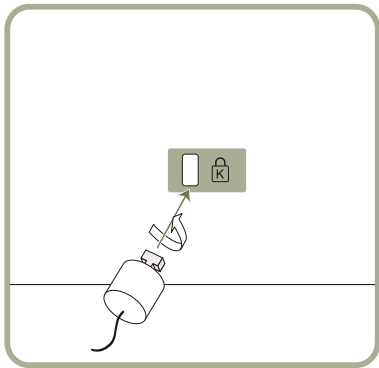
| Port                                       | Description                                                                                                                                                                                                                       |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| RS232C IN                                  | Connects to MDC using an RS232C adapter.                                                                                                                                                                                          |
| DVI/PC/MAGICINFO IN                        | DVI: Connects to a source device using a DVI cable or HDMI-DVI cable.<br>PC: Connects a D-SUB cable (via a DVI-RGB adapter) or a DVI-RGB cable to a PC.<br>MAGICINFO IN: To use MagicInfo, make sure to connect the DP-DVI cable. |
| HDMI IN 1, HDMI IN 2, HDMI IN 3, HDMI IN 4 | Connects to a source device using a HDMI cable or HDMI-DVI cable.<br>— Obtain sharp picture quality when viewing UHD content at 30Hz.                                                                                             |
| DP IN 2 (UHD 60Hz)                         | Connects to a PC using a DP cable.                                                                                                                                                                                                |
| DP IN 1 (UHD 60Hz)                         | — Obtain sharp picture quality when viewing UHD content at 60Hz.                                                                                                                                                                  |
| RJ45                                       | Connects to MDC using a LAN cable.                                                                                                                                                                                                |
| RS232C OUT                                 | Connects to MDC using an RS232C adapter.                                                                                                                                                                                          |
| IR IN                                      | Supplies power to the external sensor board or receives the external remote control sensor signal.                                                                                                                                |
| IR OUT                                     | Receives the remote control signal via the external sensor board and outputs the signal via LOOP OUT.                                                                                                                             |
| SERVICE                                    | Connects to a USB device when upgrading software.                                                                                                                                                                                 |
| DVI/PC/HDMI/AUDIO IN                       | Receives sound from a PC via an audio cable.                                                                                                                                                                                      |
| AUDIO OUT                                  | Connects to the audio of a source device.                                                                                                                                                                                         |

---

## Anti-theft Lock

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

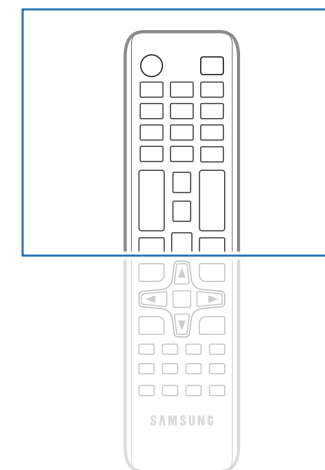
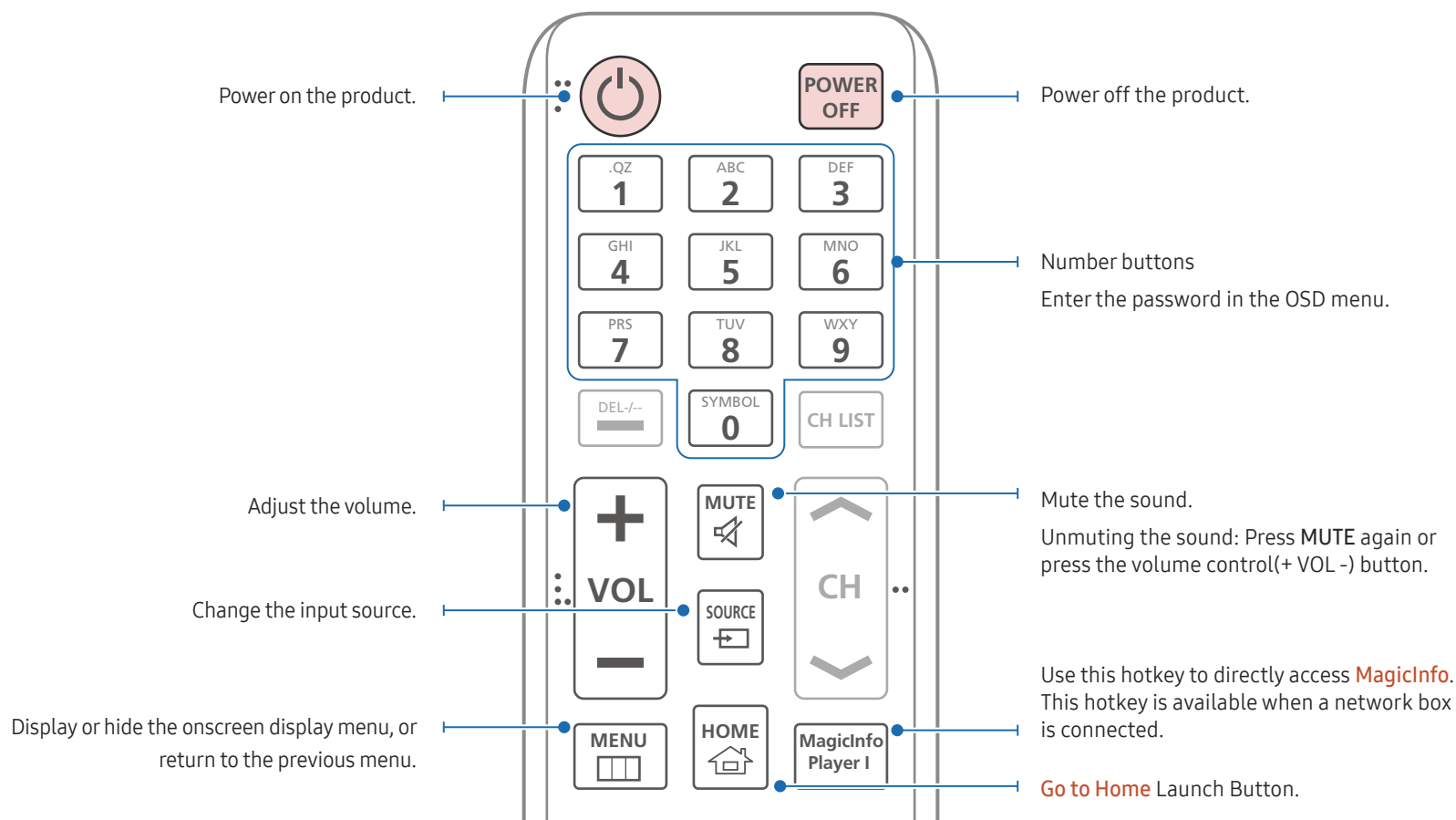
### To lock an anti-theft locking device:



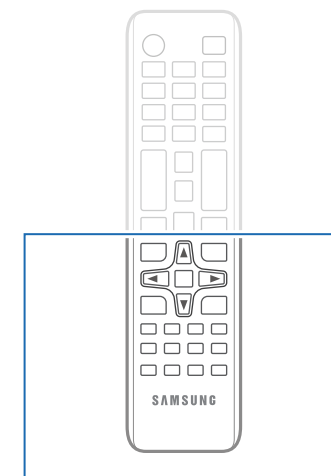
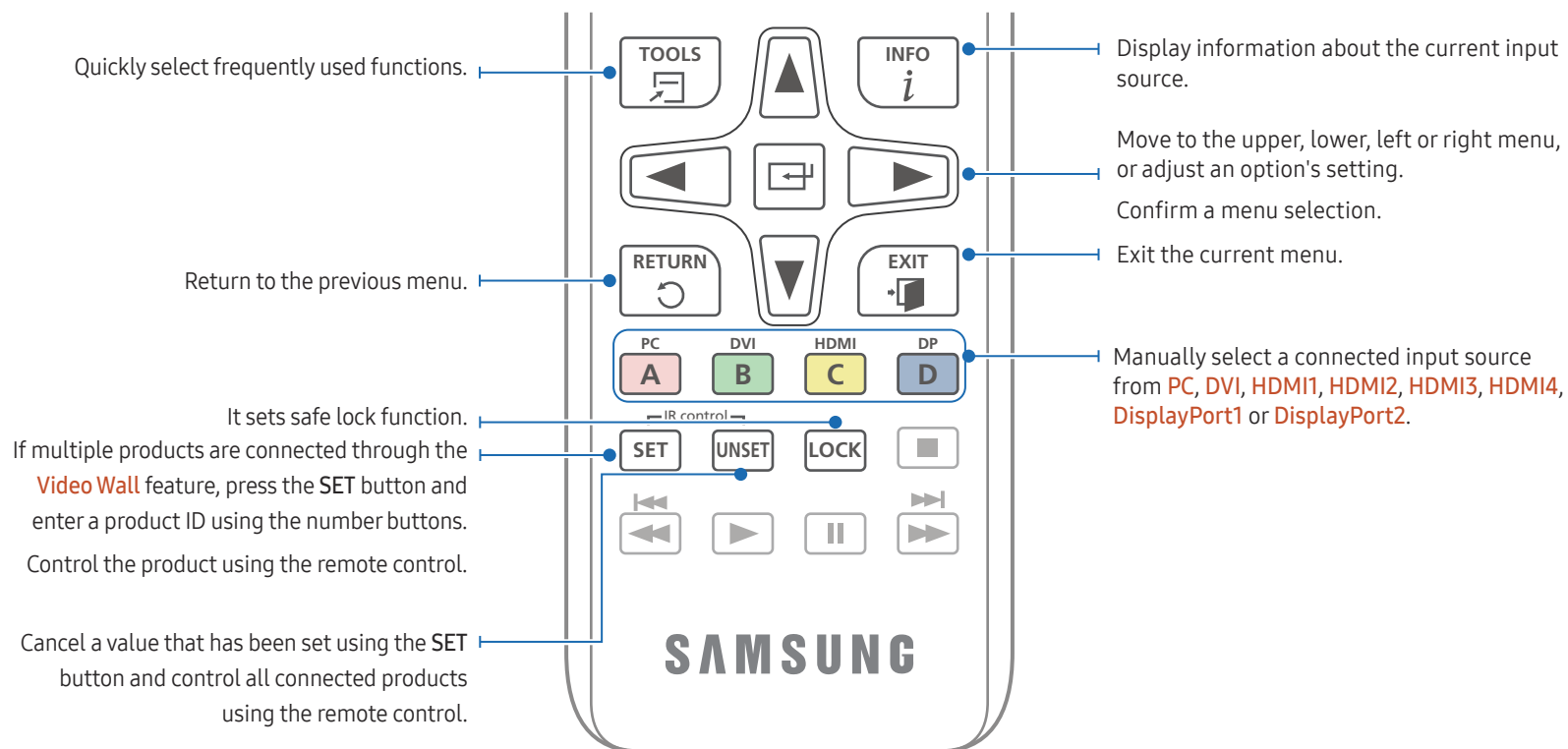
- 1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.
- 2 Put one end of the cable through the loop on the other end.
- 3 Insert the locking device into the anti-theft lock slot at the back of the product.
- 4 Lock the locking device.
  - An anti-theft locking device can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

## Remote Control

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

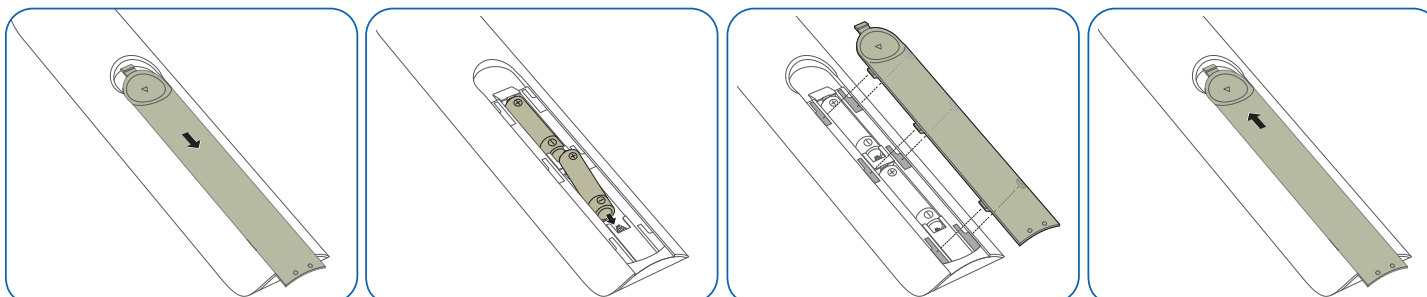


— Remote control button functions may differ for different products.



– Remote control button functions may differ for different products.

## To place batteries in the remote control



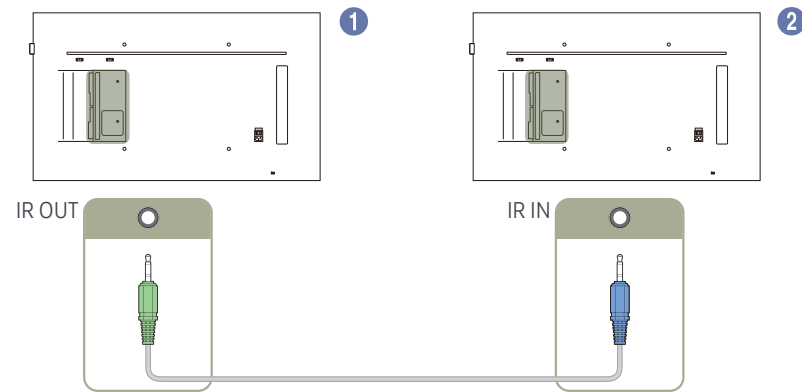
## Connection Using an IR Stereo Cable (sold separately)

Make sure to connect the external remote control sensor while the product is powered off. Then, power on the product.

### Controlling more than one display product using your remote control

- Connect the IR OUT port on the product to the IR IN port on the other display product using the dedicated stereo cable.
- A command sent from the remote control pointed at product ① will be received by both display products ① and ②.

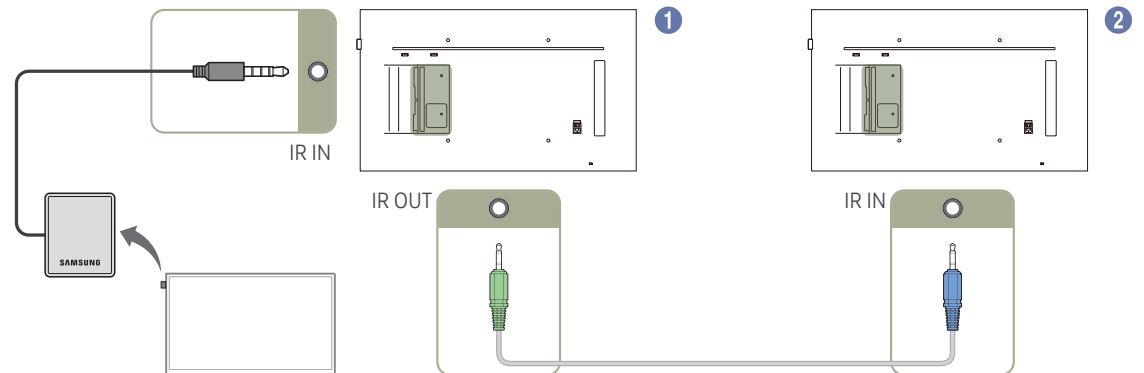
— The appearance may differ depending on the product.



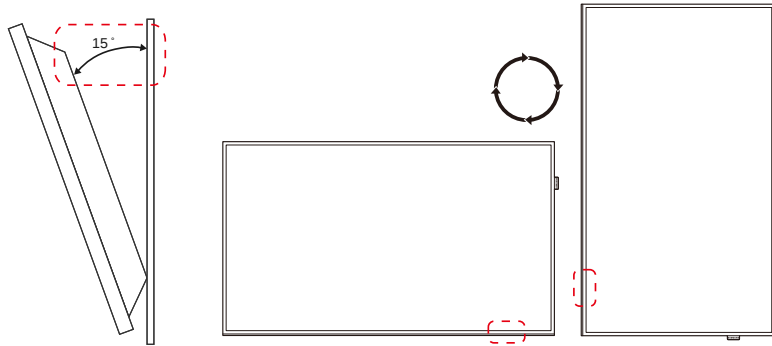
### Controlling more than one display product using an external remote control sensor (sold separately)

- A command sent from the remote control pointed at product ① (to which the external remote control sensor is connected) will be received by both display products ① and ②.

— The appearance may differ depending on the product.



## 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.

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

### Ventilation

#### Installation on a Perpendicular Wall

A Minimum 40 mm

B Ambient temperature: Under 35°C

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

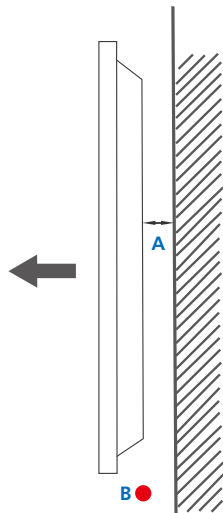


Figure 1.1 Side view

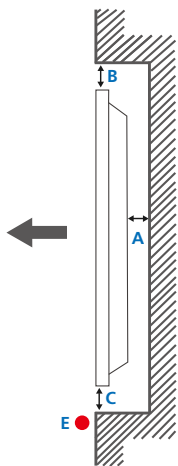
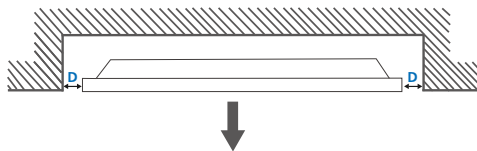


Figure 1.2 Side view

Figure 1.3 Side view



## Installation on an Indented Wall

— Contact Samsung Customer Service Center for further details.

### Plane view

A Minimum 40 mm

B Minimum 70 mm

C Minimum 50 mm

D Minimum 50 mm

E Ambient temperature: Under 35°C

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

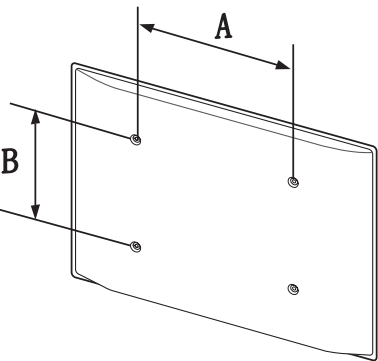
# Installing the Wall Mount

## 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.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.
- Standard dimensions for wall mount kits are shown in the table below.

Unit: mm (inches)

| Model name                          | VESA screw hole specs (A * B)<br>in millimeters | Standard Screw | Quantity |
|-------------------------------------|-------------------------------------------------|----------------|----------|
| QM49F / QM55F / QM65F /<br>SMT-4933 | 400 × 400 (15.7 × 15.7)                         | M8             | 4        |

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

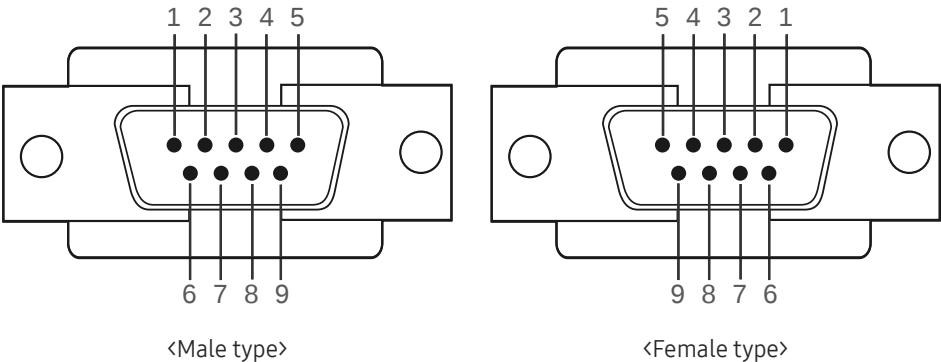
# Remote Control (RS232C)

## Cable Connection

### RS232C Cable

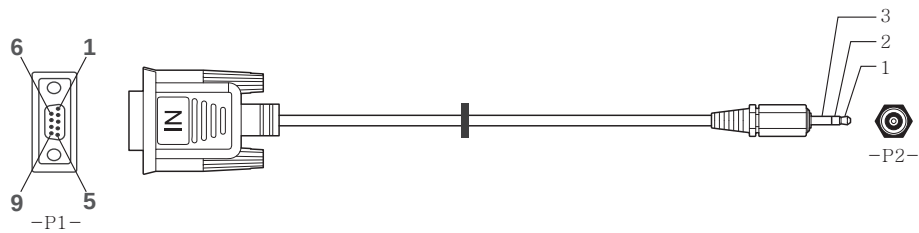
|                |                                    |
|----------------|------------------------------------|
| Interface      | RS232C (9 pins)                    |
| Pin            | TxD (No.2), RxD (No.3), GND (No.5) |
| Bit rate       | 9600 bps                           |
| Data bits      | 8 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        |

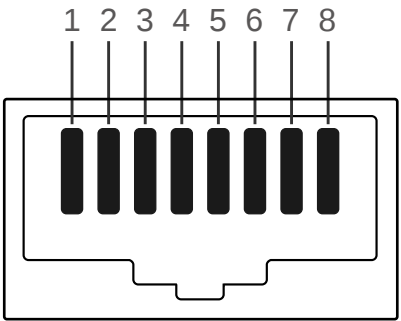
- RS232C cable  
Connector: 9-Pin D-Sub to Stereo Cable



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

### LAN Cable

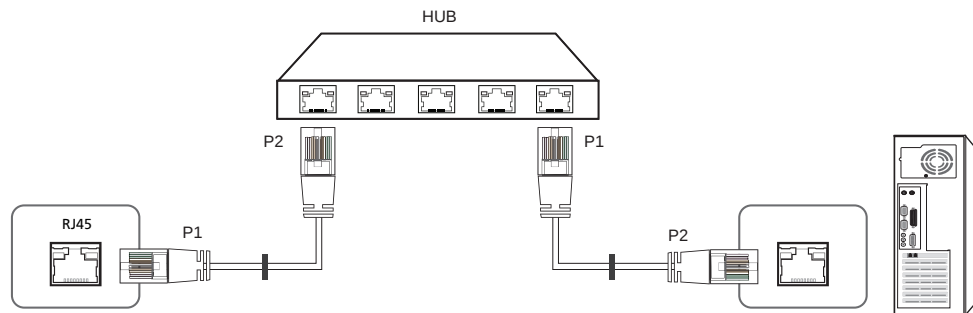
- Pin assignment



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

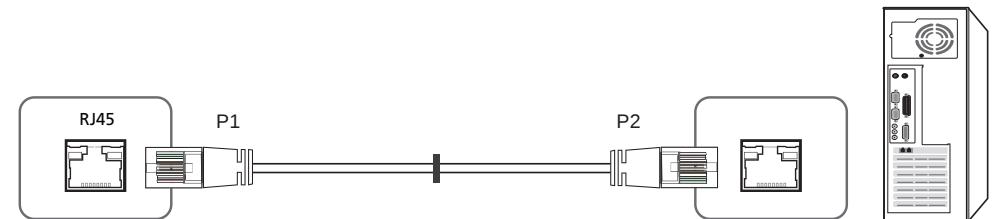
- Connector : RJ45

## 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)

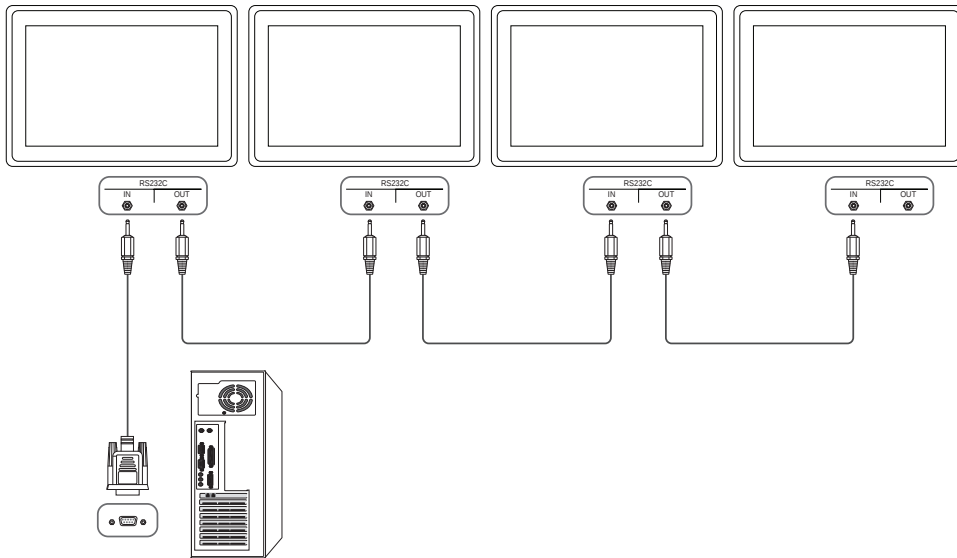


| Signal | P1 |         | P2 | Signal |
|--------|----|---------|----|--------|
| TX+    | 1  | <-----> | 3  | RX+    |
| TX-    | 2  | <-----> | 6  | RX-    |
| RX+    | 3  | <-----> | 1  | TX+    |
| RX-    | 6  | <-----> | 2  | TX-    |

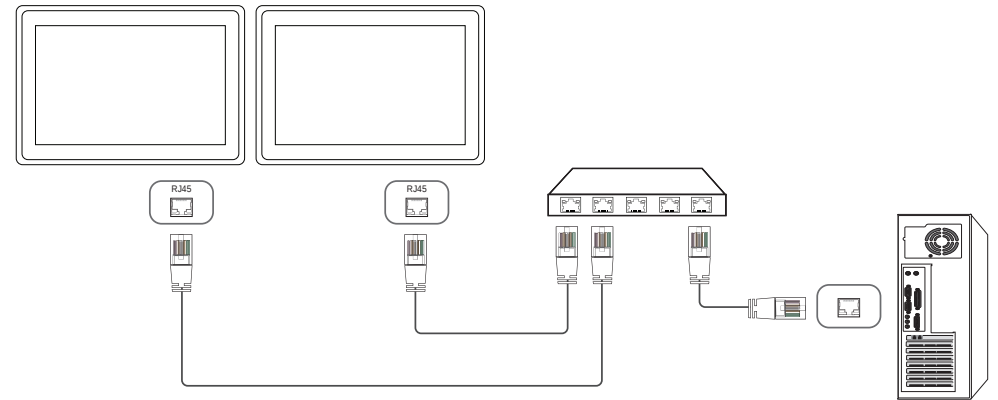
## Connection

— Ensure you connect each of the adapters to the correct RS232C IN or OUT port on the product.

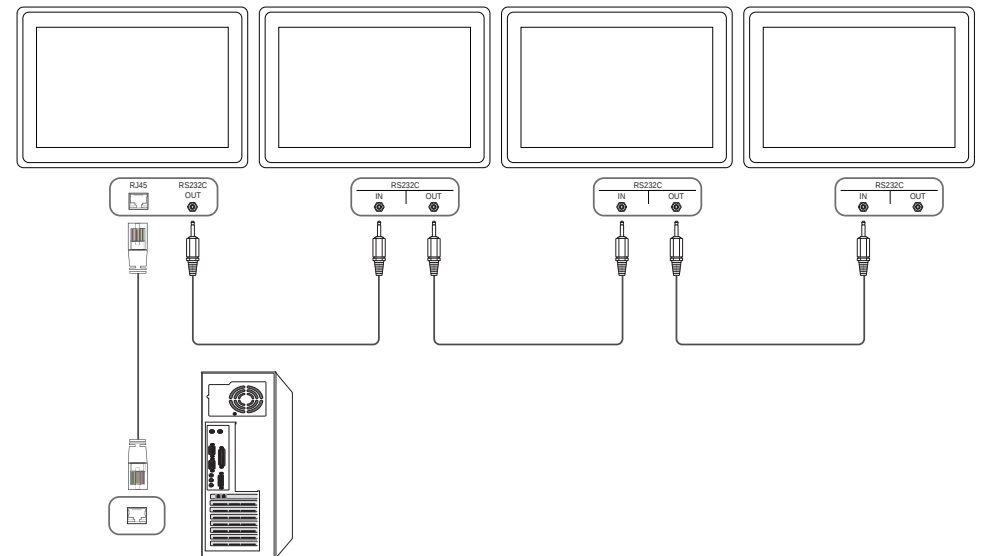
- Connection 1



- 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         |

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

- All communications take place in 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 |

- DVI\_video, HDMI1\_PC and HDMI2\_PC cannot be used with the Set command. They only respond to "Get" commands.
- This model does not support HDMI1, HDMI1\_PC, HDMI2 and HDMI2\_PC ports.
- **MagicInfo** is only available with models that contain the **MagicInfo** function.
- RF(TV), DTV are only available with models that include a TV.

- Ack

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

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

- Nak

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

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

## Screen mode control

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

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

- Viewing screen status (Get Screen Mode Status)

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x18    |    | 0           |          |

- Setting the picture size (Set Picture Size)

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

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

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

- Ack

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

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

- Nak

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

"ERR": A code showing what error has occurred

## Screen size control

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x19    |    | 0           |          |

- Ack

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

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

- Nak

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

"ERR": A code showing what error has occurred

## PIP On/Off control

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x3C    |    | 0           |          |

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

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

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

1: PIP ON

0: PIP OFF

- Ack

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

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

- Nak

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

"ERR": A code showing what error has occurred

## Auto adjustment control (PC and BNC only)

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

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

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

- Ack

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

- Nak

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

"ERR": A code showing what error has occurred

## Video Wall Mode Control

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x5C    |    | 0           |          |

- Setting the video wall (Set Video Wall Mode)

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

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

1: Full

0: Natural

- Ack

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

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

- Nak

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

"ERR": A code showing what error has occurred

## Safety Lock

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x5D    |    | 0           |          |

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

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

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

1: ON

0: OFF

- Ack

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

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

- Nak

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

"ERR": A code showing what error has occurred

## Video Wall On

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x84    |    | 0           |          |

- Set Video Wall On/Off

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

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

1: Video Wall ON

0: Video Wall OFF

- Ack

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

V.Wall\_On : Same as above

- Nak

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

"ERR": A code showing what error has occurred

## Video Wall User Control

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

| Header | Command | ID | Data length | Checksum |
|--------|---------|----|-------------|----------|
| 0xAA   | 0x89    |    | 0           |          |

- Set Video Wall

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

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

## 10x10 Video Wall Model

|     | 1    | 2    | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   |
|-----|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Off | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 0x00 | 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  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  |
| 13  | 0xD1 | 0xD2 | 0xD3 | 0xD4 | 0xD5 | 0xD6 | 0xD7 | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  |
| 14  | 0xE1 | 0xE2 | 0xE3 | 0xE4 | 0xE5 | 0xE6 | 0xE7 | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  |
| 15  | 0xF1 | 0xF2 | 0xF3 | 0xF4 | 0xF5 | 0xF6 | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  | N/A  |

Wall\_SNo: Product Number code assigned to the product

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

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

- Ack

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

- Nak

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

"ERR": A code showing what error has occurred

# Chapter 03

## Connecting and Using a Source Device

### Before Connecting

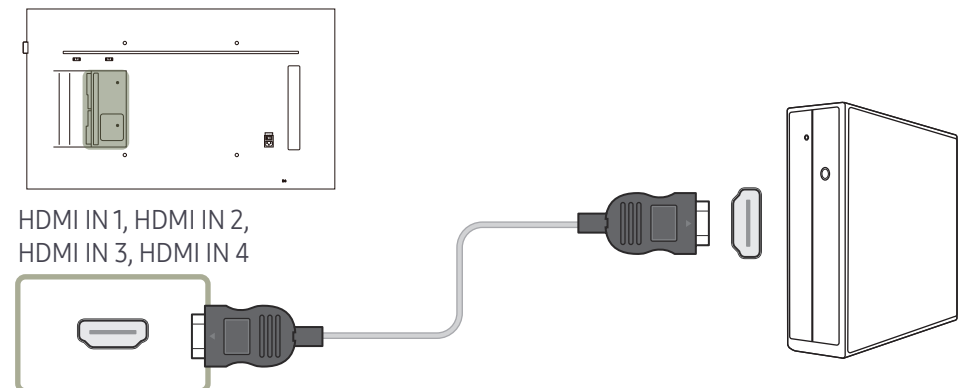
#### Pre-connection Checkpoints

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

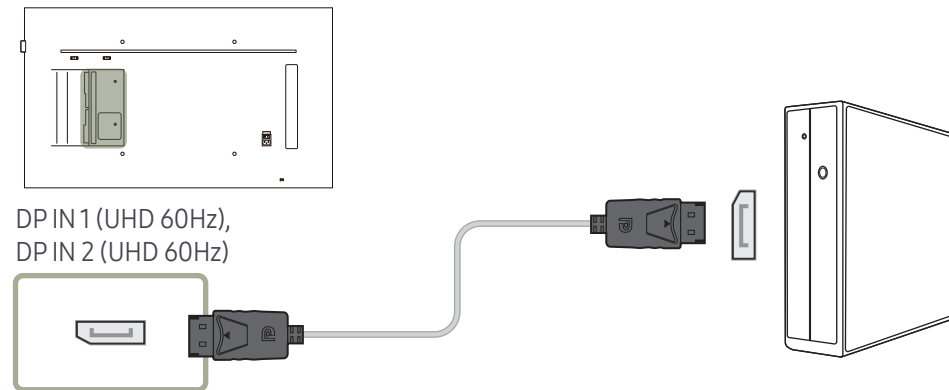
### Connecting to a PC

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

#### Connection Using an HDMI Cable



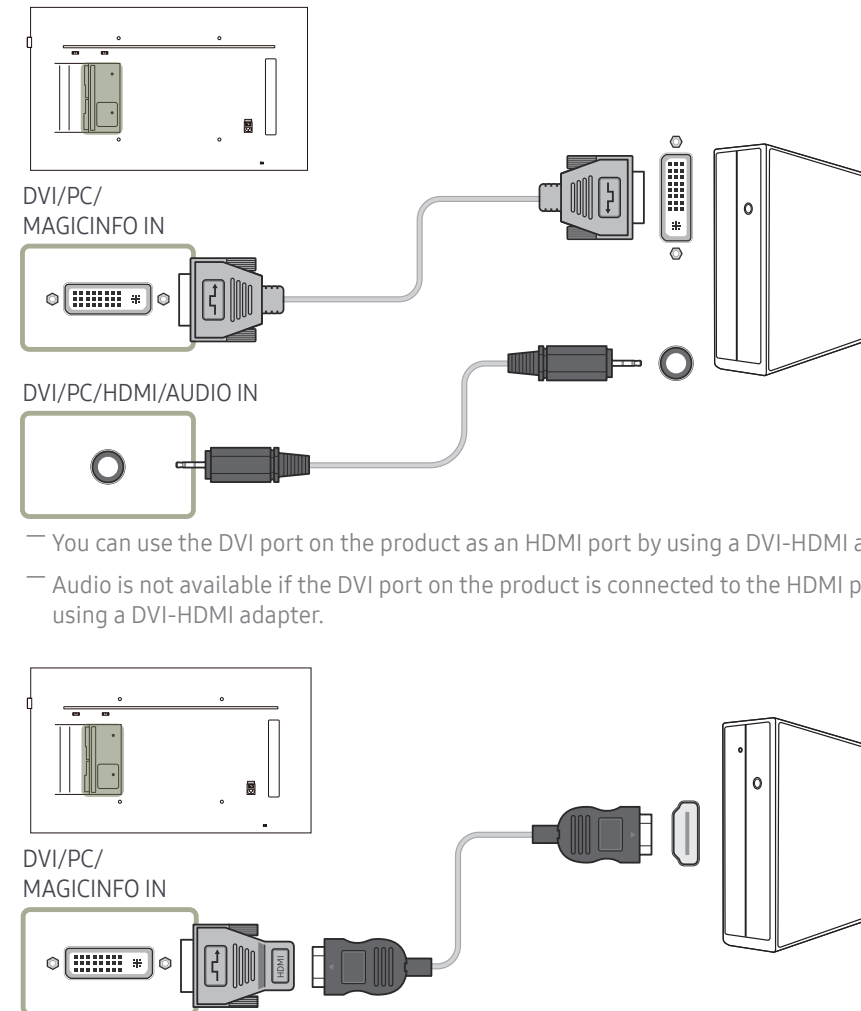
## Connection Using an DP Cable



- Precautions for using DP

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

## Connection using a DVI cable (Digital type)

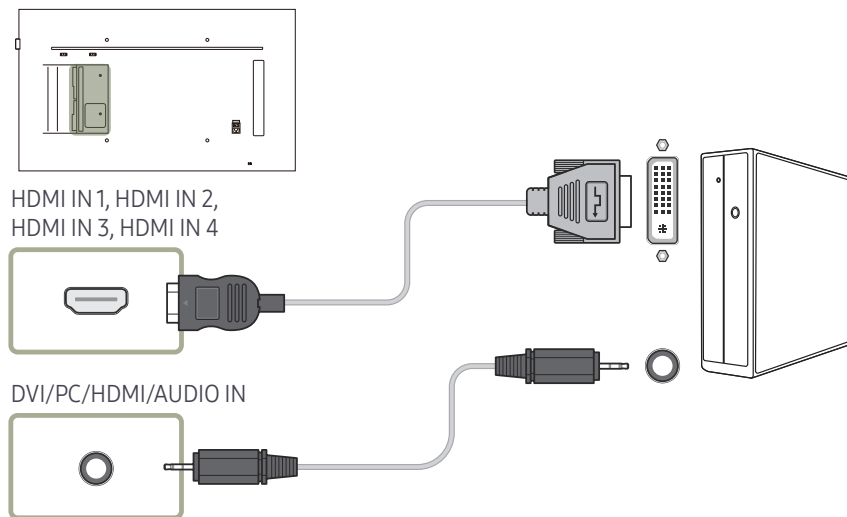


- You can use the DVI port on the product as an HDMI port by using a DVI-HDMI adapter.
- Audio is not available if the DVI port on the product is connected to the HDMI port on the PC using a DVI-HDMI adapter.

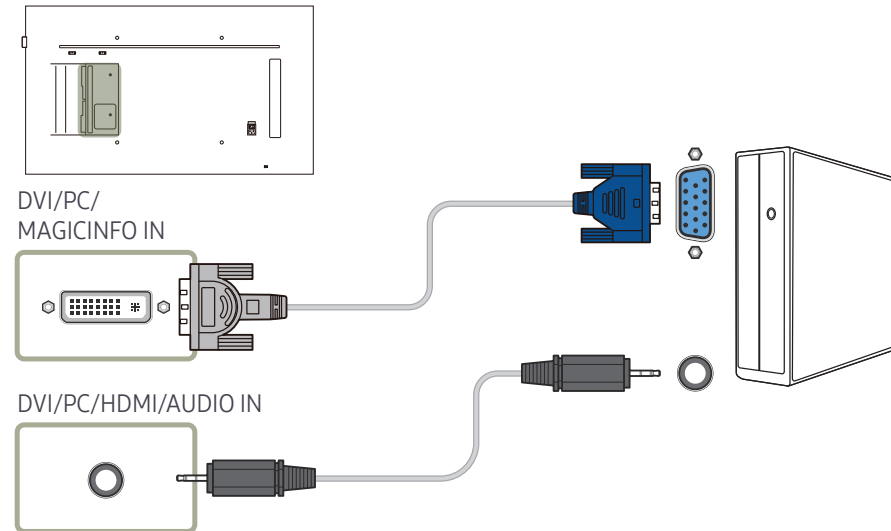
## Connection Using an HDMI-DVI Cable

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

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



## Connection using the DVI-RGB cable

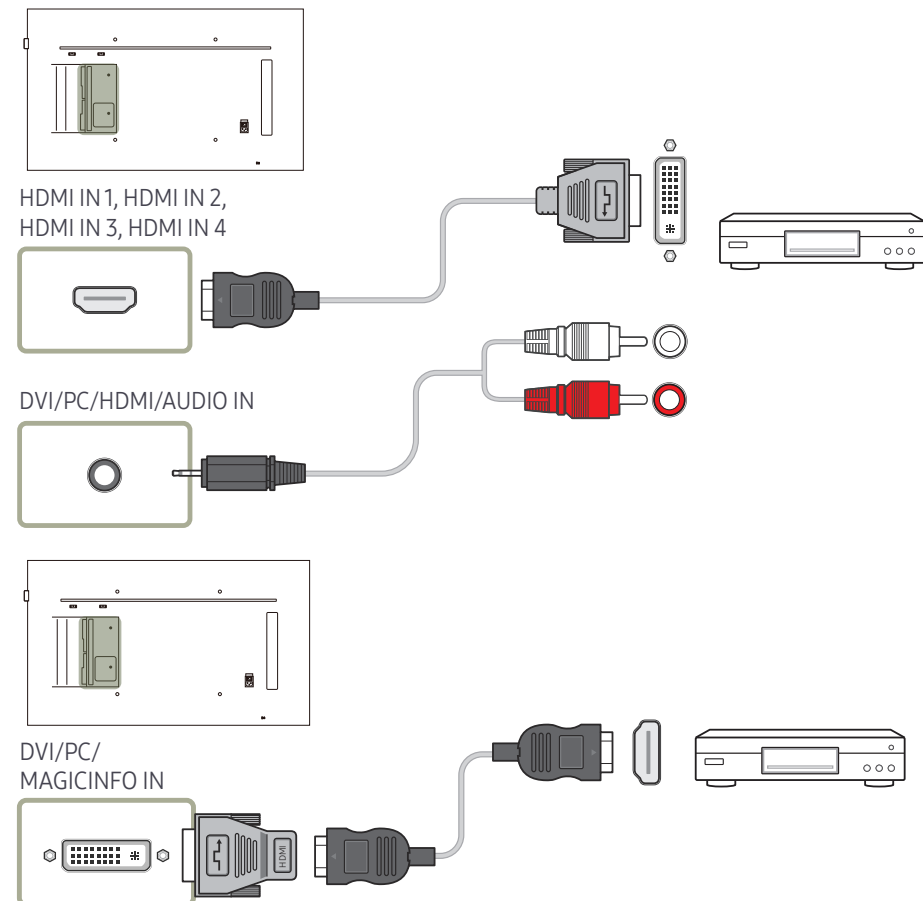


## Connecting to a Video Device

- 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

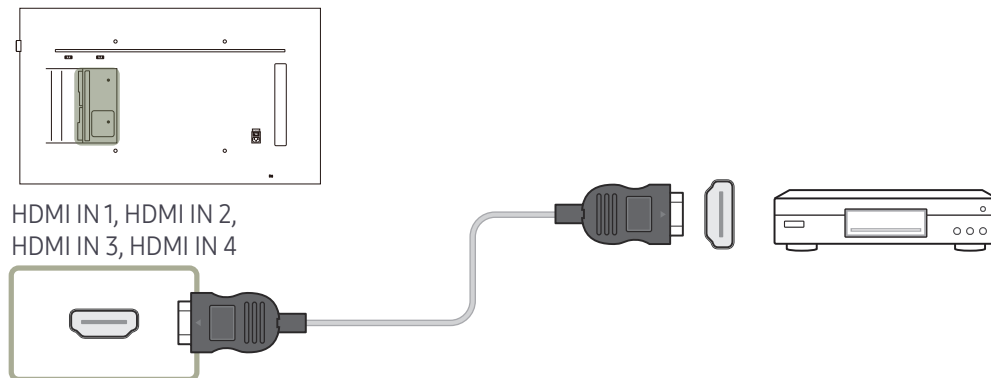
- Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device.
- After connecting a video device to the product with an HDMI-DVI cable, make sure to configure the settings as shown below to enable the video and audio from the video device.  
You can use the DVI port on the product as an HDMI port by using a DVI-HDMI adapter. Audio is not available if the DVI port on the product is connected to the HDMI port on the PC using a DVI-HDMI adapter.
  - **Sound** → set **HDMI Sound** to **AV(HDMI)**
  - **Picture** → set each screen mode to **Video/Image** under **Picture Mode**
  - **System** → **General** → set **HDMI Hot Plug** to **On**
- Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.



## Connection Using an HDMI Cable

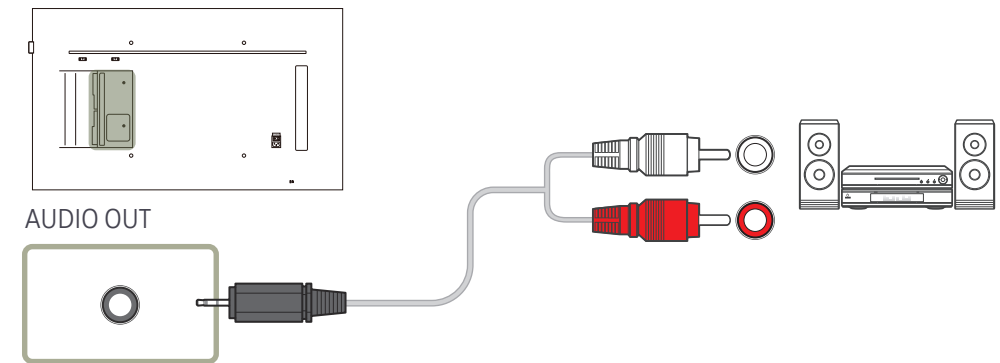
### Using an HDMI cable or HDMI to DVI Cable (UHD 30Hz)

- 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.

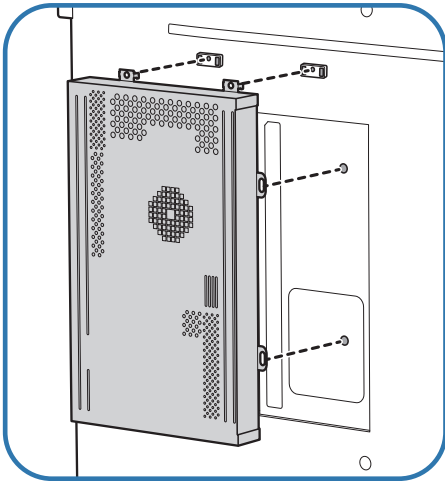
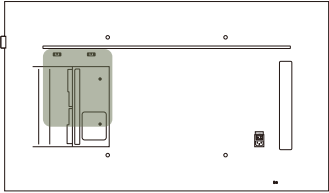


## Connecting to an Audio System

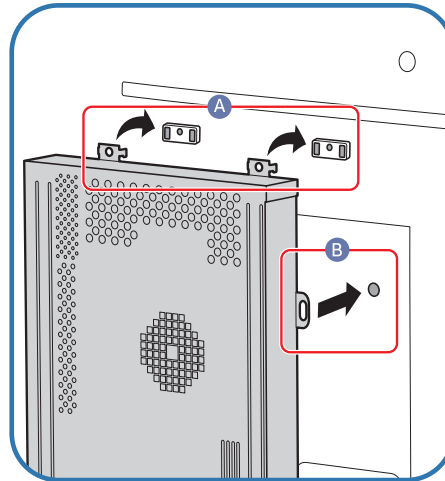
— Connecting parts may differ in different products.



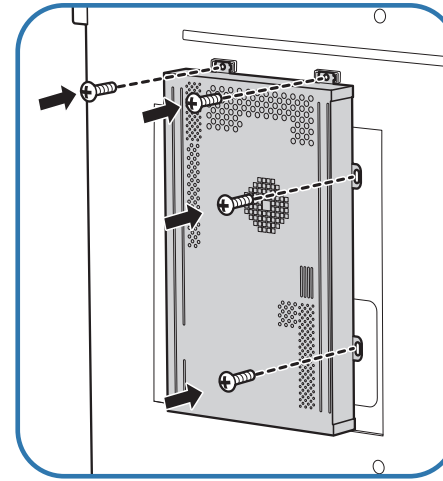
## Attaching the Network box (Sold separately)



1 Place the network box as shown.



2 First insert the tabs of the network box into the slots marked (A) on the attachment frame. The tabs should hook onto the frame. Then, align the holes marked (B).



3 Attach the network box to the fixed attachment frames.

## Connecting the Network box (Sold separately)

— For details on how to connect to a network box, refer to the user's manual provided with the network box upon purchase.

### MagicInfo

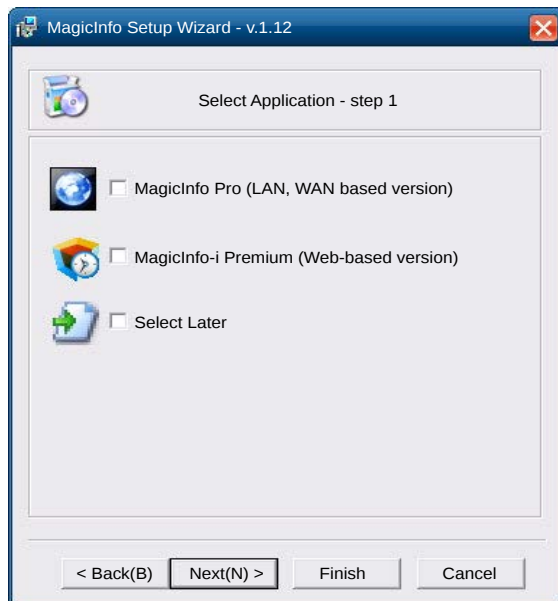
To use **MagicInfo**, a network box (sold separately) must be connected to the product.

— To change the MagicInfo settings, run "MagicInfoSetupWizard" on the desktop.

— For details on how to use **MagicInfo**, refer to the DVD provided with the network box.

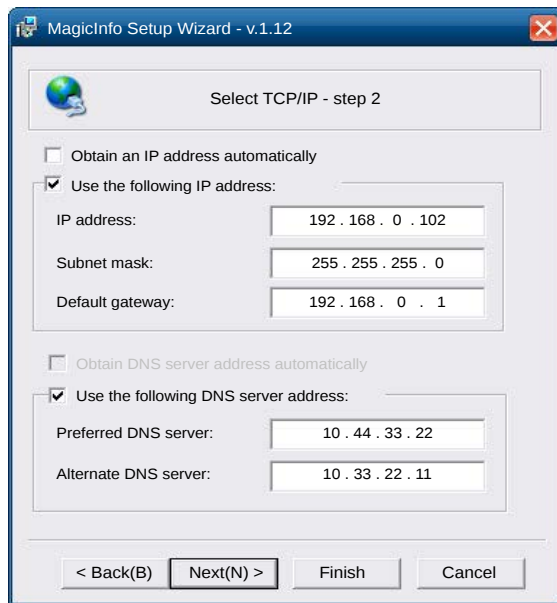
— The information in this section is subject to change without notice for quality improvement.

— If a problem occurs after installing an operating system other than the one provided with the network box, restoring the previous version of the operating system, or installing software that is not compatible with the operating system provided, you will not be able to benefit from technical support and will be charged a fee for a visit from a service technician. A product exchange or refund will also not be available.

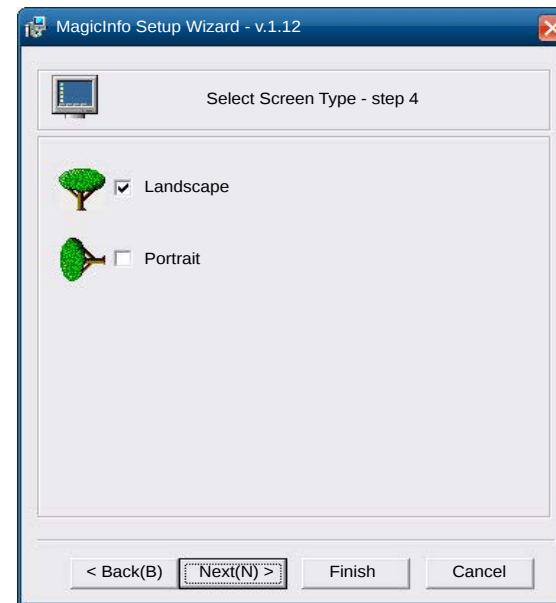


### Entering MagicInfo mode

- 1 After installing and connecting the network box (sold separately) to the product, power on the product.
- 2 Press SOURCE on the remote control, and select **MagicInfo**.
  - Connecting the network box to the DVI/PC/MAGICINFO IN port on the product will change **Source** from **DVI** to **MagicInfo**.
- 3 Select the default application you want to run when MagicInfo starts.



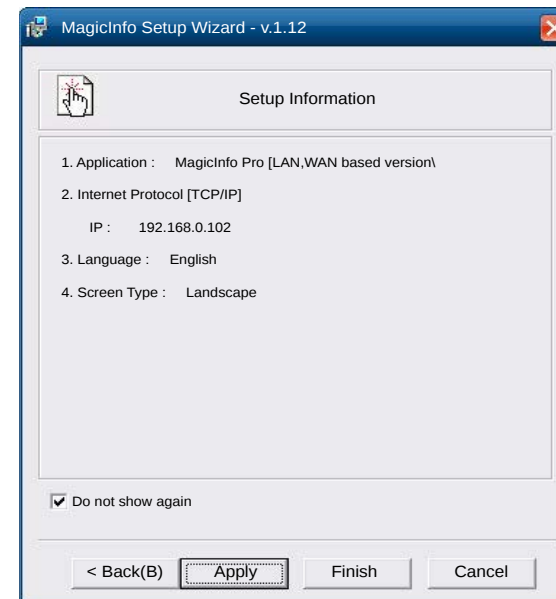
4 Enter the IP information.



6 Select a display mode.



5 Select a language. (The default language is English.)



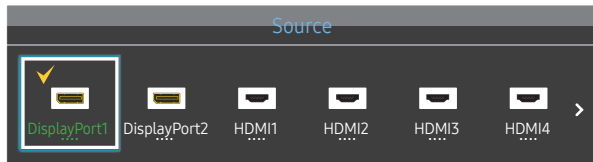
7 Double-check the settings you have just configured.

— If the execution icon does not appear, double-click the **MagicInfo** icon on the desktop. The icon will appear at the bottom right of the screen.

# Changing the Input source

## Source

SOURCE → Source



– The displayed image may differ depending on the model.

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

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

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

## Edit Name

SOURCE → Source → TOOLS → Edit Name → ENTER

Customize the name of a connected external device.

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

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

# Chapter 04

## Using MDC

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

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

## MDC Program Installation/Uninstallation

### Installation

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

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

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

### Uninstallation

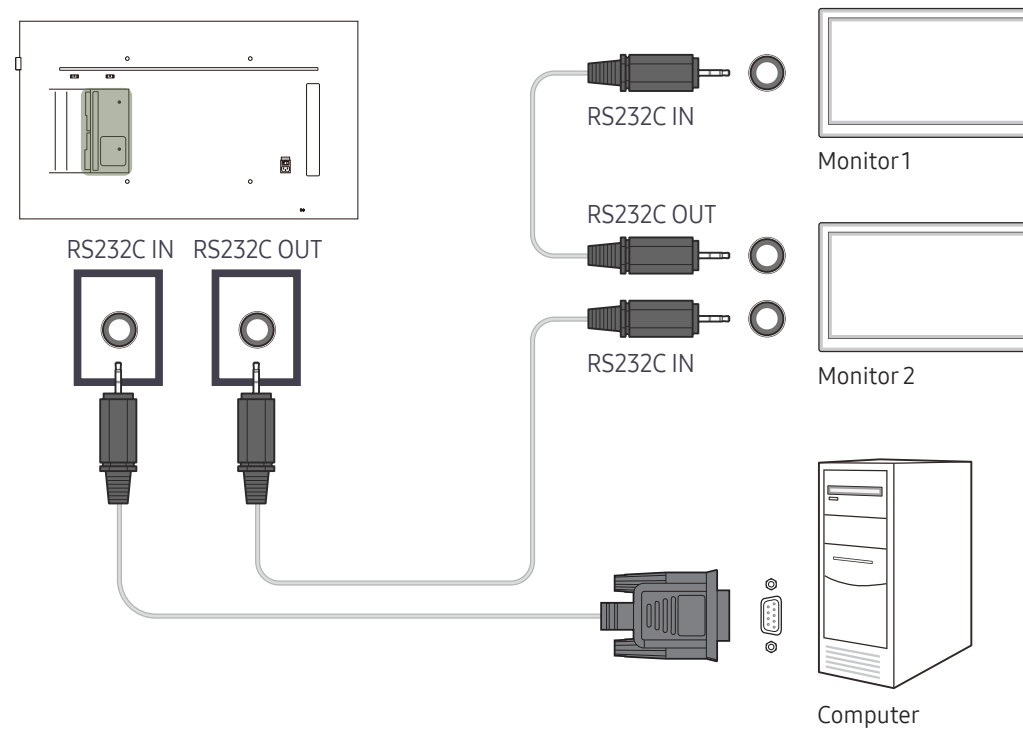
- 1 Select **Settings > Control Panel** on the **Start** menu and double-click **Add/Delete Program**.
- 2 Select **MDC Unified** from the list and click **Change/Remove**.

## Connecting to MDC

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

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

— The appearance may differ depending on the product.

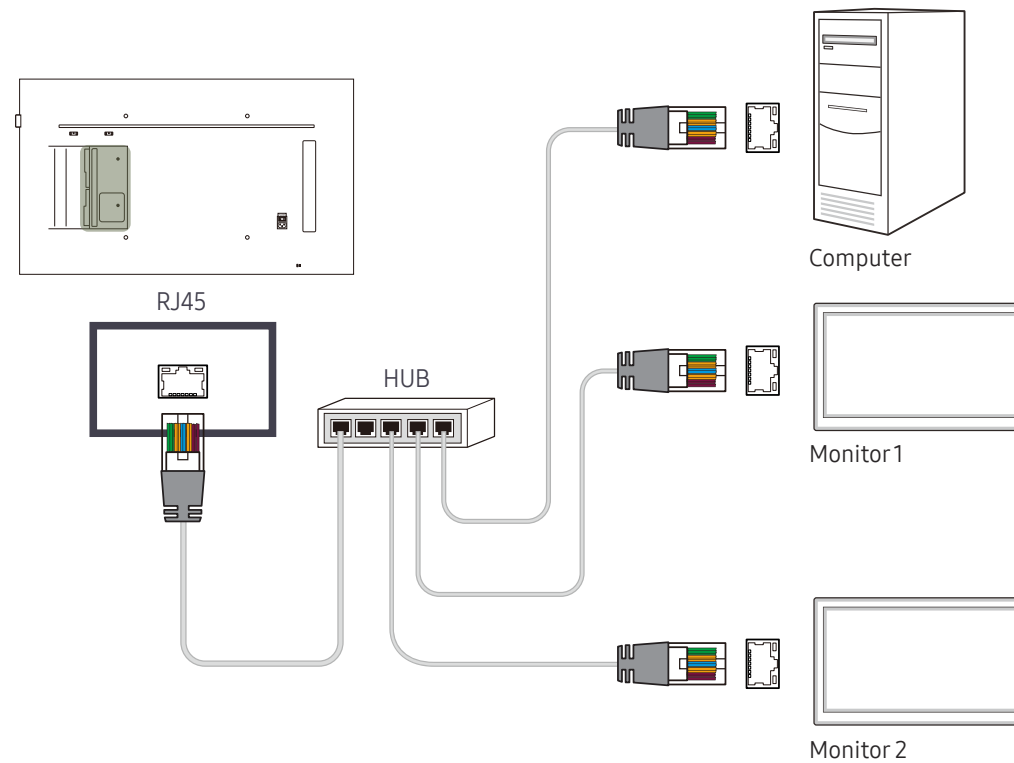


## Using MDC via Ethernet

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

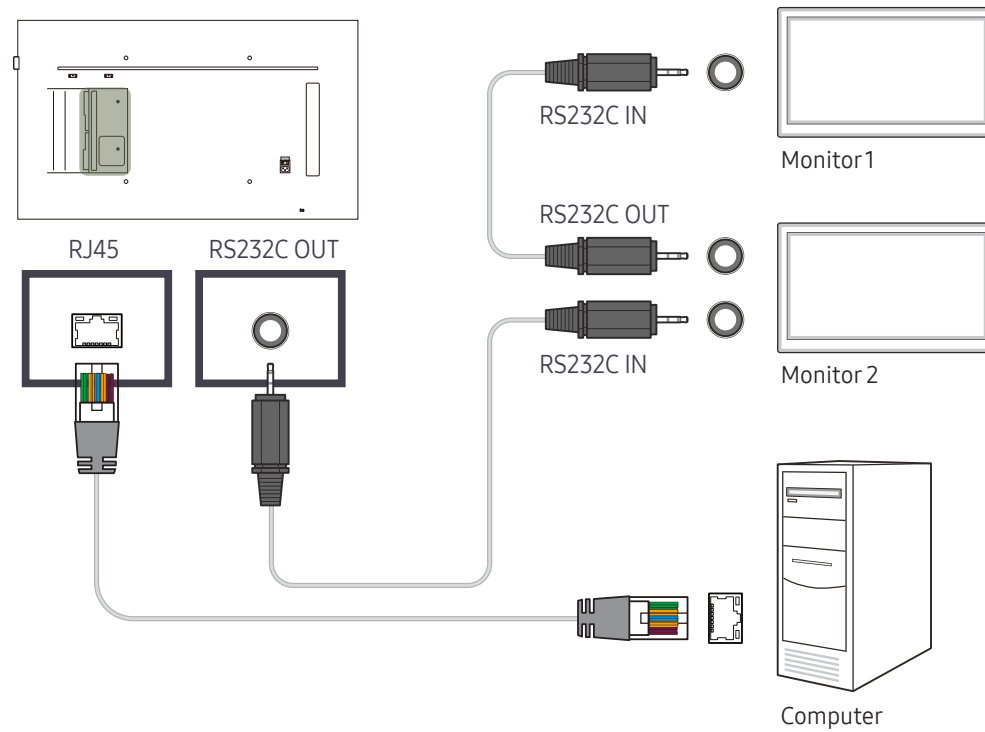
### Connection using a direct LAN cable

- The appearance may differ depending on the product.
- Multiple products can be connected using the RJ45 port on the product and the LAN ports on the HUB.



## Connection using a cross LAN cable

- The appearance may differ depending on the product.
- Multiple products can be connected using the RS232C IN / OUT port on the product.



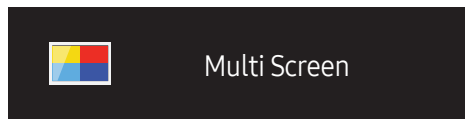
# Chapter 05

## 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 



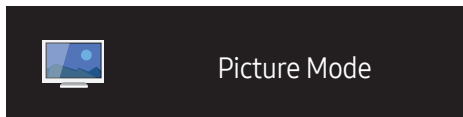
- The displayed image may differ depending on the model.
- Refer to [Multi Screen](#) under the chapter [OnScreen Display](#) for more information on sub-features.

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.

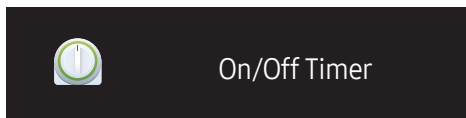
Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

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

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

## On/Off Timer

HOME  → On/Off Timer → ENTER 



– The displayed image may differ depending on the model.

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

### On Timer

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

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

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

(On Timer1 ~ On Timer7)

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

### Off Timer

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

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

---

## Holiday Management

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

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

---

# Network Settings

View the network settings.

HOME  → Network Settings → ENTER 



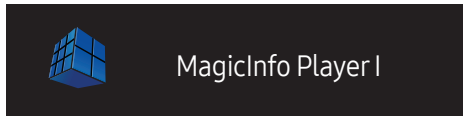
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– The displayed image may differ depending on the model.

---

# MagicInfo Player I

HOME  → MagicInfo Player I → ENTER 



Change source to **MagicInfo Player I**.

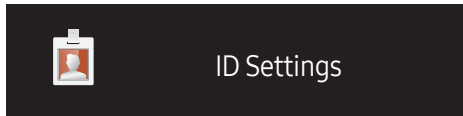
**MagicInfo Player I** publishes and plays a variety of content, including created content and multimedia content (images, videos and audio content), from the server or a connected device.

---

– 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.

### Device ID

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

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

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

### PC Connection Cable

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

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

# Video Wall

HOME  → Video Wall → ENTER 



– The displayed image may differ depending on the model.

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

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

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

## Video Wall

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

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

- **Off / On**

### Horizontal x Vertical

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

Enter the videowall matrix.

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

— A videowall display can be split into a maximum of 225 screens.

— The **Horizontal x Vertical** option is only enabled when **Video Wall** is set to **On**.

---

## Screen Position

To rearrange split screens, adjust the number for each product in the matrix using the **Screen Position** feature.

Selecting **Screen Position** will display the videowall matrix with the numbers assigned to the products that form the videowall.

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

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

## Format

Select how to display images on the videowall display.

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

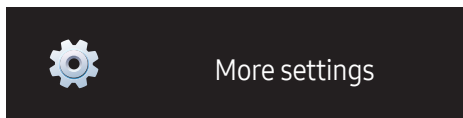
- The **Format** option is only enabled when **Video Wall** is set to **On**.

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## More settings

The picture settings menu appears.

HOME  → More settings → ENTER 



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– The displayed image may differ depending on the model.

# Chapter 06

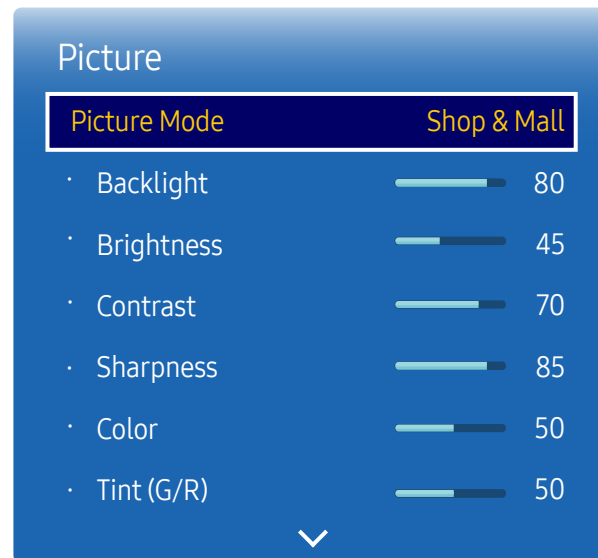
## Screen Adjustment

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

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

### Picture Mode

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



– The displayed image may differ depending on the model.

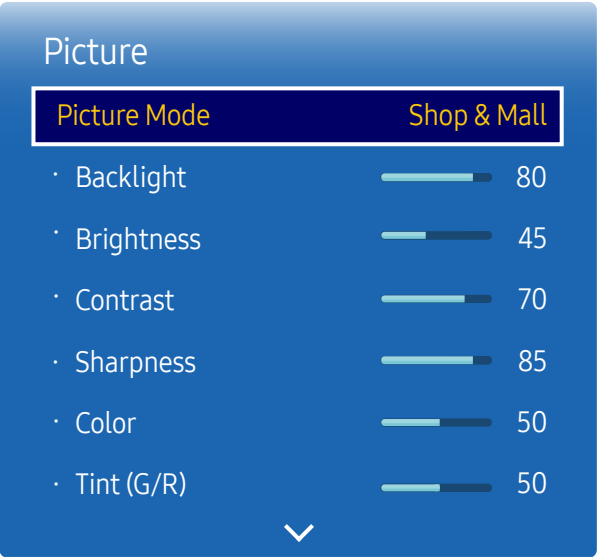
Select a picture mode (**Picture Mode**) suitable for the environment where the product will be used.

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

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

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

MENU  → Picture → ENTER 



– The displayed image may differ depending on the model.

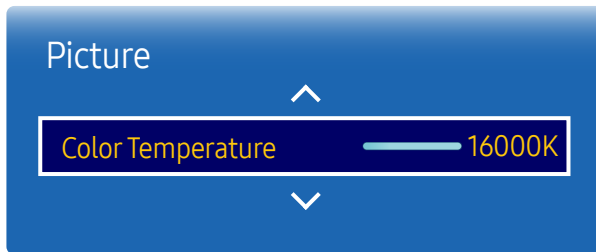
Your product has several options for adjusting picture quality.

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

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

## Color Temperature

MENU  → Picture → Color Temperature → ENTER 



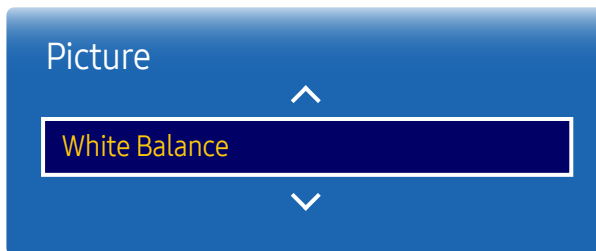
– The displayed image may differ depending on the model.

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

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

## White Balance

MENU  → Picture → White Balance → ENTER 



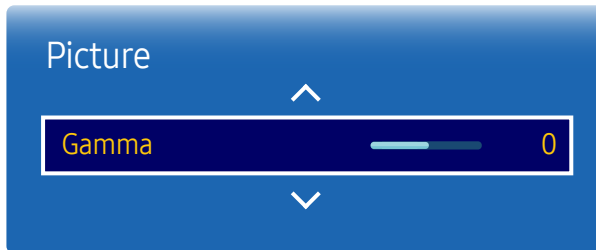
– The displayed image may differ depending on the model.

Adjust the color temperature for a more natural picture.

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

## Gamma

MENU  → Picture → Gamma → ENTER 



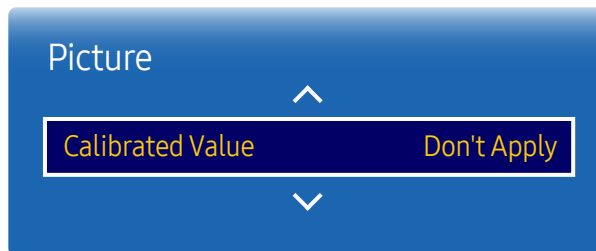
– The displayed image may differ depending on the model.

Adjust the primary color intensity.

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

## Calibrated Value

MENU  → Picture → Calibrated Value → ENTER 



– The displayed image may differ depending on the model.

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

- **Don't Apply / Apply**

— To download the **Advanced Color Management** program, visit [www.samsung.com/displaysolutions](http://www.samsung.com/displaysolutions).

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

# Picture Options

MENU  → Picture → Picture Options → ENTER 



– The displayed image may differ depending on the model.

| Picture Mode                                                    | Picture Mode settings | Adjustable options                                                            |
|-----------------------------------------------------------------|-----------------------|-------------------------------------------------------------------------------|
| Shop & Mall, Office & School,<br>Terminal & Station, Video Wall | Video/Image           | Color Tone / Digital NR / HDMI Black Level /<br>Film Mode / Dynamic Backlight |
|                                                                 | Text                  | Color Tone / Digital NR / HDMI Black Level /<br>Dynamic Backlight             |
| Calibration                                                     |                       | Digital NR / HDMI Black Level / Dynamic<br>Backlight                          |

## Picture Options

|                   |      |
|-------------------|------|
| Color Tone        | Off  |
| Digital NR        | Off  |
| HDMI Black Level  | Auto |
| Film Mode         | Off  |
| Dynamic Backlight | On   |

– The displayed image may differ depending on the model.

## Color Tone

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

- Off / Cool / Normal / Warm

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

- Off / Cool / Normal / Warm1 / Warm2

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

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

## Digital NR

Reduces the noise of the picture to avoid distracting flickering.

- Off / On

## HDMI Black Level

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

- Auto / Low / Normal

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

## Picture Options

|                   |      |
|-------------------|------|
| Color Tone        | Off  |
| Digital NR        | Off  |
| HDMI Black Level  | Auto |
| Film Mode         | Off  |
| Dynamic Backlight | On   |

– The displayed image may differ depending on the model.

## Film Mode

This mode is suitable to view movies.

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

- Off / Auto

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

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

## Dynamic Backlight

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

- Off / On

— The **Dynamic Backlight** is not available when the input source is set to **PC** while **Video Wall** is **On**.

# Picture Size

MENU  → Picture → Picture Size → ENTER 



– The displayed image may differ depending on the model.

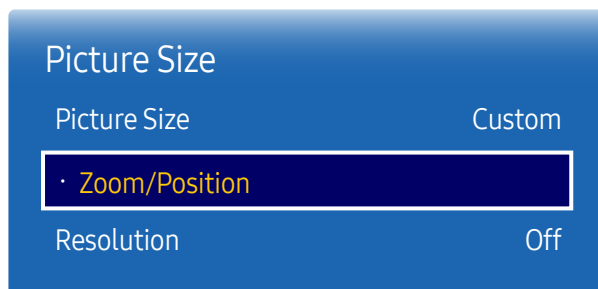
choose size and aspect ratio picture displayed on screen.

## 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 View1**: Reduces the **16:9** picture by 50%.
- **Smart View 2**: Reduces the **16:9** picture by 25%.
- **Wide**: Enlarges the aspect ratio of the picture to fit the entire screen.
- **4:3**: Sets the picture to basic (**4:3**) mode.
  - Do not set your product to **4:3** format for a long time.  
The borders displayed on the left and right, or top and bottom of the screen may cause image retention (screen burn) which is not covered by the warranty.
- **Screen Fit**: Displays the full image without any cut-off when **HDMI1**, **HDMI2**, **HDMI3**, **HDMI4** (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

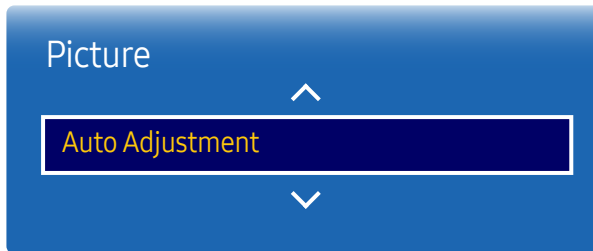
If the picture is not normal even when the resolution of the graphics card is one of the following, you can optimize the picture quality by selecting the same resolution for the product as the PC using this menu.

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.

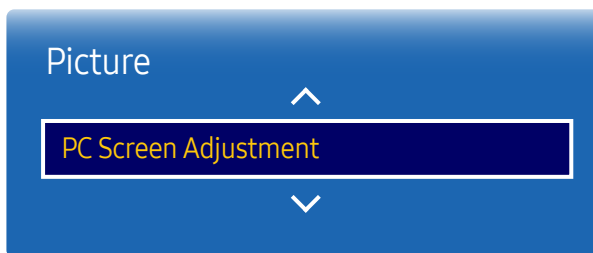
MENU  → Picture → Auto Adjustment → ENTER 



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

## PC Screen Adjustment

MENU  → Picture → PC Screen Adjustment → ENTER 



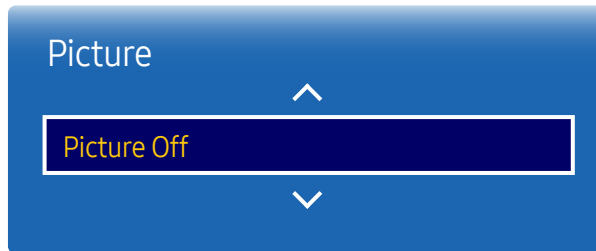
- Available in **PC** mode only.
- The displayed image may differ depending on the model.

- **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 



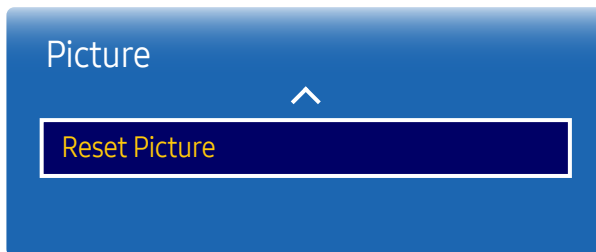
---

– 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.

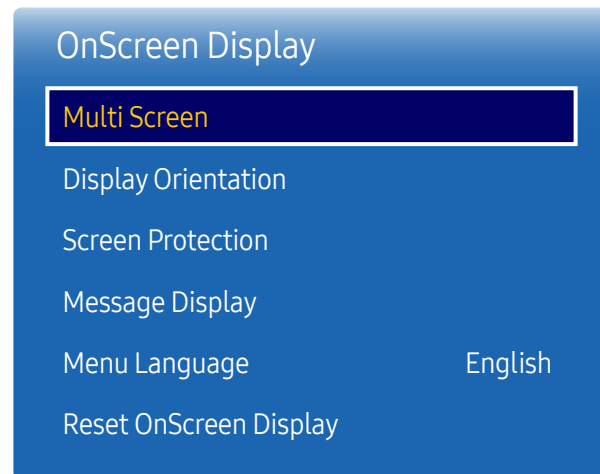
Resets your current picture mode to its default settings.

# Chapter 07

## OnScreen Display

### Multi Screen

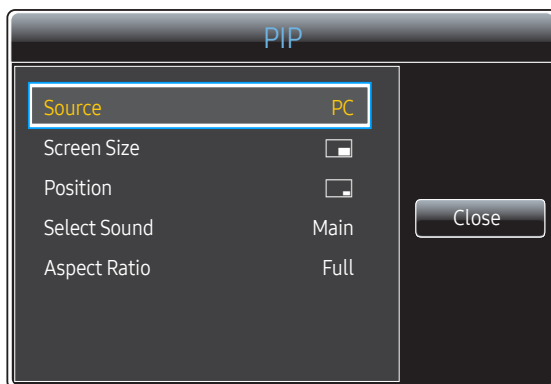
MENU  → OnScreen Display → Multi Screen → ENTER 



– The displayed image may differ depending on the model.

### Multi Screen

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

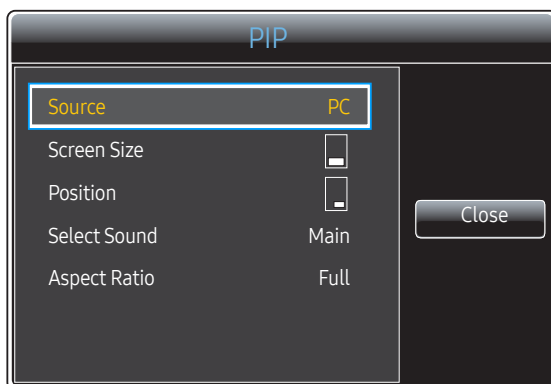


## PIP (Landscape)

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

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

— The displayed image may differ depending on the model.



## PIP (Portrait)

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

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

— The displayed image may differ depending on the model.

## Restrictions

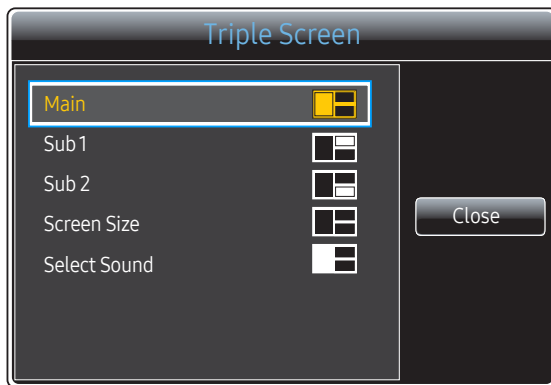
- Divided screens cannot use the same input source simultaneously. Assign a different input source to each of the divided screens.
- If the screen is split, the input sources **HDMI4** and **DVI** cannot be used simultaneously.

### When a Network box (Sold separately) is not connected

| Main picture | Sub picture                                              |
|--------------|----------------------------------------------------------|
| DisplayPort1 | DisplayPort2, HDMI1, HDMI2, HDMI3, HDMI4, DVI, PC        |
| DisplayPort2 | DisplayPort1, HDMI1, HDMI2, HDMI3, HDMI4, DVI, PC        |
| HDMI1        | DisplayPort1, DisplayPort2, HDMI2, HDMI3, HDMI4, DVI, PC |
| HDMI2        | DisplayPort1, DisplayPort2, HDMI1, HDMI3, HDMI4, DVI, PC |
| HDMI3        | DisplayPort1, DisplayPort2, HDMI1, HDMI2, HDMI4, DVI, PC |
| HDMI4        | DisplayPort1, DisplayPort2, HDMI1, HDMI2, HDMI3, PC      |
| DVI          | DisplayPort1, DisplayPort2, HDMI1, HDMI2, HDMI3          |
| PC           | DisplayPort1, DisplayPort2, HDMI1, HDMI2, HDMI3, HDMI4   |

### When a Network box (Sold separately) is connected

| Main picture | Sub picture                                                    |
|--------------|----------------------------------------------------------------|
| DisplayPort1 | PC, MagicInfo, HDMI1, HDMI2, HDMI3, HDMI4, DisplayPort2        |
| DisplayPort2 | PC, MagicInfo, HDMI1, HDMI2, HDMI3, HDMI4, DisplayPort1        |
| HDMI1        | PC, MagicInfo, HDMI2, HDMI3, HDMI4, DisplayPort1, DisplayPort2 |
| HDMI2        | PC, MagicInfo, HDMI1, HDMI3, HDMI4, DisplayPort1, DisplayPort2 |
| HDMI3        | PC, HDMI1, HDMI2, HDMI4, DisplayPort1, DisplayPort2            |
| HDMI4        | PC, MagicInfo, HDMI1, HDMI2, HDMI3, DisplayPort1, DisplayPort2 |
| MagicInfo    | HDMI1, HDMI2, DisplayPort1, DisplayPort2                       |
| PC           | HDMI1, HDMI2, HDMI3, HDMI4, DisplayPort1, DisplayPort2         |



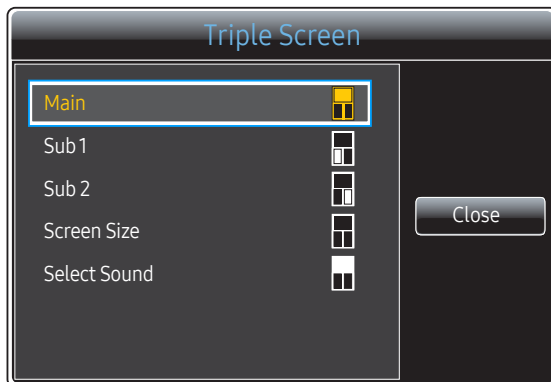
– The displayed image may differ depending on the model.

### 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.



– The displayed image may differ depending on the model.

### 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.



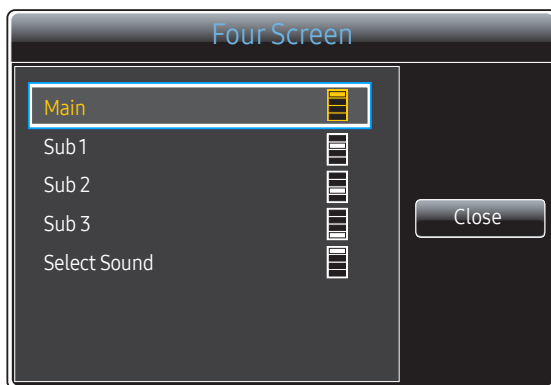
– The displayed image may differ depending on the model.

## 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.



– The displayed image may differ depending on the model.

## Four Screen (Portrait)

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

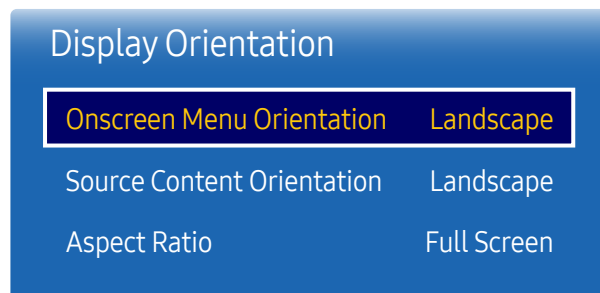
– Available only when **Source Content Orientation** is set to **Portrait**.

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

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

## Display Orientation

MENU  → OnScreen Display → Display Orientation → ENTER 



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

## Onscreen Menu Orientation

Configure the menu screen.

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

## Source Content Orientation

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

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

## Aspect Ratio

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

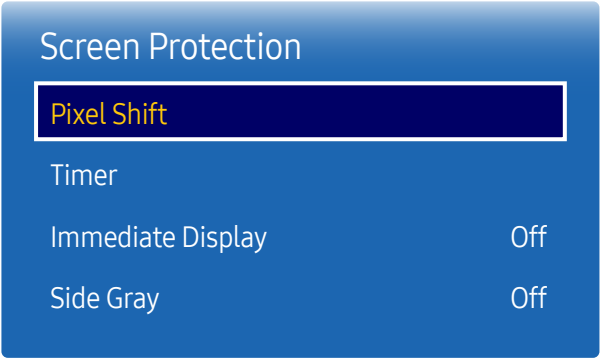
- **Full Screen**: Display the rotated screen in full screen.
- **Original**: Display the rotated screen in the original aspect ratio.

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

— If **Multi Screen** is set to **Triple Screen**, **Four Screen** is disabled.

# Screen Protection

MENU  → OnScreen Display → Screen Protection → ENTER 



– The displayed image may differ depending on the model.

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

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

## Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

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

### Available Pixel Shift Settings and Optimum Settings.

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

- The **Pixel Shift** value may differ depending on the product size (inches) and mode.
- Displaying a still image or a **4:3** output for an extended period of time may cause image retention. This is not a defect in the product.

---

## Timer

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

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

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

## Screen Protection

Pixel Shift

Timer

Immediate Display Off

Side Gray Off

## 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 

### Message Display

Source Info On

No Signal Message On

MDC Message On

## 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.

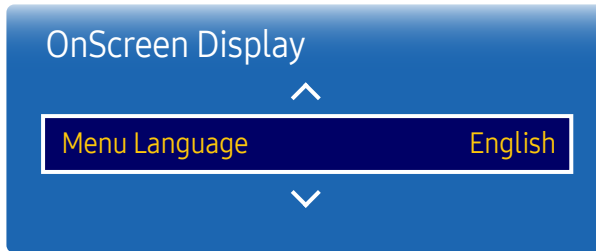
- Off / On

– The displayed image may differ depending on the model.

---

## Menu Language

MENU  → OnScreen Display → Menu Language → ENTER 



---

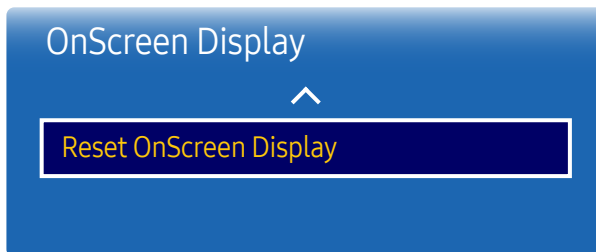
– The displayed image may differ depending on the model.

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 



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– The displayed image may differ depending on the model.

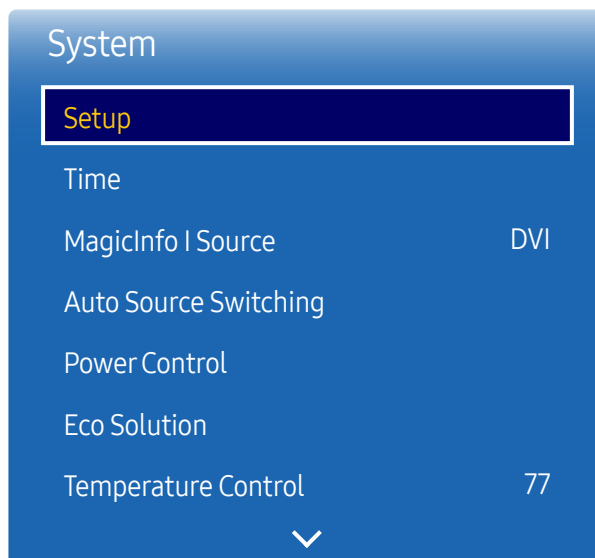
This option returns the current settings under **OnScreen Display** to the default factory settings.

# Chapter 08

## System

### Setup

MENU  → System → Setup → ENTER 



### Initial settings (System)

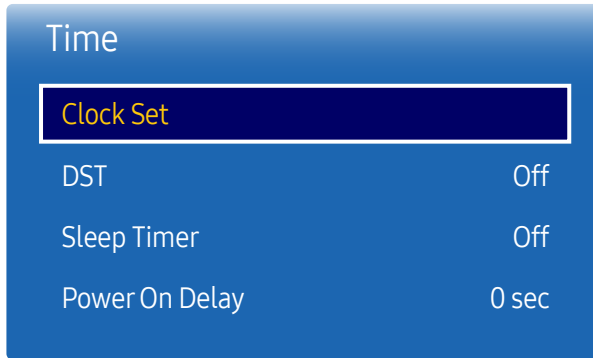
Go through the initial setup steps like you did the first time you used this product.

---

– The displayed image may differ depending on the model.

# Time

MENU  → System → Time → ENTER 



– The displayed image may differ depending on the model.

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

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

## Clock Set

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

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

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

## DST

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

**Off / On**

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

## Sleep Timer

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

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

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

## Power On Delay

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

---

## MagicInfo I Source

MENU  → System → MagicInfo I Source → ENTER 



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– The displayed image may differ depending on the model.

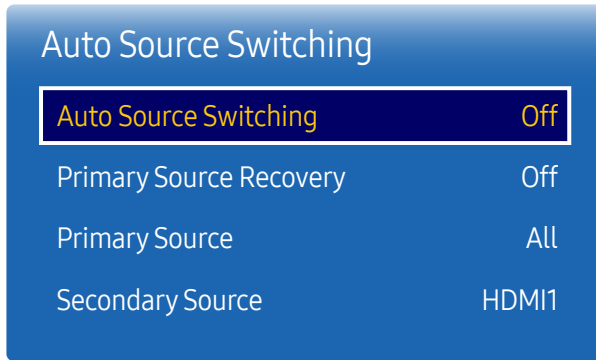
— The **MagicInfo I Source** feature is available if a network box (sold separately) is connected.

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

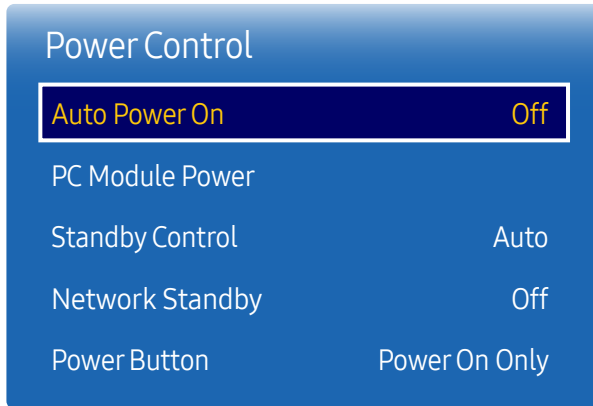
Specify **Primary Source** for the automatic input source.

## 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

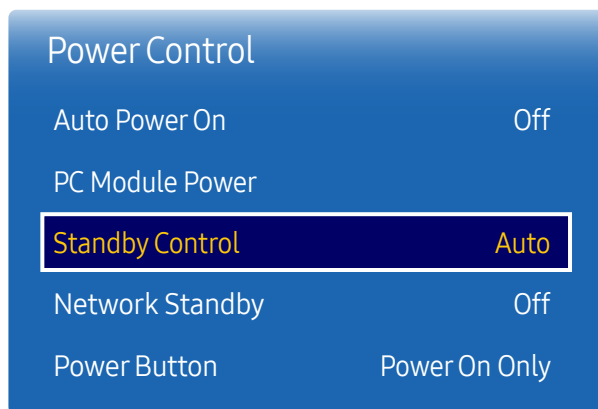
To turn off the LFD without turning off the PC module, select **Off**.

- 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**

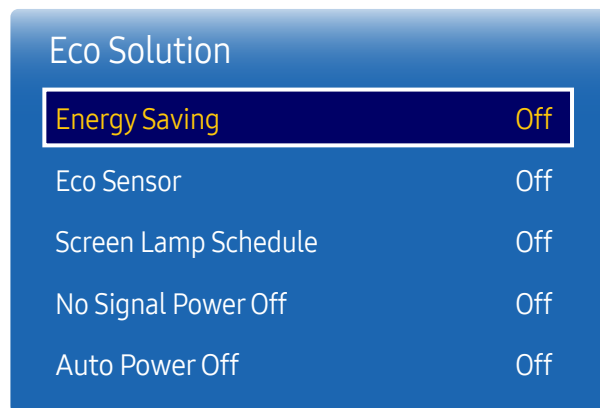
## Power Button

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

## Min. Backlight

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

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

## Eco Solution

Energy Saving Off

Eco Sensor Off

Screen Lamp Schedule Off

No Signal Power Off Off

Auto Power Off Off

– The displayed image may differ depending on the model.

## Screen Lamp Schedule

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

### Screen Lamp Schedule

Enable or disable the lamp schedule.

- Off / On

### Schedule1, Schedule2

## Time

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

## Lamp

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

- 0 ~ 100

## No Signal Power Off

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

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

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

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

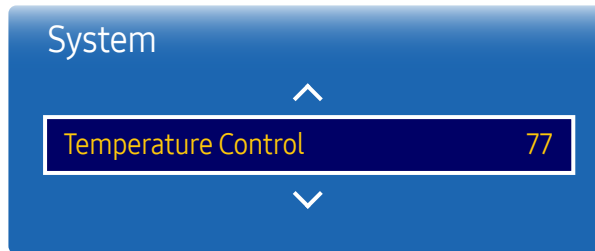
## Auto Power Off

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

- Off / 4 hours / 6 hours / 8 hours

## 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.

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.

The **Change PIN** screen will appear.

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

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

- Default password: 0 - 0 - 0 - 0

## General

MENU  → System → General → ENTER 



– The displayed image may differ depending on the model.

## Security

Enter your 4 digit PIN number. The default PIN number is “0-0-0-0”.

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

### Safety Lock

It sets safe lock function.

- Off / On

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

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

### 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

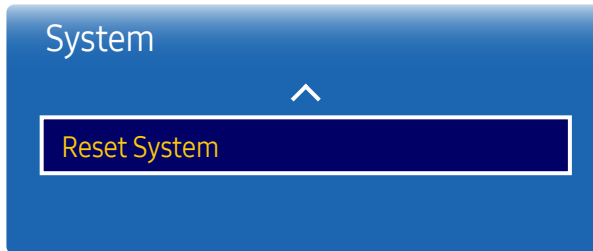
— Depending on the type of external device, the screen may not display properly. In this case, connect it with the **HDMI Hot Plug** function turned **On**.

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## 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.

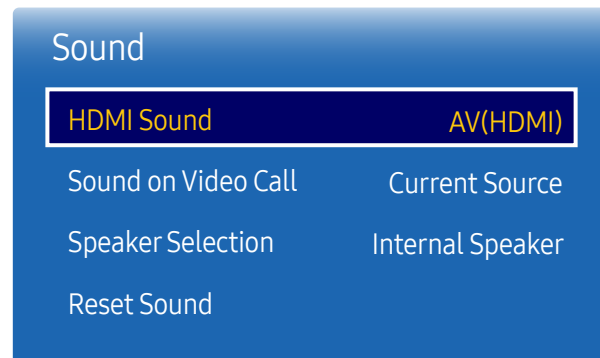
# Chapter 09

## 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)**.

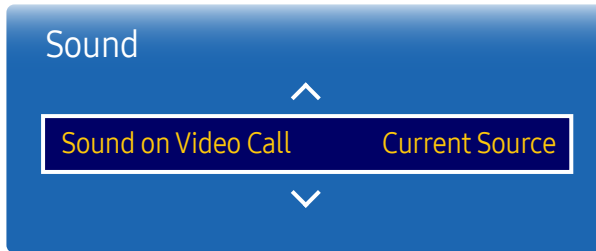
- **AV(HDMI)** / **PC(DVI)**

---

– 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.

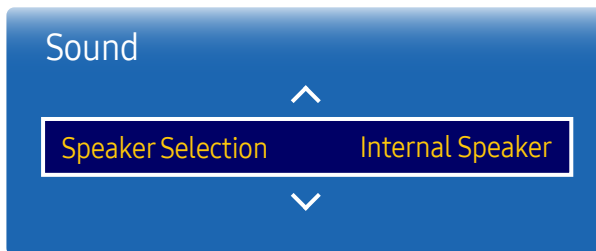
Select sound output to listen to during a video call.

- **Current Source / Video Call**

– If **Speaker Selection** is set to **External Speaker**, **Sound on Video Call** is disabled.

## Speaker Selection

MENU  → Sound → Speaker Selection → ENTER 



– The displayed image may differ depending on the model.

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.

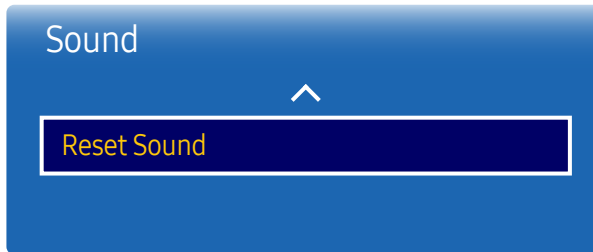
– If there is no video signal, both the products speakers and the external speakers will be mute.

---

## 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

MENU  → Support → Go to Home → ENTER 

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

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

### Reset All

MENU  → Support → Reset All → ENTER 

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

# Chapter 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.<br>(Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.) |
| PC is shown in <b>Source</b> when a PC is not connected.                                                                  | PC is always shown in <b>Source</b> 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.                                                                                                                       |
| <b>No Signal</b> is displayed on the screen.         | Check that the product is connected correctly with a cable.                                                                                                       |
|                                                      | Check that the device connected to the product is powered on.                                                                                                     |
|                                                      | Depending on the type of external device, the screen may not display properly. In this case, connect it with the <b>HDMI Hot Plug</b> function turned <b>On</b> . |
| <b>Not Optimum Mode</b> 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.                                     |

---

## Screen issue

|                                                                                          |                                                                                                                                                                                                                                                                         |
|------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| The images on the screen look distorted.                                                 | Check the cable connection to the product.                                                                                                                                                                                                                              |
| The screen is not clear. The screen is blurry.                                           | Adjust <b>Coarse</b> and <b>Fine</b> .                                                                                                                                                                                                                                  |
|                                                                                          | Remove any accessories (video extension cable, etc) and try again.                                                                                                                                                                                                      |
|                                                                                          | Set the resolution and frequency to the recommended level.                                                                                                                                                                                                              |
| The screen appears unstable and shaky.                                                   | Check that the resolution and frequency of the PC and graphics card are set within a range compatible with the product. Then, change the screen settings if required by referring to the Additional Information on the product menu and the Standard Signal Mode Table. |
| There are shadows or ghost images left on the screen.                                    |                                                                                                                                                                                                                                                                         |
| The screen is too bright. The screen is too dark.                                        | Adjust <b>Brightness</b> and <b>Contrast</b> .                                                                                                                                                                                                                          |
| White does not really look white.                                                        | Go to <b>Picture</b> and adjust the <b>White Balance</b> settings.                                                                                                                                                                                                      |
| There is no image on the screen and the power LED blinks every 0.5 to 1 second.          | The product is in power-saving mode.                                                                                                                                                                                                                                    |
|                                                                                          | Press any key on the keyboard or move the mouse to return to the previous screen.                                                                                                                                                                                       |
| The product will turn off automatically.                                                 | Go to <b>System</b> and make sure <b>Sleep Timer</b> is set to <b>Off</b> .                                                                                                                                                                                             |
|                                                                                          | If a PC is connected to the product, check the power status of the PC.                                                                                                                                                                                                  |
|                                                                                          | Make sure the power cable is connected properly to the product and power outlet.                                                                                                                                                                                        |
|                                                                                          | If the signal from a connected device is not detected, the product automatically turns off after 10 to 15 minutes.                                                                                                                                                      |
| Picture quality of the product is different from the dealer shop where it was purchased. | Use an HDMI cable to obtain high-definition (HD) picture quality.                                                                                                                                                                                                       |
| The screen display does not look normal.                                                 | Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video.                                                                                                                      |
|                                                                                          | Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective.                                                                                                                                         |
|                                                                                          | A cell phone within a distance of one-meter radius may cause static on analog and digital products.                                                                                                                                                                     |

---

## Screen issue

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

## 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. |

---

## Sound issue

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.

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 <b>Multi Screen</b> menu is not available.                                                                           | The menu is enabled or disabled depending on the <b>Source</b> mode.                                                                                                                                                                                                 |
| When I try to change the PC resolution, a message " <b>The defined resolution is not currently supported.</b> " appears. | <p>The message "<b>The defined resolution is not currently supported.</b>" appears if the input source resolution exceeds the maximum resolution of the display.</p> <p>To resolve the issue, change the PC resolution to a resolution supported on the display.</p> |

---

## Other issue

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.

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

HDMI-CEC does not work.

This product does not support the HDMI-CEC feature.

To use several external devices compatible with the HDMI-CEC feature that are connected to the 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.

---

## Other issue

The IR sensor is not functioning.

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

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

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

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

Contact your nearest service Center to have the product serviced.

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

Contact your nearest service center to have the product serviced.

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

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

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

---

## Q & A

### Question

How can I change the frequency?

---

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

### Answer

Set the frequency on your graphics card.

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

How can I change the resolution?

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

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## Question

How do I set powersaving mode?

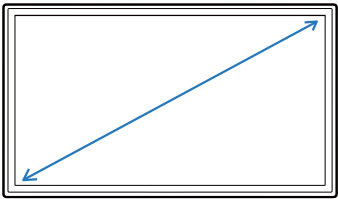
## Answer

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

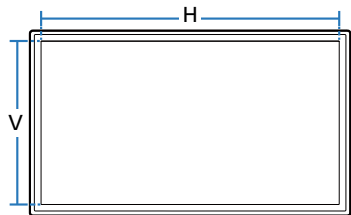
# Chapter 12

## Specifications

– Size



– Display area



### General

| Model Name                   |              | QM49F / SMT-4933                                                                                                                                                      | QM55F                                                               | QM65F                                                               |
|------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| Panel                        | Size         | 49 CLASS (48.5 inches / 123.2 cm)                                                                                                                                     | 55 CLASS (54.6 inches / 138.7 cm)                                   | 65 CLASS (64.5 inches / 163.8 cm)                                   |
|                              | Display area | 1073.78 mm (H) x 604.00 mm (V)<br>42.3 inches (H) x 23.8 inches (V)                                                                                                   | 1209.60 mm (H) x 680.40 mm (V)<br>47.6 inches (H) x 26.8 inches (V) | 1428.48 mm (H) x 803.52 mm (V)<br>56.2 inches (H) x 31.6 inches (V) |
| Power Supply                 |              | AC 100 to 240 VAC (+/- 10%), 60 / 50 Hz ± 3 Hz<br>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)<br>* For installing the housing, keep the internal temperature at 40 °C or below.<br>Humidity : 10% – 80%, non-condensing |                                                                     |                                                                     |
|                              | Storage      | Temperature : -4 °F – 113 °F (-20 °C – 45 °C)<br>Humidity : 5% – 95%, non-condensing                                                                                  |                                                                     |                                                                     |

---

— Plug-and-Play

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

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

— This is a class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

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

(USA only)

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website: [www.samsung.com/recyclingdirect](http://www.samsung.com/recyclingdirect) or call, (877) 278 - 0799

## Preset Timing Modes

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

### – 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.

### Model Name

QM49F / QM55F / QM65F / SMT-4933

|                     |                                                                 |                                                                       |
|---------------------|-----------------------------------------------------------------|-----------------------------------------------------------------------|
| 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, HDMI4) |
| 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.

| 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-authorised electrical connections.
- Not following the "cautions" in User Manual.

#### Others

- If product fails by natural disaster. (lightning, fire, earthquake, flood damage, etc)
- If consumable components are all used up. (Battery, Toner, Fluorescent lights, Head, Vibrator, Lamp, Filter, Ribbon, etc.)

— If customer requests a service in case the product has no defect, service fee may be charged. So please read User Manual first.

# Optimum Picture Quality and Afterimage Burn-in Prevention

## Optimum Picture Quality

- Due to the nature of the manufacturing of this product, approximately 1 pixel per million (1ppm) may be brighter or darker on the panel. This does not affect product performance.
  - The number of sub-pixels by panel type: 24,883,200
- Run **Auto Adjustment** to improve the picture quality. If noise is still found even after auto adjustment, adjust **Coarse** or **Fine**.
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

## Prevention of Afterimage Burn-in

### Setting the anti-screen burn-in pattern

The anti-screen burn-in pattern automatically operates in standby mode.

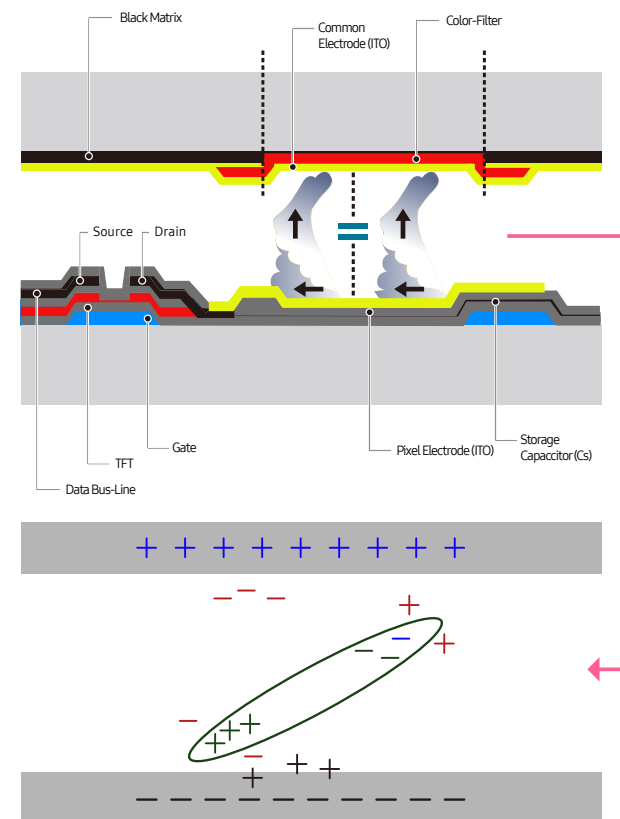
- Disabling the anti-screen burn-in pattern  
On the remote control, press 2 → 2 → 7 → CH↵ → 0.  
If the remote control sensor blinks once, the pattern is disabled.
  - Enabling the anti-screen burn-in pattern  
On the remote control, press 2 → 2 → 7 → CH↵ → 0.  
If the remote control sensor blinks twice, the pattern is enabled.
- When the screen is turned off, the anti-screen burn-in pattern will operate for two hours.
- Keeping the anti-screen burn-in pattern on requires extra power consumption.

### What is afterimage burn-in?

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

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

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

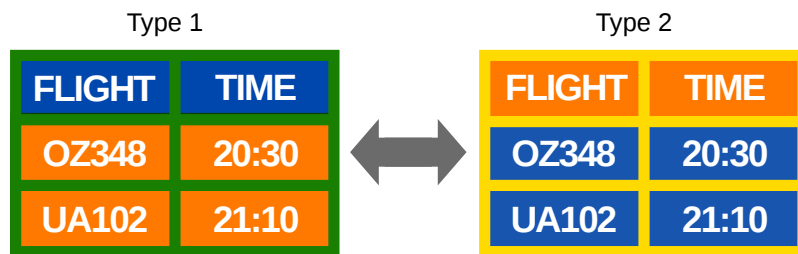


## Preventing afterimage burn-in

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

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

Switch between 2 colors every 30 minutes as shown above.



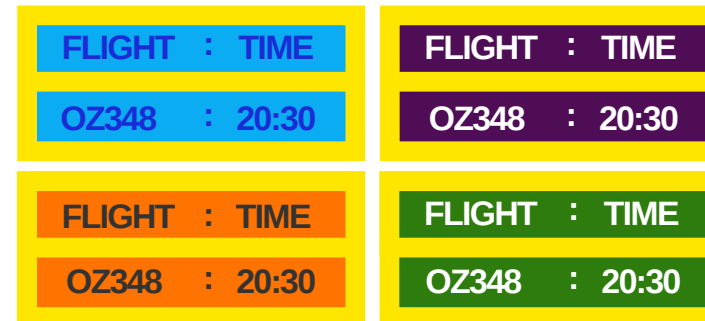
- Avoid combinations of a text color and background color of contrasting brightness.  
(Brightness: refers to the lightness or darkness of a color which varies depending on the amount of light emitted.)

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

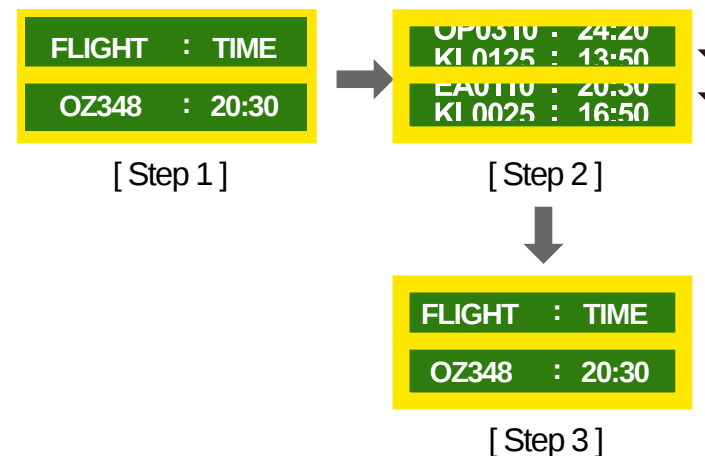
— Avoid using colors of contrasting brightness (black and white; grey).



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



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



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

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

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# Terminology

## 480i / 480p / 720p / 1080i /

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

### - Scanning

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

### - Progressive

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

### - Interlaced

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

## Non-interlace Mode and Interlace Mode

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

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

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

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

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

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

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

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

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

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

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

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