User Manual

ED65E ED75E
EM65E EM75E
DC32E DC40E DC48E DC55E
DC32E-M DC40E-M DC48E-M DC55E-M
DC40E-H DC48E-H

The colour and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance. Recommended hours of use per day for the EDE, EME, DCE models is less than 16 hours. If the product is used for longer than 16 hours a day, the warranty may be void.
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Copyright

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Microsoft, Windows are registered trademarks of Microsoft Corporation.

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

• An administration fee may be charged if either
  - (a) an engineer is called out at your request and there is no defect in the product (i.e. where you have failed to read this user manual).
  - (b) you bring the unit to a repair centre and there is no defect in the product (i.e. where you have failed to read this user manual).

• The amount of such administration charge will be advised to you before any work or home visit is carried out.
Safety Precautions

**Caution**

RISK OF ELECTRIC SHOCK DO NOT OPEN

Caution: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER. (OR BACK)

THERE ARE NO USER SERVICEABLE PARTS INSIDE.

REFER ALL SERVICING TO QUALIFIED PERSONNEL.

This symbol indicates that high voltage is present inside.

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

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

**Symbols**

**Warning**

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

**Caution**

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

Activities marked by this symbol are prohibited.

Instructions marked by this symbol must be followed.

**Cleaning**

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

Take the following steps when cleaning.

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

1. Power off the product and computer.
2. Disconnect the power cord from the product.
   - Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.
3. Wipe the product with a clean, soft and dry cloth.
   - Do not use detergents that contain alcohol, solvent or surface-active agents.
   - Do not spray water or detergent directly on the product.
4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.
5. Connect the power cord to the product when cleaning is finished.
6. Power on the product and computer.
Storage
Due to the characteristics of high-glossy products, using a UV humidifier nearby may create whitecoloured stains on the product.
— Contact Customer Service Centre if the inside of the product needs cleaning (service fee will be charged).

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

Warning

Do not use a damaged power cord or plug, or a loose power socket.
• An electric shock or fire may result.

Do not use multiple products with a single power socket.
• Overheated power sockets may cause a fire.

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

Insert the power plug all the way in so it is not loose.
• An unsecure connection may cause a fire.

Connect the power plug to a grounded power socket (type 1 insulated devices only).
• An electric shock or injury may result.

Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.
• Damage to the cord may result in a fire or electric shock.

Do not place the power cord or product near heat sources.
• A fire or electric shock may result.

Clean any dust around the pins of the power plug or the power socket with a dry cloth.
• A fire may result.
Caution

Do not disconnect the power cord while the product is being used.
• The product may become damaged by an electric shock.

Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.
• A fire or electric shock may result.

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

Hold the plug when disconnecting the power cord from the power socket.
• An electric shock or fire may result.

Installation

Warning

DO NOT PLACE CANDLES, INSECT REPELANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.
• A fire may result.

Have a technician install the wall-mount hanger.
• Installation by an unqualified person can result in an injury.
• Only use approved cabinets.

Do not install the product in poorly ventilated spaces such as a bookcase or closet.
• An increased internal temperature may cause a fire.

Install the product at least 10cm away from the wall to allow ventilation.
• An increased internal temperature may cause a fire.

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 Centre if you want to install the product at such a place.
Operation

Warning

There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.
• A fire or electric shock may result.
• Contact Samsung Customer Service Centre for repairs.

Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.
• Damage to the cord may result in a fire or electric shock.

If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Centre.
• An electric shock or fire may result.

Do not let children hang from the product or climb on top of it.
• Children may become injured or seriously harmed.

If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service Centre.
• Continued use can result in a fire or electric shock.

Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.
• The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.

During a lightning or thunderstorm, 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 Centre.

• Product failure, an electric shock or fire may result.

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

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

• Product failure, an electric shock or fire may result.

Caution

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

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

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

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

Use the product at the recommended resolution and frequency.

• Your eyesight may deteriorate.

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

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

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

Do not use humidifiers or stoves around the product.

• A fire or electric shock may result.
Rest your eyes for more than 5 minutes for every 1 hour of product use.
- Eye fatigue will be relieved.

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

Store small accessories out of the reach of children.

Exercise caution when adjusting the product angle or stand height.
- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.

Do not place heavy objects on the product.
- Product failure or personal injury may result.

When using headphones or earphones, do not turn the volume too high.
- Having the sound too loud may damage your hearing.

Be careful that children do not place the battery in their mouths when removed from the remote control. Place the battery in a location that children or infants cannot reach.
- If children have had the battery in their mouths, consult your doctor immediately.

When replacing the battery, insert it with the right polarity (+, -).
- Otherwise, the battery may become damaged or it may cause fire, personal injury or damage due to leakage of the internal liquid.

Use only the specified standardized batteries, and do not use a new battery and a used battery at the same time.
- Otherwise, the batteries may be damaged or cause fire, personal injury or damage due to a leakage of the internal liquid.

The batteries (and rechargeable batteries) are not ordinary refuse and must be returned for recycling purposes. The customer is responsible for returning the used or rechargeable batteries for recycling.
- The customer can return used or rechargeable batteries to a nearby public recycling centre or to a store selling the same type of the battery or rechargeable battery.
Chapter 02
Preparations

Checking the Components

Components

- Contact the vendor where you purchased the product if any components are missing.
- The pictures may look different from the actual components.
- 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.

Components may differ in different locations.

Quick Setup Guide
Warranty card
(Not available in some locations)
Regulatory guide
Power cord

Batteries
(Not available in some locations)
Remote Control
D-SUB cable
(EME and EME Model Only)

Holder-Ring (4EA)
(EDE and EME Model Only)
RS232C(IN) adapter
Parts

Control Panel

---

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

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Key</td>
<td>Power on the product. If you press the button when the product is turned on, the control menu will be displayed. To exit the OSD menu, press and hold the panel key for at least one second.</td>
</tr>
<tr>
<td>Speaker</td>
<td>Move to the upper or lower menu. You can also adjust the value of an option.</td>
</tr>
<tr>
<td>Speaker</td>
<td>Move to the left or right menu. You can adjust the volume by moving the panel key left or right when the control menu is not displayed.</td>
</tr>
<tr>
<td>DC32E DC32E-M</td>
<td></td>
</tr>
<tr>
<td>Remote sensor</td>
<td>Press a button on the remote control pointing at the sensor on the front of the product to perform the corresponding function. Using other display devices in the same space as the remote control of this product can cause the other display devices to be inadvertently controlled.</td>
</tr>
<tr>
<td>Remote sensor</td>
<td>Do not pull on the spacer logo using force. The logo may tear or break off.</td>
</tr>
<tr>
<td>Remote sensor</td>
<td>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.</td>
</tr>
</tbody>
</table>

Spacer logo (Optional)
If you press the button on the panel key when the product is turned on, the control menu will be displayed.

**Control menu**

### EDE / EME

<table>
<thead>
<tr>
<th>Buttons</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>Source</strong> Select the connected input source. Move the panel key right to select Source in the control menu. When the list of input sources is displayed, move the panel key left or right to select the desired input source. Next, press the panel key.</td>
</tr>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>Menu</strong> Display the OSD menu. Move the panel key left to select Menu in the control menu. The OSD control screen will appear. Move the panel key right to select the desired menu. You can select a sub-menu item by moving the panel key up, down, left, or right. To change settings, select the desired menu and press the panel key.</td>
</tr>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>MagicInfo</strong> Enter MagicInfo mode. Move the panel key up to select MagicInfo in the control menu. DCE, DCE-M, DCE-H models are only supported.</td>
</tr>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>Tools</strong> Display Tools. Move the panel key up to select Tools in the control menu. EDE, EME models are only supported.</td>
</tr>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>Power off</strong> Power off the product. Move the panel key down to select Power off in the control menu. Next, press the panel key.</td>
</tr>
<tr>
<td><img src="image" alt="" /></td>
<td><strong>Return</strong> Exit the control menu.</td>
</tr>
</tbody>
</table>
## Reverse Side

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

EME models are only supported.

### Port Description

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDBT IN</td>
<td>Sends the HDMI signal to a connected LAN cable using an HDBaseT transmitter.</td>
</tr>
</tbody>
</table>
| EME models are only supported.
| USB (5V, 1.5A)              | Connect to a USB memory device.                                             |
| DVI IN / MAGICINFO IN       | DVI IN: Connects to a source device using a DVI cable or HDMI-DVI cable.    |
| MAGICINFO IN: Use the (dedicated) DP-DVI cable when connecting a network box (sold separately). |
| HDMI IN                     | Connects to a source device using an HDMI cable.                           |
| RGB IN                      | Connects to a source device using a D-SUB cable.                           |
| RS232C IN                   | Connects to MDC using an RS232C adapter.                                   |
| RS232C OUT                  | Replaces sound from a PC via an audio cable.                               |
| RGB / DVI / HDMI / AV / COMPONENT / AUDIO IN | Connects to the audio of a source device.                                 |
| AUDIO OUT                   | Connects to a source device using the AV/Component adapter.                |
| IR / AMBIENT SENSOR IN      | Supplies power to the external sensor board or receives the light sensor signal. |
Reverse Side

- The colour and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.
- DCE, DCE-M, DCE-H models are only supported.

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUDIO OUT</td>
<td>Connects to the audio of a source device.</td>
</tr>
<tr>
<td>AV IN / COMPONENT IN</td>
<td>Connects to a source device using the AV/Component adapter.</td>
</tr>
<tr>
<td>AUDIO IN</td>
<td>Receives sound from a PC via an audio cable.</td>
</tr>
<tr>
<td>USB (5V, 1.5A)</td>
<td>Connect to a USB memory device.</td>
</tr>
<tr>
<td>DVI IN / MAGICINFO IN</td>
<td>DVI IN: Connects to a source device using a DVI cable or HDMI-DVI cable.</td>
</tr>
<tr>
<td></td>
<td>MAGICINFO IN: Use the (dedicated) DP-DVI cable when connecting a network box (sold separately).</td>
</tr>
<tr>
<td>HDMI IN 1, HDMI IN 2</td>
<td>Connects to a source device using an HDMI cable.</td>
</tr>
<tr>
<td>IR IN</td>
<td>Supplies power to the external sensor board or receives the light sensor signal.</td>
</tr>
<tr>
<td>RS232C IN</td>
<td>Connects to MDC using an RS232C adapter.</td>
</tr>
<tr>
<td>RGB IN</td>
<td>Connects to a source device using a D-SUB cable.</td>
</tr>
<tr>
<td>RJ45</td>
<td>Connects to MDC using a LAN cable.</td>
</tr>
</tbody>
</table>

Port Description:
- AUDIO OUT: Connects to the audio of a source device.
- AV IN / COMPONENT IN: Connects to a source device using the AV/Component adapter.
- AUDIO IN: Receives sound from a PC via an audio cable.
- USB (5V, 1.5A): Connect to a USB memory device.
- DVI IN / MAGICINFO IN:
  - DVI IN: Connects to a source device using a DVI cable or HDMI-DVI cable.
  - MAGICINFO IN: Use the (dedicated) DP-DVI cable when connecting a network box (sold separately).
- HDMI IN 1, HDMI IN 2: Connects to a source device using an HDMI cable.
- IR IN: Supplies power to the external sensor board or receives the light sensor signal.
- RS232C IN: Connects to MDC using an RS232C adapter.
- RGB IN: Connects to a source device using a D-SUB cable.
- RJ45: Connects to MDC using a LAN cable.
Anti-theft Lock

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

— Stand: Sold separately

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.

Power on the product.

Power off the product.

Number buttons
Enter the password in the OSD menu.

Adjust the volume.

Mute the sound.
Unmuting the sound: Press MUTE again or press the volume control (+ VOL -) button.

Change the input source.

Display or hide the onscreen display menu, or return to the previous menu.

Use this hotkey to directly access MagicInfo.
The hotkey works if the network box is connected.

MagicInfo Launch Button.

- DCE, DCE-M, DCE-H models are only supported.
Quickly select frequently used functions.

Display information about the current input source.

Move to the upper, lower, left or right menu, or adjust an option's setting. Confirm a menu selection.

Exit the current menu.

Manually select a connected input source from PC, DVI, HDMI.

It sets safe lock function.

Used in Anynet+ mode and multimedia mode.

To place batteries in the remote control.

Remote control button functions may differ for different products.
Before Installing the Product (Installation Guide)

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

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

Switching between portrait and landscape

- Contact Samsung Customer Service Centre for further details.
- To use the product vertically (portrait), turn it clockwise so that the LED is pointing down.

Ventilation

Installation on a Perpendicular Wall

- Minimum 40 mm
- 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 temperature is kept below 35 °C.
Installation on an Indented Wall

Contact Samsung Customer Service Centre for further details.

Plane view

A Minimum 40 mm
B Minimum 70 mm
C Minimum 50 mm
D Minimum 50 mm
E Ambient temperature: Under 35 °C

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

Preparing before installing Wall-Mount

To install a wall-mount from another manufacturer, use the Holder-Ring (EDE, EME models are only supported).

Installing the Wall Mount Kit

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

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

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

<table>
<thead>
<tr>
<th>Model name</th>
<th>VESA screw hole specs (A * B) in millimeters</th>
<th>Standard Screw</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED65E / ED75E / EM65E / EM75E / DC48E / DC55E / DC48E-M / DC48E-H / DC55E-M</td>
<td>400 x 400 (15.7 x 15.7)</td>
<td>M8, L32</td>
<td>4</td>
</tr>
<tr>
<td>DC32E / DC40E / DC32E-M / DC40E-M / DC40E-H</td>
<td>200 x 200 (7.9 x 7.9)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- 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**

<table>
<thead>
<tr>
<th>Interface</th>
<th>RS232C (9 pins)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pin</td>
<td>TsD (No.2), RxD (No.3), GND (No.5)</td>
</tr>
<tr>
<td>Bit rate</td>
<td>9600 bps</td>
</tr>
<tr>
<td>Data bits</td>
<td>8 bit</td>
</tr>
<tr>
<td>Parity</td>
<td>None</td>
</tr>
<tr>
<td>Stop bit</td>
<td>1 bit</td>
</tr>
<tr>
<td>Flow control</td>
<td>None</td>
</tr>
<tr>
<td>Maximum length</td>
<td>15 m (only shielded type)</td>
</tr>
</tbody>
</table>

### Pin assignment

- **<Male type>**
  - Pin 1: Detect data carrier
  - Pin 2: Received data
  - Pin 3: Transmitted data
  - Pin 4: Prepare data terminal
  - Pin 5: Signal ground
  - Pin 6: Prepare data set
  - Pin 7: Send request
  - Pin 8: Clear to send
  - Pin 9: Ring indicator

- **<Female type>**
  - Pin 5: Detect data carrier
  - Pin 4: Received data
  - Pin 3: Transmitted data
  - Pin 2: Prepare data terminal
  - Pin 1: Signal ground
  - Pin 6: Prepare data set
  - Pin 7: Send request
  - Pin 8: Clear to send
  - Pin 9: Ring indicator
- RS232C cable
  Connector: 9-Pin D-Sub to Stereo Cable

LAN Cable (DCE, DCE-M, DCE-H Model Only)

- Pin assignment

<table>
<thead>
<tr>
<th>Pin No</th>
<th>Standard Colour</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>White and orange</td>
<td>TX+</td>
</tr>
<tr>
<td>2</td>
<td>Orange</td>
<td>TX-</td>
</tr>
<tr>
<td>3</td>
<td>White and green</td>
<td>RX+</td>
</tr>
<tr>
<td>4</td>
<td>Blue</td>
<td>NC</td>
</tr>
<tr>
<td>5</td>
<td>White and blue</td>
<td>NC</td>
</tr>
<tr>
<td>6</td>
<td>Green</td>
<td>RX-</td>
</tr>
<tr>
<td>7</td>
<td>White and brown</td>
<td>NC</td>
</tr>
<tr>
<td>8</td>
<td>Brown</td>
<td>NC</td>
</tr>
</tbody>
</table>
### Direct LAN cable (PC to HUB)

![Diagram of Direct LAN cable](image)

<table>
<thead>
<tr>
<th>Signal</th>
<th>P1</th>
<th>P2</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX+</td>
<td>1</td>
<td>1</td>
<td>TX+</td>
</tr>
<tr>
<td>TX-</td>
<td>2</td>
<td>2</td>
<td>TX-</td>
</tr>
<tr>
<td>RX+</td>
<td>3</td>
<td>3</td>
<td>RX+</td>
</tr>
<tr>
<td>RX-</td>
<td>6</td>
<td>6</td>
<td>RX-</td>
</tr>
</tbody>
</table>

### Cross LAN cable (PC to PC)

![Diagram of Cross LAN cable](image)

<table>
<thead>
<tr>
<th>Signal</th>
<th>P1</th>
<th>P2</th>
<th>Signal</th>
</tr>
</thead>
<tbody>
<tr>
<td>TX+</td>
<td>1</td>
<td>3</td>
<td>RX+</td>
</tr>
<tr>
<td>TX-</td>
<td>2</td>
<td>6</td>
<td>RX-</td>
</tr>
<tr>
<td>RX+</td>
<td>3</td>
<td>1</td>
<td>TX+</td>
</tr>
<tr>
<td>RX-</td>
<td>6</td>
<td>2</td>
<td>TX-</td>
</tr>
</tbody>
</table>
Connection

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

- Connection 1 (EDE / EME Model)

- Connection 2 (DCE / DCE-M / DCE-H Model)

- Connection 3 (DCE / DCE-M / DCE-H Model)
Control Codes

**Viewing control state (Get control command)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>Command type</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Controlling (Set control command)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>Command type</td>
<td></td>
<td></td>
<td>Value</td>
<td></td>
</tr>
</tbody>
</table>

**Command**

<table>
<thead>
<tr>
<th>No.</th>
<th>Command type</th>
<th>Command</th>
<th>Value range</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Power control</td>
<td>0x11</td>
<td>0~1</td>
</tr>
<tr>
<td>2</td>
<td>Volume control</td>
<td>0x12</td>
<td>0~100</td>
</tr>
<tr>
<td>3</td>
<td>Input source control</td>
<td>0x14</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Screen mode control</td>
<td>0x18</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Screen size control</td>
<td>0x19</td>
<td>0~255</td>
</tr>
<tr>
<td>6</td>
<td>PIP on/off control</td>
<td>0x3C</td>
<td>0~1</td>
</tr>
<tr>
<td>7</td>
<td>Auto adjustment control (PC and BNC only)</td>
<td>0x3D</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>Video wall mode control</td>
<td>0x5C</td>
<td>0~1</td>
</tr>
<tr>
<td>9</td>
<td>Safety Lock</td>
<td>0x5D</td>
<td>0~1</td>
</tr>
</tbody>
</table>

No. | Command type       | Command | Value range |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>Video Wall On</td>
<td>0x84</td>
<td>0~1</td>
</tr>
<tr>
<td>11</td>
<td>Video Wall User Control</td>
<td>0x89</td>
<td>-</td>
</tr>
</tbody>
</table>

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

E.g. Power On & ID=0

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x11</td>
<td>1</td>
<td></td>
<td>&quot;Power&quot;</td>
<td></td>
</tr>
</tbody>
</table>

- 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)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x11</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x11</td>
<td>1</td>
<td></td>
<td>&quot;Power&quot;</td>
<td></td>
</tr>
</tbody>
</table>

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

1: Power ON
0: Power OFF

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'A'</td>
<td>0x11</td>
<td></td>
<td>&quot;Power&quot;</td>
</tr>
</tbody>
</table>

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

- **Nak**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'N'</td>
<td>0x11</td>
<td></td>
<td>&quot;ERR&quot;</td>
</tr>
</tbody>
</table>

*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)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x12</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Setting the volume (Set Volume)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x12</td>
<td>1</td>
<td></td>
<td>&quot;Volume&quot;</td>
<td></td>
</tr>
</tbody>
</table>

*Volume*: Volume value code to be set on a product. (0-100)

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'A'</td>
<td>0x12</td>
<td></td>
<td>&quot;Volume&quot;</td>
</tr>
</tbody>
</table>

*Volume*: Volume value code to be set on a product. (0-100)

- **Nak**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'N'</td>
<td>0x12</td>
<td></td>
<td>&quot;ERR&quot;</td>
</tr>
</tbody>
</table>

*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)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x14</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Setting the input source (Set Input Source)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x14</td>
<td></td>
<td></td>
<td>&quot;Input Source&quot;</td>
<td></td>
</tr>
</tbody>
</table>

"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(HDMI)
- 0x22  HDMI1_PC(HDMI_PC)
- 0x23  HDMI2
- 0x24  HDMI2_PC
- 0x55  HDBT

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

Available input sources may vary depending on the model.

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

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

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'A'</td>
<td>0x14</td>
</tr>
</tbody>
</table>

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

- **Nak**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val I</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'N'</td>
<td>0x14</td>
<td></td>
<td></td>
<td>&quot;ERR&quot;</td>
</tr>
</tbody>
</table>

"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)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x18</td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

- **Setting the picture size (Set Picture Size)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x18</td>
<td></td>
<td>1</td>
<td>&quot;Screen Mode&quot;</td>
<td></td>
</tr>
</tbody>
</table>

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

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

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td>'A'</td>
<td>0x18</td>
<td></td>
<td></td>
<td>&quot;Screen Mode&quot;</td>
</tr>
</tbody>
</table>

Screen size control

- **Function**
The screen size of a product can be changed using a PC.

- **Viewing the screen size (Get Screen Size Status)**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x19</td>
<td></td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td>'A'</td>
<td>0x19</td>
<td></td>
<td></td>
<td>&quot;Screen Size&quot;</td>
</tr>
</tbody>
</table>

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

- **Nak**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td>'N'</td>
<td>0x19</td>
<td></td>
<td></td>
<td>&quot;ERR&quot;</td>
</tr>
</tbody>
</table>

*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)**
  
<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x3C</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

- **Setting PIP on/off (Set the PIP ON / OFF)**
  
<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x3C</td>
<td>1</td>
<td>&quot;PIP&quot;</td>
<td></td>
</tr>
</tbody>
</table>

*PIP*: A code used to turn the PIP mode of a product on or off
1: PIP ON
0: PIP OFF

- **Ack**
  
<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td>'A'</td>
<td>0x3D</td>
<td>&quot;Auto Adjustment&quot;</td>
<td></td>
</tr>
</tbody>
</table>

- **Nak**
  
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<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
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<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
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<td>'A'</td>
<td>0x3D</td>
<td>&quot;ERR&quot;</td>
<td></td>
</tr>
</tbody>
</table>

*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)**
  
<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x3D</td>
<td>1</td>
<td>1</td>
<td>&quot;Auto Adjustment&quot;</td>
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</tr>
</tbody>
</table>

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

- **Ack**
  
<table>
<thead>
<tr>
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<th>Command ID</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
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<th>Val1</th>
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<td>0x3D</td>
<td>&quot;Auto Adjustment&quot;</td>
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- **Nak**
  
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<td>3</td>
<td>'A'</td>
<td>0x3D</td>
<td>&quot;ERR&quot;</td>
<td></td>
<td></td>
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</table>

*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)

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
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<th>Checksum</th>
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<tbody>
<tr>
<td>0xAA</td>
<td>0x5C</td>
<td>0</td>
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</table>

- Setting the video wall (Set Video Wall Mode)

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x5C</td>
<td>1</td>
<td>&quot;Video Wall Mode&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

- 1: Full
- 0: Natural

- Ack

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'A'</td>
<td>0xSC</td>
<td>&quot;Video Wall Mode&quot;</td>
<td></td>
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</tbody>
</table>

- Nak

<table>
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<th>Header</th>
<th>Command</th>
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<td>'A'</td>
<td>0x5C</td>
<td>&quot;ERR&quot;</td>
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</table>

**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)

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x5D</td>
<td>0</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x5D</td>
<td>1</td>
<td></td>
<td>&quot;Safety Lock&quot;</td>
<td></td>
</tr>
</tbody>
</table>

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

- 1: ON
- 0: OFF

- Ack

<table>
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<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
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<td>0xAA</td>
<td>0xFF</td>
<td>3</td>
<td></td>
<td>'A'</td>
<td>0x5D</td>
<td>&quot;Safety Lock&quot;</td>
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- Nak

<table>
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<th>r-CMD</th>
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<tr>
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<td></td>
<td>'N'</td>
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<td>&quot;ERR&quot;</td>
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</tr>
</tbody>
</table>

*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**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x84</td>
<td>0</td>
<td></td>
<td>0</td>
</tr>
</tbody>
</table>

- **Set Video Wall On/Off**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Data</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x84</td>
<td>1</td>
<td></td>
<td>V.Wall_On</td>
<td></td>
</tr>
</tbody>
</table>

- **V.Wall_On**: Video Wall code to be assigned to the product
  1: Video Wall ON
  0: Video Wall OFF

- **Ack**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
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<tbody>
<tr>
<td>0xAA</td>
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<td>'A'</td>
<td>0x84</td>
<td>V.Wall_On</td>
<td></td>
</tr>
</tbody>
</table>

**Video Wall User Control**

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

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
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<td>0</td>
<td></td>
<td></td>
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</tbody>
</table>

- **Set Video Wall**

<table>
<thead>
<tr>
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<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Val1</th>
<th>Val2</th>
<th>Checksum</th>
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</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0x89</td>
<td>2</td>
<td></td>
<td>Wall_Div</td>
<td>Wall_SNo</td>
<td></td>
</tr>
</tbody>
</table>

**Wall_Div**: Video Wall Divider code assigned to the product

**Nak**

<table>
<thead>
<tr>
<th>Header</th>
<th>Command</th>
<th>ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
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</thead>
<tbody>
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<td>0x84</td>
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</table>

*ERR*: A code showing what error has occurred

V.Wall_On : Same as above
### 10x10 Video Wall Model

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<th>12</th>
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<th>14</th>
<th>15</th>
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<td>0x1D</td>
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<td>0x3D</td>
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<td>0xB9</td>
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<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>
Wall_SNo: Product Number code assigned to the product

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

<table>
<thead>
<tr>
<th>Set Number</th>
<th>Data</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0x01</td>
</tr>
<tr>
<td>2</td>
<td>0x02</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
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<tr>
<td>99</td>
<td>0x63</td>
</tr>
<tr>
<td>100</td>
<td>0x64</td>
</tr>
</tbody>
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• Ack

<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Val2</th>
<th>Checksum</th>
</tr>
</thead>
<tbody>
<tr>
<td>0xAA</td>
<td>0xFF</td>
<td>4</td>
<td>'A'</td>
<td>0x89</td>
<td>Wall_Div</td>
<td>Wall_SNo</td>
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</tbody>
</table>

• Nak

<table>
<thead>
<tr>
<th>Header</th>
<th>Command ID</th>
<th>Data length</th>
<th>Ack/Nak</th>
<th>r-CMD</th>
<th>Val1</th>
<th>Checksum</th>
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<td>0xFF</td>
<td>3</td>
<td>'N'</td>
<td>0x89</td>
<td>ERR</td>
<td></td>
</tr>
</tbody>
</table>

"ERR": A code showing what error has occurred
Chapter 03
Connecting and Using a Source Device

Before Connecting

Check the following before you connect this product with other devices. Devices that can be connected to this product include PCs, camcorders, speakers, set top boxes and DVD/Blu-ray Disc players.

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.

Connection using the D-SUB cable (Analogue type)
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.

Connection Using an HDMI-DVI Cable

When you connect a PC to the product using an HDMI-DVI cable, set Edit Name to DVI PC to access video and audio content stored on the PC.
Connection Using an HDMI Cable
Connecting to a Video Device

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

Connection Using the AV Cable

Connection Using the component Cable
Connection Using an HDMI-DVI Cable

Audio will not be enabled if the product is connected to a video device using an HDMI-DVI cable. To resolve this, additionally connect an audio cable to the audio ports on the product and video device. When you connect a video device to the product using an HDMI-DVI cable, set Edit Name to DVI Devices to access video and audio content stored on the video device.

Supported resolutions include 1080p (50/60Hz), 720p (50/60Hz), 480p, and 576p.
Connection Using an HDMI Cable

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

- For better picture and audio quality, connect to a digital device using an HDMI cable.
- An HDMI cable supports digital video and audio signals, and does not require an audio cable.
  - To connect the product to a digital device that does not support HDMI output, use an HDMI-DVI and audio cables.
- The picture may not display normally (if at all) or the audio may not work if an external device that uses an older version of HDMI mode is connected to the product. If such a problem occurs, ask the manufacturer of the external device about the HDMI version and, if out of date, request an upgrade.
- Be sure to use an HDMI cable with a thickness of 1.4 mm or less.
- Be sure to purchase a certified HDMI cable. Otherwise, the picture may not display or a connection error may occur.
- A basic high-speed HDMI cable or one with ethernet is recommended. This product does not support the ethernet function via HDMI.

Connecting to an Audio System

Connecting parts may differ in different products.
Connecting the LAN Cable

- DCE, DCE-M, DCE-H models are only supported.
- Connecting parts may differ in different products.

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

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

Source

MENU ➔ Applications ➔ Source List ➔ ENTER ➔

Source

- HDMI
- HDMI CEC
- Component
- PC

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.

— The displayed image may differ depending on the model.
MDC Programme Installation/Uninstallation

Installation
MDC installation can be affected by the graphics card, motherboard, and network conditions.

1. Click the MDC Unified installation programme.
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 programme in and click "Next".
7. In the displayed "Ready to Install the Program" window, check the directory path to install the programme 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 programme 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.

EDE, EME models are only supported.
Using MDC via Ethernet

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

**Connection using a direct LAN cable**

- Multiple products can be connected using the RJ45 port on the product and the LAN ports on the HUB.
- DCE, DCE-M, DCE-H models are only supported.
Chapter 05
Screen Adjustment

Configure the Picture settings (Backlight, Colour Tone, etc.). The layout of the Picture menu options may vary depending on the product.

**Picture Mode**

MENU → Picture → Picture Mode → ENTER

<table>
<thead>
<tr>
<th>Picture Mode</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Backlight</td>
<td>100</td>
</tr>
<tr>
<td>· Contrast</td>
<td>100</td>
</tr>
<tr>
<td>· Brightness</td>
<td>45</td>
</tr>
<tr>
<td>· Sharpness</td>
<td>50</td>
</tr>
<tr>
<td>· Colour</td>
<td>50</td>
</tr>
<tr>
<td>· Tint (G/R)</td>
<td>G50</td>
</tr>
<tr>
<td></td>
<td>R50</td>
</tr>
</tbody>
</table>

- The displayed image may differ depending on the model.
- Calibration is only available on the DCE-M, DCE-H models.

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

**If the input source is PC, DVI, HDMI(PC)**

- **Information**: This mode reduces eye fatigue and is suitable for displaying information to the public.
- **Advertisement**: This mode is suitable for displaying video content and indoor/outdoor advertisements.
- **Calibration**: In this mode, the brightness, colour, gamma and uniformity settings customized using the colour calibration program Advanced Color Management are applied.
  - To apply the Calibration mode properly, make sure you configure the picture quality settings, such as brightness, colour, gamma and uniformity, using the colour calibration programme Advanced Color Management.
  - To download the Advanced Color Management programme, visit www.samsung.com/displaysolutions.

**If the input source is AV, Component, HDMI(AV)**

- **Dynamic**: This mode is suitable when the ambient light is bright.
- **Standard**: This mode is generally suitable for any environment.
- **Movie**: This mode reduces eye fatigue.
- **Calibration**: In this mode, the brightness, colour, gamma and uniformity settings customized using the colour calibration program Advanced Color Management are applied.
  - To apply the Calibration mode properly, make sure you configure the picture quality settings, such as brightness, colour, gamma and uniformity, using the colour calibration programme Advanced Color Management.
  - To download the Advanced Color Management programme, visit www.samsung.com/displaysolutions.
Backlight / Contrast / Brightness / Sharpness / Colour / Tint (G/R)

Your product has several options for adjusting picture quality.

<table>
<thead>
<tr>
<th>Input source</th>
<th>Picture Mode</th>
<th>Adjustable options</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC, DVI, HDMI, HDBT (when a PC is connected)</td>
<td>Information / Advertisement</td>
<td>Backlight / Contrast / Brightness / Sharpness</td>
</tr>
<tr>
<td>Calibration</td>
<td>Backlight</td>
<td></td>
</tr>
<tr>
<td>AV, Component, HDMI, HDBT (720p, 1080i, 1080p)</td>
<td>Dynamic / Standard / Movie</td>
<td>Backlight / Contrast / Brightness / Sharpness / Colour / Tint (G/R)</td>
</tr>
<tr>
<td>Calibration</td>
<td>Backlight</td>
<td></td>
</tr>
</tbody>
</table>

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

Gamma

Adjust the primary colour intensity.

- If Picture Mode is set to Calibration, Gamma is disabled.

The displayed image may differ depending on the model.
Select whether to apply the brightness, colour, gamma and uniformity settings customized using the colour calibration programme *Advanced Color Management* to the Information and Advertisement modes.

- Don't apply / Apply

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

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

- DCE-M, DCE-H models are only supported.

---

Calibrated value

MENU → Picture → Calibrated value → ENTER

Picture

| Calibrated value | Don't apply |

The displayed image may differ depending on the model.
**Picture Size**

MENU → Picture → Picture Size → ENTER

- **Picture Size**

  - **Position**
  - **Resolution Select**

  - **Picture Size** 16:9

  - **Position**
  - **Resolution Select** Off

---

**Picture Size**

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

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

- **16:9**: Sets the picture to 16:9 wide mode.
- **Zoom1**: Use for moderate magnification. Cuts off the top and sides.
- **Zoom2**: Use for a stronger magnification.
- **Smart View 1**: Reduces the 16:9 picture by 50%.
  - Smart View 1 is enabled only in HDMI mode.
- **Smart View 2**: Reduces the 16:9 picture by 25%.
  - Smart View 2 is enabled only in HDMI mode.
- **4:3**: Sets the picture to basic (4:3) mode.
  - Do not set your product to 4:3 format for a long time.
- **Screen Fit**: Displays the full image without any cut-off when HDMI (720p / 1080i / 1080p) or Component (1080i / 1080p) signals are inputted.
- **Custom**: Changes the resolution to suit the user’s preferences.
- **Original ratio**: If the input source is PC, DVI, HDMI (PC connection) the video will display in the original aspect ratio.
  - Available ports may differ depending on the model.

---

The displayed image may differ depending on the model.
### Position

**Picture Size**

- **Zoom1**

**Position**

**Resolution Select**

- Off

---

- The displayed image may differ depending on the model.

### Zoom/Position

**Picture Size**

- **Custom**

**Zoom/Position**

**Resolution Select**

- Off

---

- The displayed image may differ depending on the model.

---

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

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

1. Press the \( \text{\textleftarrow} \) button to select **Position**. Press the \( \text{\rightarrow} \) button.
2. Press the \( \text{\uparrow} \) or \( \text{\downarrow} \) button to move the picture up or down.
3. Press the \( \text{\rightarrow} \) button.

---

To use the **Zoom/Position** function after selecting **Custom** in **HDMI (1080i/1080p)** or **Component (1080i/1080p)** or **Custom**, follow these steps.

1. Press the \( \text{\textleftarrow} \) button to select **Zoom/Position**. Press the \( \text{\rightarrow} \) button.
2. Select the **Zoom** or **Position**. Press the \( \text{\rightarrow} \) button.
3. Press the \( \text{\uparrow} / \text{\downarrow} / \text{\leftarrow} / \text{\rightarrow} \) button to move the picture.
4. Press the \( \text{\rightarrow} \) 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 Select

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

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

Auto Adjustment

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

MENU → Picture → PC Screen Adjustment → ENTER

Coarse / Fine
Removes or reduces picture noise. If the noise is not removed by Fine-tuning alone, use the Coarse function to adjust the frequency as best as possible (Coarse) and Fine-tune again. After the noise has been reduced, re-adjust the picture so that it is aligned with the centre of screen.

Position
To adjust the PC’s screen position if it is not centred or does not fit the product screen. Press the ▲ or ▼ button to adjust the Vertical Position. Press the ◀ or ► button to adjust the Horizontal Position.

Image Reset
Resets the image to the default settings.

Available in PC mode only.

The displayed image may differ depending on the model.
**PIP Settings**

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

<table>
<thead>
<tr>
<th>Main picture</th>
<th>Sub picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>AV</td>
<td>PC, DVI, HDMI, MagicInfo, HDBT</td>
</tr>
<tr>
<td>Component</td>
<td>DVI, HDMI, MagicInfo, HDBT</td>
</tr>
<tr>
<td>PC</td>
<td>AV, HDMI, MagicInfo, HDBT</td>
</tr>
<tr>
<td>DVI, HDMI</td>
<td>AV, Component, PC</td>
</tr>
<tr>
<td>HDBT</td>
<td>PC, AV, Component</td>
</tr>
</tbody>
</table>

---

- Available input sources may vary depending on the model.
- **PIP (Off / On)**: Activate or deactivate the PIP function.
- **Source**: You can select a source of the sub picture.
- **Size** [ ] [ ] [ ] [ ]: Select a size for the subpicture.
- **Position** [ ] [ ] [ ]: Select a position for the sub-picture.
  - In [ ] [ ] mode, you cannot select Position.
- **Sound Select (Main / Sub)**: You can choose to listen to the sound from the Main picture or the Sub picture.
## Advanced Settings

**MENU** → **Picture** → **Advanced Settings** → **ENTER**

### Advanced Settings

<table>
<thead>
<tr>
<th>Feature</th>
<th>Setting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dynamic Contrast</td>
<td>Medium</td>
</tr>
<tr>
<td>Black Tone</td>
<td>Off</td>
</tr>
<tr>
<td>Flesh Tone</td>
<td>0</td>
</tr>
<tr>
<td>RGB Only Mode</td>
<td>Off</td>
</tr>
<tr>
<td>Colour Space</td>
<td>Native</td>
</tr>
<tr>
<td>White Balance</td>
<td></td>
</tr>
<tr>
<td>Motion Lighting</td>
<td>Off</td>
</tr>
</tbody>
</table>

### Input Source | Picture Mode | Advanced Settings
--- | --- | ---
PC, DVI, HDMI, MagicInfo, HDBT (when a PC is connected) | Information | White Balance |
Advertisement | White Balance |
AV, Component, DVI, HDMI, HDBT | Dynamic | Not available |
AV, Component, DVI, HDMI, HDBT | Standard | Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Colour Space / White Balance / Motion Lighting |
Movie | Dynamic Contrast / Black Tone / Flesh Tone / RGB Only Mode / Colour Space / White Balance |

---

- Available input sources may vary depending on the model.
- If **Picture Mode** is set to **Calibration**, **Advanced Settings** is disabled.

---

The displayed image may differ depending on the model.
Advanced Settings

### Dynamic Contrast
Adjust the screen contrast.
- Off / Low / Medium / High

### Black Tone
Select the black level to adjust the screen depth.
- Off / Dark / Darker / Darkest

### Flesh Tone
Emphasize pink Flesh Tone.

### RGB Only Mode
Displays the Red, Green and Blue colour for making fine adjustments to the hue and saturation.
- Off / Red / Green / Blue

### Colour Space
Adjusts the range and variety of colours (the colour space) available to create images.
- Auto / Native

### White Balance
Adjust the colour temperature for a more natural picture.
- R-Offset / G-Offset / B-Offset: Adjust each colour’s (red, green, blue) darkness.
- R-Gain / G-Gain / B-Gain: Adjust each colour’s (red, green, blue) brightness.
- Reset: Resets the White Balance to its default settings.

### Motion Lighting
Reduces power consumption by reducing screen brightness when the picture on the screen is in motion.
- Off / On

---

*The displayed image may differ depending on the model.*
### Picture Options

MENU → Picture → Picture Options → ENTER

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

<table>
<thead>
<tr>
<th>Input source</th>
<th>Picture Mode</th>
<th>Picture Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Information</td>
<td>Colour Tone / Colour Temp. / Dynamic Backlight</td>
</tr>
<tr>
<td>Advertisement</td>
<td>Colour Tone / Colour Temp. / Dynamic Backlight</td>
<td></td>
</tr>
<tr>
<td>Calibration</td>
<td>Dynamic Backlight</td>
<td></td>
</tr>
<tr>
<td>DVI, HDMI, MagicInfo, HDBT (when a PC is connected)</td>
<td>Information</td>
<td>Colour Tone / Colour Temp. / HDMI Black Level / Dynamic Backlight</td>
</tr>
<tr>
<td>Advertisement</td>
<td>Colour Tone / Colour Temp. / HDMI Black Level / Dynamic Backlight</td>
<td></td>
</tr>
<tr>
<td>Calibration</td>
<td>HDMI Black Level / Dynamic Backlight</td>
<td></td>
</tr>
<tr>
<td>AV, Component, DVI, HDMI, HDBT</td>
<td>Dynamic / Standard / Movie</td>
<td>Colour Tone / Colour Temp. / Digital Clean View / MPEG Noise Filter / Film Mode / Motion Plus / Dynamic Backlight</td>
</tr>
<tr>
<td>Calibration</td>
<td>Digital Clean View / MPEG Noise Filter / HDMI Black Level / Film Mode / Dynamic Backlight</td>
<td></td>
</tr>
</tbody>
</table>

- The displayed image may differ depending on the model.
- Motion Plus is only available on the EDE, EME models.
- Available input sources may vary depending on the model.
Colour Tone

If the input source is PC, DVI, HDMI, MagicInfo, HDBT (PC connection).

• Off / Cool / Standard / Warm

If the input source is AV, Component, DVI, HDMI, HDBT.

• Off / Cool / Standard / Warm1 / Warm2

  Warm1 or Warm2 will be deactivated when the Picture Mode is Dynamic.

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

Available input sources may vary depending on the model.

Colour Temp.

Adjust the colour temperature (Red / Green / Blue). (Range: 3000K–15000K)

• This option is available when Colour Tone is set to Off.

Digital Clean View

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

• Off / Low / Medium / High / Auto

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

MPEG Noise Filter

Reduces MPEG noise to provide improved picture quality.

• Off / Low / Medium / High / Auto
HDMI Black Level

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

- Normal / Low

- This function is only available when the input signal, connected to the product via an HDMI or DVI connector, is set to RGB444.

Film Mode

This mode is suitable to view movies.

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

- Off / Auto1 / Auto2

- Available in AV, Component (480i / 1080i), HDMI (1080i).

Motion Plus

- EDE, EME models are only supported.

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

The menu names may vary depending on the country.

Off : Switches Motion Plus off.

Clear : Sets Motion Plus to Clear (suitable for viewing moving images clearly) mode.

Standard : Sets Motion Plus to Standard mode.

Smooth : Sets Motion Plus to Smooth (suitable for viewing moving images naturally) mode.

Custom : Use to reduce the afterimage and judder as much as you want.

- Blur Reduction : Use to reduce the afterimage as much as you want.
  - This is only supported if the Motion Plus is set to Custom.

- Judder Reduction : Use to reduce the judder as much as you want.
  - This is only supported if the Motion Plus is set to Custom.

- LED Clear Motion : Make moving images look more clear.
  - This is only supported if the Motion Plus is set to Custom.

- Reset: Restore Motion Plus settings to default values.
  - The colour on screen may vary with this option unintentionally.
  - Disabled when PIP is set to On.

- This function may differ depending on the model.

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 Off

MENU → Picture → Picture Off → ENTER

- The displayed image may differ depending on the model.

The product screen is turned off but the audio will continue. Press any key on your remote to turn the screen back on.

Reset Picture

MENU → Picture → Reset Picture → ENTER

- The displayed image may differ depending on the model.

Resets your current picture mode to its default settings.
Chapter 06
Sound Adjustment

Configure the sound settings for the product.

Sound Mode

MENU → Sound → Sound Mode → ENTER

Sound

- Sound Mode
- Sound Effect
- Speaker Settings
- Reset Sound

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

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

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

*The displayed image may differ depending on the model.*
Sound Effect

Configure your preferred sound effect for output sound.

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

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

- **DTS TruSurround HD (Off / On)**
  This function provides a virtual 5.1 channel surround sound experience through a pair of speakers using HRTF (Head Related Transfer Function) technology.

- **DTS TruDialog (Off / On)**
  This function allows you to increase the intensity of a voice over background music or sound effects so that dialog can be heard more clearly.

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

---

*The displayed image may differ depending on the model.*
Speaker Settings

MENU → Sound → Speaker Settings → ENTER

Sound

Sound Mode Standard

Sound Effect

Speaker Settings

Reset Sound

• **Speaker Select (External / Internal / Receiver)**
  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.
  
  — When you set Speaker Select to External, the products speakers are turned off.
  
  You will hear sound through the external speakers only. When the Speaker Select is set to Internal, both the product speakers and the external speakers are on. You will hear sound through both.

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

• **Auto Volume (Off / Normal / Night)**
  The volume can vary depending on the channel.
  Automatically equalize the volume level when switching to another channel.

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

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

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

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

Reset Sound

MENU → Sound → Reset Sound → ENTER

Sound

Sound Mode Standard

Sound Effect

Speaker Settings

Reset Sound

Reset all sound settings to the factory defaults.
Chapter 07
Network

Network Status

You can check the current network and Internet status.

Network Settings

Configure network settings to use various smart hub features such as Internet search, content sharing through a home network and feature updates.

Network type

- Wireless / Wired
Network Settings (Wired)

Connecting to a Wired Network

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

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

![Diagram of connecting to an external modem](image1)

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

![Diagram of connecting to an IP Sharer](image2)

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

![Diagram of connecting to a network wall outlet](image3)

If you have a Dynamic Network, you should use an ADSL modem or router that supports the Dynamic Host Configuration Protocol (DHCP). Modems and routers that support DHCP automatically provide the IP address, subnet mask, gateway, and DNS values your product needs to access the Internet so you do not have to enter them manually. Most home networks are Dynamic Networks.

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

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

- You can use ADSL modems that support DHCP if your network requires a Static IP address.
- ADSL modems that support DHCP also let you use Static IP addresses.
Set the network connection to use Internet services such as perform software upgrades.

**Automatic Network Settings (Wired)**

Connect to the network using a LAN cable.
Make sure a LAN cable is connected first.

**How to set up automatically**

1. Set **Network type** to **Wired** from the **Network Settings** page.
2. Press the **Connect** button to start **Network Settings**.
   - The **Connect** button is only enabled when the LAN cable is properly connected.
3. The network test screen appears and verifies the network connection.
   - When the connection has been verified, the “**Wired network and Internet connection completed.**” message appears.
   - If the connection process fails, check the LAN port connection.
   - If the automatic process cannot find the network connection values or if you want to set the connection manually, go to the next section, network setup.

**Manual Network Settings (Wired)**

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

**Getting the Network Connection Values**

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

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

**How to set up manually**

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

Connecting to a Wireless Network

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

Select a channel for the wireless IP sharer that is not currently being used. If the channel set for the wireless IP sharer is currently being used by another device nearby, this will result in interference and communication failure.

Your product supports only the following wireless network security protocols.

- If you select the Pure High-throughput (Greenfield) 802.11n mode and the Encryption type is set to WEP, TKIP or TKIP AES (WPS2Mixed) on your AP or wireless router, Samsung products will not support a connection in compliance with new Wi-Fi certification specifications.

- If your wireless router supports WPS (Wi-Fi Protected Setup), you can connect to the network via PBC (Push Button Configuration) or PIN (Personal Identification Number). WPS will automatically configure the SSID and WPA key in either mode.

- Connection Methods: You can setup the wireless network connection in three ways.
  - Auto Setup (Using the Auto Network Search function), Manual Setup, WPS(PBC)

Automatic Network Setup (Wireless)

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

How to set up automatically

1. Set Network type to Wireless from the Network Settings page.

2. The Network function searches for available wireless networks. When done, it displays a list of the available networks.

3. In the list of networks, press the ▲ or ▼ button to select a network, and then press the ▼ button twice.

   - If the desired wireless router does not appear, select Refresh to search again.
   - If the router cannot be found after retrying, select the Stop button. The Add Network button appears.

4. If the Enter password. screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.

5. If the router has security, enter the Enter password. (Security key or PIN).
When done, use the right arrow button to move the cursor to Done, and then press E. The network connection screen appears and the verification process starts.

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

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

**Manual Network Setup (Wireless)**

Offices may use static IP addresses.

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

**Getting the Network Connection Values**

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

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

2. In the pop-up menu that appears, click Status.

3. On the dialog that appears, click the Support tab.

4. On the Support Tab, click the Details button. The Network connection values are displayed.

**How to set up manually**

1. Set Network type to Wireless from the Network Settings page.

2. The Network function searches for available wireless networks. When done, it displays a list of the available networks.

3. In the list of networks, press the ▲ or ▼ button to select a network, and then press the E button twice.

   If the desired wireless router does not appear, select Refresh to search again.

   If the router cannot be found after retrying, select the Stop button.

   The Add Network button appears.

4. If the Enter password screen appears, go to step 5. If you select a wireless router that does not have security, go to step 7.

5. If the router has security, enter the Enter password. (Security key or PIN).

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

7. Select Stop while network connections are being attempted. This will stop the connection.

8. Select IP Settings on network connection screen. The IP Settings screen appears.

9. Select the field at the top, press E, and then set IP Settings to Enter manually. Repeat the entry process for each field in the IP Address.

   Setting IP Settings to Enter manually automatically changes DNS Setting to Enter manually.
10 When done, select **OK** at the bottom of the page, and then press 🖥. The network test screen appears and the verification process starts.

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

---

**WPS(PBC)**

**How to set up using WPS(PBC)**

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

1. Set **Network type** to **Wireless** from the **Network Settings** page.

2. Select **WPS(PBC)**, press 🖥, and then press 🖥 again.

3. Press the **WPS(PBC)** button on your router within 2 minutes. Your product automatically acquires all the network setting values it needs and connects to your network.

4. The network connection screen appears, and network setup is done.
Wi-Fi Direct

MENU → Network → Wi-Fi Direct → ENTER

To use this function, your mobile device should be supported by the Wi-Fi Direct. Set to connect the product to wireless mobile devices. Using this function, you can connect wireless mobile devices with your product directly without a router.

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

1. Go to Wi-Fi Direct screen. The product starts to search devices.

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

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

AllShare Settings

MENU → Network → AllShare Settings → ENTER

Shows a list of mobile phones or connected devices which have been set up to use the AllShare Play function with this product.

- Allow / Deny: Allows/Blocks the devices.
- Delete from the list: Deletes the devices from the list.
  - This function only deletes the name of the device from the list. If the deleted device is turned on or tries to connect to the product, it may appear on the list again.

Using the AllShare Play Function

An alarm window appears informing you that media contents (videos, photos, music) sent from a mobile phone will be displayed on your product. The contents are played automatically 3 seconds after the alarm window appears. If you press the RETURN or EXIT button when the alarm window appears, the media contents are not played.

- The first time a device accesses your product through the media function, a warning popup window appears. Press the button to select Allow. This permits the phone to access the product freely and use the AllShare Play function to play content.

- To turn off media contents transmissions from a mobile phone, set Deny in the AllShare Settings.

- Contents may not play on your product depending on their resolution and format.
  - The and / buttons may not work depending on the type of media content.

- Using the mobile device, you can control the AllShare Play. For details, refer to each mobile's user's guide.
Server Network Settings

Connect to server
To run Player connect to a network.
- **Server Address / SSL / Port**
  - If the SSL option is enabled, the server is configured to use https and data transfer is encrypted.
  - Enter the server IP address and port number. Use 7001 as the port number. (If unable to connect to the server using port number 7001, check with your server administrator to find the correct port number and then change the port number.)

Server Access
Select a method to connect the server network.
- **Allow / Deny**

FTP Mode
Specify the FTP operating mode.
- **Active / Passive**

Device Name

Connect to server

Server Access
Select a method to connect the server network.
- **Allow / Deny**

FTP Mode
Specify the FTP operating mode.
- **Active / Passive**
Source List

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.

MENU → Applications → Source List → ENTER

Refresh

MENU → Applications → Source List → TOOLS → Refresh → ENTER

If you cannot find a device you want, select Refresh to refresh the list.

Edit Name

MENU → Applications → Source List → TOOLS → Edit Name → ENTER

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

- The list can include the following source devices. Source devices on the list differ depending on the selected source.
  - VCR / DVD / Cable STB / Satellite STB / PVR STB / AV Receiver / Game / Camcorder / PC / DVI PC / DVI Devices / TV / IPTV / Blu-ray / HD DVD / DMA

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

Information

MENU → Applications → Source List → TOOLS → Information → ENTER

You can see detailed information about the selected external device.
MagicInfo Lite

MENU → Applications → MagicInfo Lite → ENTER

Applications

Source List

MagicInfo Lite

MagicInfo is a business solution that allows the product to be used as a signage (advertising media). Using the solution, play image and video files from the internal memory or a connected USB storage device.

- DCE, DCE-M, DCE-H models are only supported.

Playing content from the internal memory or USB

Play content from the internal memory or a connected USB storage device.

- The displayed image may differ depending on the model.
Network Channel

Play content, templates and schedules configured on the server.

- You can view whether the server is connected (approval) in the Player menu screen.
  To view whether the server is connected when a Network Channel is running, press INFO on the remote.

1. Select Network Channel from the Player menu.
   - The No channels message appears if no channel has been registered in Network Channel.

2. Network Channel will run.

Available features in the MagicInfo page

The MagicInfo list page provides the following features.

- **Device**
  - Select either Internal or USB to search for a desired device list.
    All / Internal / USB

- **Content**
  - Select a content type as criterion to search for a desired content list.
    All / Video / Image

- **Sort by**
  Specify the content sort criterion.
  - File Name / Recently played

- **Options**

Options menu items in the MagicInfo screen

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Play Selected</td>
<td>Select and play desired content.</td>
</tr>
<tr>
<td>Send</td>
<td>Copy content to another storage device.</td>
</tr>
<tr>
<td>Delete</td>
<td>Delete desired content.</td>
</tr>
<tr>
<td>Settings</td>
<td>Configure detailed properties of content.</td>
</tr>
</tbody>
</table>
  - See the following page for details on the Settings feature.
**Settings**

- **Default Storage**
  Select the storage location that you want to download scheduled channels from the network to.
  - Internal / USB

- **Repeat Mode**
  Set repeat mode whether to repeat playing contents or not.
  - One / All

- **Picture Size**
  Set Picture Size to either Fit to Screen or Original Size.
  - Fit to Screen / Original Size
  ▶️ Available only for Video and Image content.

- **Display Duration**
  Set the duration for each page in a slideshow.
  ▶️ Available only for Template and Image content.

- **Safely Remove USB Device**
  Safely removes USB memory

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

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*The displayed image may differ depending on the model.*
Chapter 09
System

Setup

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

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.

Set the HDBaseT standby mode.

EME models are only supported.

- **Off**: The device cannot be turned on via HDBT once it is turned off.
- **On**: Keep the HDBT module active when the device is turned off. (This uses more power)

MENU  →  System  →  Setup  →  ENTER

System

Setup

Menu Language  English
Multi Control
Time
Eco Solution
Auto Protection Time  Off
Screen Burn Protection

The displayed image may differ depending on the model.
Menu Language

MENU  →  System  →  Menu Language  →  ENTER

Set the menu language.

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

Multi Control

MENU  →  System  →  Multi Control  →  ENTER

Configuring settings for Multi Control

- **ID Setup**
  Assign an ID to a set. (Range: 0~99)
  Press ▲ or ▼ to select a number, and press ENTER.

- **ID Input**
  Enter the ID number of the product connected to the input cable for input signal reception.
  Enter the number you want using the number buttons on the remote control.

- **PC Connection**
  Select a method to connect to MDC to receive the MDC signal.
  — DCE, DCE-M, DCE-H models are only supported.
  - **RS232C cable**
    Communicates with the MDC via a RS232C cable.
  - **RJ-45 (LAN)/Wi-Fi Network**
    Communicate with MDC over Wi-Fi.
You can configure Clock Set or Sleep Timer. You can also set the product to automatically turn on or off at a specified time using the Timer function.

**Clock Set**

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

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

- Available only when Clock Mode is set to Manual
- You can set the Date and Time directly by pressing the number buttons on the remote control.

**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.

**On Timer**

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

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

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

(On Timer 1 ~ On Timer 7)

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

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

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

Holiday Management

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

- **Add**: 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 \[\uparrow/\downarrow\] buttons, and click the **Save** button.
  The period will be added to the list of holidays.
  - **Start**: Set the start date of the holiday.
  - **End**: Set the end date of the holiday.
  - **Delete**: Delete all items from the list of holidays.
    Select **Delete**. The message “Delete all holidays?” will appear.
    Select **Yes**. All holidays will be deleted.
- **Apply**: Set the **On Timer** and **Off Timer** to not activate on public holidays.
  - Press \[\square\] 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.
Eco Solution

MENU → System → Eco Solution → ENTER

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.

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 4 hours to prevent overheating.
• Off / On

Note:
The displayed image may differ depending on the model.
Auto Protection Time

MENU → System → Auto Protection Time → ENTER

- The displayed image may differ depending on the model.

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

- Off / 2 hours / 4 hours / 8 hours / 10 hours
Screen Burn Protection

MENU → System → Screen Burn Protection → ENTER

Screen Burn Protection

- The displayed image may differ depending on the model.

Pixel Shift

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 programme the time between movements of the picture in minutes.

Pixel Shift

Minimize image retention by finely moving pixels horizontally or vertically.

- **Pixel Shift (Off / On)**
  - Horizontal, Vertical and Time are enabled only when Pixel Shift is set to On.

- **Horizontal**: Sets how many pixels the screen moves horizontally.

- **Vertical**: Sets how many pixels the screen moves vertically.

- **Time**: Set the time interval for performing the horizontal or vertical movement, respectively.

Available Pixel Shift Settings and Optimum Settings.

<table>
<thead>
<tr>
<th>Available Settings</th>
<th>Optimum Settings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Horizontal (pixels)</td>
<td>0 ~ 4</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Vertical (pixels)</td>
<td>0 ~ 4</td>
</tr>
<tr>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Time (minute)</td>
<td>1 min ~ 4 min</td>
</tr>
<tr>
<td></td>
<td>4 min</td>
</tr>
</tbody>
</table>

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

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

- If Picture Size is set to Screen Fit, Pixel Shift is disabled.
Timer

You can set the timer for **Screen Burn Protection**.
The **Screen Burn Protection** feature stops automatically after a specified period of time.

**Timer**

- **Off**
- **Repeat**: Display the image retention-preventive pattern set in **Mode** at specified time intervals (**Period**).
  - **Period** and **Time** can be configured when **Repeat** is selected.
- **Interval**: Display the image retention-preventive pattern set in **Mode** for a specified period of time (from **Start Time** to **End Time**).
  - The option is enabled only when **Clock Set** is configured.
- **Mode**: Select a screen protective pattern to display.
  - **Pixel**: Pixels on the screen alternate black continuously.
  - **Rolling bar**: A vertical bar moves left to right.
  - **Fading screen**: The entire screen becomes brighter, then darker.
  - The **Rolling bar** and **Fading screen** patterns appear only once regardless of the specified repeat period or time.
- **Period**: Specify the time interval to activate the **Screen Burn Protection** function.
  - 1 hour ~ 10 hour
  - The option is enabled when **Repeat** is selected for **Timer**.
- **Time**: Specify the duration to keep the **Screen Burn Protection** function on.
  - 10 Sec ~ 50 Sec
  - Enabled when **Timer** is set to **Repeat** and **Mode** is set to **Pixel**.
- **Start Time**: Set the start time to activate the screen protection function.
  - The option is enabled when **Interval** is selected for **Timer**.
- **End Time**: Set the end time to deactivate the screen protection function.
  - The option is enabled when **Interval** is selected for **Timer**.
Immediate display

Select the screen saver you want to display immediately.
• Off / Pixel / Rolling bar / Fading screen

Side Grey

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

* The displayed image may differ depending on the model.
Input text while a video or image is displayed and display the text on the screen.

- **Off / On**
  - Message, Time, Position, Motion, and Font Style are enabled only when Ticker is set to On.
- **Message**: Enter a message to display on the screen.
- **Time**: Set the Start Time and End Time to display a Message.
- **Position**: Select an orientation to display a Message from Horizontal and Vertical.
  - Horizontal (Left / Centre / Right)
  - Vertical (Top / Middle / Bottom)
- **Motion**: Specify the Direction and Speed to display a Message.
  - Motion (Off / On)
  - Direction (To the Left / To the Right / To the Top / To the Bottom)
  - Speed (Slow / Normal / Fast)
- **Font Style**: Specify the message Size and Font colour.

---

*The displayed image may differ depending on the model.*

*The Ticker function is only available when Menu Language is set to English.*
Video Wall

`MENU ➔ System ➔ Video Wall ➔ ENTER ➔`

Video Wall

<table>
<thead>
<tr>
<th>Video Wall</th>
<th>On</th>
</tr>
</thead>
<tbody>
<tr>
<td>· Format</td>
<td>Full</td>
</tr>
<tr>
<td>· Horizontal</td>
<td>1</td>
</tr>
<tr>
<td>· Vertical</td>
<td>1</td>
</tr>
<tr>
<td>· Screen Position</td>
<td></td>
</tr>
</tbody>
</table>

- The displayed image may differ depending on the model.
- Some models may not support the MagicInfo function.
- The Video Wall option is only enabled when PIP is set to Off.
- If more than four displays are connected horizontally and vertically, it is recommended that you use an input resolution of XGA (1024 x 768) level or higher to prevent a dark picture due to degradation in the contrast or colour intensity.

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.

**Format**

Select a format to display images on multiple displays.

- **Full**: Display images in full screen.
- **Natural**: Display images at the original resolution without enlarging or reducing.

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

**Horizontal**

This function automatically divides the screen according to the specified number of horizontal displays.

Enter the number of horizontally arranged displays.

The horizontal screen will automatically be divided according to the number entered.

A maximum of 15 displays can be assigned to the horizontal arrangement.

The screen can be divided into a maximum of 100 screens (horizontal and vertical screens multiplied). For example, if the horizontal arrangement is set to 15, a maximum of 6 displays can be assigned to the vertical arrangement. Conversely, if the vertical arrangement is set to 15, a maximum of 6 displays can be assigned to the horizontal arrangement.

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

- **Video Wall**: On
- **Format**: Full
- **Horizontal**: 1
- **Vertical**: 1
- **Screen Position**

---

**Vertical**

This function automatically divides the screen according to the specified number of vertical displays.

Enter the number of vertically arranged displays.

The vertical screen will automatically be divided according to the number entered.

A maximum of 15 displays can be assigned to the vertical arrangement.

- The screen can be divided into a maximum of 100 screens (horizontal and vertical screens multiplied). For example, if the horizontal arrangement is set to 15, a maximum of 6 displays can be assigned to the vertical arrangement. Conversely, if the vertical arrangement is set to 15, a maximum of 6 displays can be assigned to the horizontal arrangement.
- The **Vertical** option is only enabled when **Video Wall** is set to **On**.

**Screen Position**

You can customize the arrangement of split screens by moving displays identified with a number using the **Screen Position** function.

Select **Screen Position** to display the arrangement of displays (identified with a number) specified according to the **Horizontal** or **Vertical** settings. To customize the arrangement, move a number (display) using the direction buttons on the remote control and press **E**.

- A maximum of 100 displays can be arranged in **Screen Position**.
- The **Screen Position** option is only enabled when **Video Wall** is set to **On**.
- The **Screen Position** window is only displayed when **Horizontal** and **Vertical** are configured.
Source AutoSwitch Settings

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

Source AutoSwitch

When the Source AutoSwitch 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.
Change PIN

MENU → System → Change PIN → ENTER

System

Change PIN

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

* The displayed image may differ depending on the model.
**General**

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

### Max. Power Saving

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

- **Off / On**

  - Available only **PC, DVI, HDMI mode**.

### Game Mode

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

- **Off / On**

  - Precautions and limitations for **Game Mode**
    - To disconnect the game console and connect another external device, set **Game Mode** to **Off** in the setup menu.
    - **Game Mode** is not available when the input source is set to **PC**.
    - If **Game Mode** is **On**, **Picture Mode** is set to **Standard** and **Sound Mode** is set to **Movie**.

### 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**

### 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).
**General**

- **Max. Power Saving**: On
- **Game Mode**: Off
- **Auto Power On**: Off
- **Safety Lock**: Off

**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**

**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.
- **On**: Power-saving mode will activate if no input signals are detected.
- **Off**: The message **No Signal** will appear if no input signals are detected.

- The **Standby Control** option is only enabled when **Source List** is set to **PC, DVI, HDMI**.
- If **No Signal** is displayed although a source device is connected, check the cable connection.

**HDBT Standby**

Keep the HDBT module active when the device is turned off. (This uses more power)

- **Off / On**

- EME models are only supported.

**Network Standby**

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

- **Off / On**

- This function is only available for models that can connect to a network.
Lamp Schedule
Adjusts the luminance to a user-specified value at a specified time.
- Off / On

OSD Display
Displays or hides a menu item on the screen.
- Source OSD / No Signal OSD / MDC OSD

Power On Adjustment
You can set the warm-up time for the screen to turn on after the power button is pressed. (Range: 0 – 50 seconds)
- A warm-up time that is too short may damage the product due to overvoltage.

Temperature Control
This function detects the internal temperature of the product. You can specify the temperature range that is acceptable. The default temperature is set to 77 °C.
The recommended operating temperature for this product is 75 to 80 °C (based on an ambient temperature of 40 °C).
- The screen will become darker if the current temperature exceeds the specified temperature limit. If the temperature continues to rise, the product will power off to prevent overheating.

The displayed image may differ depending on the model.
Anynet+ (HDMI-CEC)

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

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

Anynet+ Menu

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

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

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

- No / Yes

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

Switching between Anynet+ Devices

1. Press the TOOLS button, select Anynet+ (HDMI-CEC), and then press 

2. Select Device List, and then press the button.

   If you cannot find a device you want, select Refresh to refresh the list.

3. Select a device, and then press the button. You can switch to the selected device.

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

<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
</table>
| Anynet+ does not work. | • Check if the device is an Anynet+ device. The Anynet+ system supports Anynet+ devices only.  
• You can connect only one receiver (home theatre).  
• Check if the Anynet+ device power cord is properly connected.  
• Check the Anynet+ device's Video/Audio/HDMI cable connections.  
• Check whether Anynet+ (HDMI-CEC) is set to On in the Anynet+ setup menu.  
• Check whether the remote control is Anynet+ compatible.  
• Anynet+ doesn't work in certain situations. (initial setup)  
• If you have removed and then reconnected the HDMI cable, please make sure to search devices again or turn your product off and on again.  
• Check if the Anynet+ function of the Anynet device is set on. |
| I want to start Anynet+. | • Check if the Anynet+ device is properly connected to the product and check if the Anynet+ (HDMI-CEC) is set to On in the Anynet+ System menu.  
• Press the TOOLS button to display the Anynet+ menu and select a menu you want. |
| I want to exit Anynet+. | • Select View PC in the Anynet+ menu.  
• Press the SOURCE button on the product remote control and select a non-Anynet+ device. |
| The message “Disconnecting Anynet+ device ...” appears on the screen. | • You cannot use the remote control when you are configuring Anynet+ or switching to a view mode.  
• Use the remote control after the product has completed Anynet+ configuration or has finished switching to Anynet+. |
<p>| The Anynet+ device does not play. | • You cannot use the play function when initial setup is in progress. |</p>
<table>
<thead>
<tr>
<th>Problem</th>
<th>Possible Solution</th>
</tr>
</thead>
</table>
| The connected device is not displayed.       | • Check whether or not the device supports Anynet+ functions.  
• Check whether or not the HDMI cable is properly connected.  
• Check whether Anynet+ (HDMI-CEC) is set to **On** in the **Anynet+ System** menu.  
• Search Anynet+ devices again.  
• Anynet+ requires an HDMI connection. Make sure the device is connected to your product with an HDMI cable.  
• Some HDMI cables may not support Anynet+ functions.  
• If the connection is terminated because there has been a power failure or the HDMI cable has been disconnected, please repeat the device scan. |
Clone Product

MENU → System → Clone Product → ENTER

Clone Product

- Clone to USB
- Clone from USB

- The displayed image may differ depending on the model.

Reset System

MENU → System → Reset System → ENTER

System

- Reset System

- The displayed image may differ depending on the model.

Export the product settings to a USB device or load the settings via a USB device. This option is useful when assigning the same settings to several products.

- **Clone to USB**: Copy the product settings to a USB device.
- **Clone from USB**: Assign the settings saved in a USB device to the product.

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

- The option may not work properly if the USB device contains a file other than a settings file.

- Confirm that the USB device functions properly before running the option.

- The option is available for products with the same Model Code and Software Version. Go to Support → Contact Samsung and find the product Model Code and Software Version.

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

MENU  →  System  →  Reset All  →  ENTER

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

DivX® Video On Demand

MENU  →  System  →  DivX® Video On Demand  →  ENTER

Shows the registration code authorized for the product.
If you connect to the DivX® web site and register using that code, you can download the VOD registration file.
For more information about DivX® VOD, visit “http://vod.divx.com”.

PC module power

MENU  →  System  →  PC module power  →  ENTER

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

Synced power-on
Set to Off to turn on the PC module without turning on the LFD.
•  Off / On

Synced power-off
Set to Off to turn off the PC module without turning off the LFD.
•  Off / On
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.

Update now

Update the software to the latest version.

Contact Samsung

MENU → Support → Contact Samsung → ENTER

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

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

- Contact Samsung and find the product Model Code and Software Version.
Play photos, videos or music saved on a storage device.

Play a variety of content using the following methods.

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

Read the following before using media play with a USB device

Caution

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

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

File system and formats

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

---

Digital Rights Management (DRM) refers to a system for protecting the copyrights of data circulated via the Internet or other digital media by enabling secure distribution and/or disabling illegal distribution of the data.
Using a USB device

Connecting a USB device

1  Turn on your product.

2  Connect a USB device containing photo, music and/or movie files to the USB port on the back or side panel of the product.

3  The **New device connected** page automatically appears as soon as a USB device connects to the product.

   - If only one USB device is connected, files saved on the USB device are displayed automatically.
   - To view content saved on a USB device, connect the USB device to a USB port on the product.

Removing a USB device

Removing a USB device from Source

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

   SOURCE → **Source**

2  Select **USB** from **Source**, and then press the **TOOLS** button on the remote control. Optional menu items are displayed.

3  Select **Disconnect USB Device** and wait until the USB device is disconnected. The USB device is disconnected.
## Menu items in the media content list page

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
<th>Photos</th>
<th>Videos</th>
<th>Music</th>
</tr>
</thead>
</table>
| Slide Show  | Start a slideshow.  
  This menu item is not available if Sort by is set to Folder. | ✔️    |        |       |
| Encoding    | Select an encoding language if the title of media content appears corrupted. |        |        | ✔️    |
| Play Selected | Select and play desired content from the media content list. | ✔️    | ✔️    | ✔️    |
Available buttons and features during photo playback

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

- **Previous / Next**
  View the previous or next photo.

- **Start Slide Show / Stop Slide Show**
  Start or stop a slideshow. Using a slideshow, it is possible to play all photos in a folder.

- **Slideshow Settings**
  - **Speed**: Change the slideshow speed.
  - **Effects**: Apply transition effects between photos.

- **Zoom**
  Zoom in on photos up to 4x.

- **Rotate**
  Rotate photos.

- **Background Music**
  Play background music while viewing photos.
  - **Background Music / Mini Player**
    Make sure a music file is saved on the same device.
    Pause the current music playing or switch to another music file using **Mini Player**.

- **Settings**

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Mode</td>
<td>Change the <strong>Picture Mode</strong>.</td>
</tr>
<tr>
<td>Sound Mode</td>
<td>Change the <strong>Sound Mode</strong>.</td>
</tr>
<tr>
<td></td>
<td>This menu item is only available when <strong>Background Music</strong> is playing.</td>
</tr>
<tr>
<td>Information</td>
<td>View information about a file.</td>
</tr>
</tbody>
</table>
Available buttons and features during video playback

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

- **Pause / Play**
  Pause or play a video.
  The following features are available in pause mode. Note that sound cannot be heard in pause mode.

- **Rewind / Fast Forward**
  Rewind or fast forward a video. Speed up playback up to 3x, if required. To change the playback speed to the original speed, select ∂.

- **Previous / Next**
  To play the previous video, select ◀︎ twice. Selecting ◀︎ once will play the current video from the beginning.
  To play the next video, select ▶︎.

- **Search**
  Select and play another video in the same folder. (Search Titles)

- **Repeat Mode**
  Configure Repeat Mode. (Off, Repeat One, Repeat All)

- **Picture Size**
  Change the screen size (Picture Size). Supported screen sizes vary depending on the image. (Original / Mode 1 / Mode 2 / Smart View 1 / Smart View 2)

- **Settings**

<table>
<thead>
<tr>
<th>Option Name</th>
<th>Operations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Picture Mode</td>
<td>Change the Picture Mode</td>
</tr>
<tr>
<td>Sound Mode</td>
<td>Change the Sound Mode</td>
</tr>
<tr>
<td>Audio Language</td>
<td>Play a video using a desired language. This feature only activates when a streaming file that supports multiple audio formats is playing.</td>
</tr>
<tr>
<td>Information</td>
<td>View information about a file.</td>
</tr>
</tbody>
</table>
Available buttons and features during music playback

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

- **Pause / Play**
  Pause or play music.

- **Rewind / Fast Forward**
  Rewind or fast forward music. Speed up playback up to 3x, if required. To play the previous music file, select twice.

- **Previous / Next**
  To play the previous music file, select twice. Selecting once will play the current music from the beginning.
  To play the next music file, select .

- **Repeat**
  Configure Repeat mode. One Song plays the current music file repeatedly. All plays all files in a folder repeatedly.

- **Shuffle**
  Enable or disable shuffle playback mode.

- **Sound Mode**
  Change the Sound Mode.
Supported Subtitle and Media play file formats

Subtitle

<table>
<thead>
<tr>
<th>External</th>
<th>Internal</th>
</tr>
</thead>
<tbody>
<tr>
<td>• MPEG-4 timed text (.ttxt)</td>
<td>• Xsub</td>
</tr>
<tr>
<td>• SAMI (.smi)</td>
<td>Container: AVI</td>
</tr>
<tr>
<td>• SubRip (.srt)</td>
<td>• SubStation Alpha</td>
</tr>
<tr>
<td>• SubViewer (.sub)</td>
<td>Container: MKV</td>
</tr>
<tr>
<td>• Micro DVD (.sub or .txt)</td>
<td>• Advanced SubStation Alpha</td>
</tr>
<tr>
<td>• SubStation Alpha (.ssa)</td>
<td>Container: MKV</td>
</tr>
<tr>
<td>• Advanced SubStation Alpha (.ass)</td>
<td>• SubRip</td>
</tr>
<tr>
<td>• Powerdivx (.psb)</td>
<td>Container: MKV</td>
</tr>
</tbody>
</table>

Compatible image file format

<table>
<thead>
<tr>
<th>Type</th>
<th>4096 x 4096</th>
</tr>
</thead>
<tbody>
<tr>
<td>JPEG</td>
<td></td>
</tr>
<tr>
<td>PNG</td>
<td></td>
</tr>
<tr>
<td>BMP</td>
<td></td>
</tr>
</tbody>
</table>
Supported music file formats

File Extension

* .avi, *.mkv, *.asf, *.wmv, *.mp4, *.3gp, *.vro, *.mpg,

Supported Video Formats

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

**Video Decoder**

- Supports up to H.264, Level 4.1
- H.264 FMO / ASO / RS, VC1 SP / MP / AP L4 and AVCHD are not supported.
- For all Video codecs except MVC, VP8, VP6:
  - Below 1280 x 720: 60 frame max
  - Above 1280 x 720: 30 frame max
- GMC 2 over is not supported.
- Supports only BD MVC Spec.

**Audio Decoder**

- Supports up to WMA 10 Pro 5.1 channel.
- WMA lossless audio is not supported.
- QCELP, AMR NB/ WB are not supported.
- If Vorbis is only in Webm container, supports up to 2 channel.
<table>
<thead>
<tr>
<th>Container</th>
<th>Video Codec</th>
<th>Resolution</th>
<th>Frame rate (fps)</th>
<th>Bit rate (Mbps)</th>
<th>Audio Codec</th>
</tr>
</thead>
<tbody>
<tr>
<td>3gpp</td>
<td>DivX 3.11 /DivX4.X</td>
<td>1280 x 720</td>
<td>60</td>
<td>30</td>
<td>AAC</td>
</tr>
<tr>
<td></td>
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<td></td>
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<td></td>
<td>AC3</td>
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<td>ADPCM</td>
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<td>DD+</td>
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<td>DTS Core</td>
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<td>HE-AAC</td>
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<td>LPCM</td>
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<td>WMA</td>
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<tr>
<td>asf</td>
<td>XVID</td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>avi</td>
<td>H.264 BP/MP/HP</td>
<td></td>
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<tr>
<td>flv</td>
<td>MPEG-4 SP/ASP</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>mkv</td>
<td>WINDOW MEDIA VIDEO V9</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>mov</td>
<td>MPEG2</td>
<td></td>
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<tr>
<td>mp4</td>
<td>MPEG1</td>
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<tr>
<td>ps</td>
<td>H.263</td>
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<tr>
<td>ts</td>
<td>DivX5.x</td>
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<tr>
<td>vob</td>
<td>DivX6.X</td>
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<tr>
<td>vro</td>
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</tr>
<tr>
<td>Container</td>
<td>Video Codec</td>
<td>Resolution</td>
<td>Frame rate (fps)</td>
<td>Bit rate (Mbps)</td>
<td>Audio Codec</td>
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<td>----------------------</td>
</tr>
<tr>
<td>3gpp</td>
<td>DivX 3.11 /DivX4.X</td>
<td>1920 x 1080</td>
<td>30</td>
<td>30</td>
<td>AAC, AC3, ADPCM, DD+, DTS Core, HE-AAC, LPCM, MP3, WMA</td>
</tr>
<tr>
<td></td>
<td>XVID</td>
<td></td>
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<tr>
<td></td>
<td>H.264 BP/MP/HP</td>
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<td>MPEG-4 SP/ASP</td>
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<tr>
<td></td>
<td>WINDOW MEDIA VIDEO V9</td>
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<td></td>
<td>MPEG2</td>
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<td>DivX6.X</td>
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<tr>
<td></td>
<td>MOTION JPEG</td>
<td>640 x 480</td>
<td>30</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>
Requirements Before Contacting Samsung Customer Service Centre

Testing the Product

Check if your product is operating normally by using the product test function. If the screen remains blank while the power LED blinks even when the product is correctly connected to a PC, perform product testing.

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

Checking the Resolution and Frequency

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

**Installation issue (PC mode)**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen keeps switching on and off.</td>
<td>Check the cable connection between the product and PC, and ensure the connection is secure.</td>
</tr>
<tr>
<td>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.</td>
<td>The blank spaces found on the screen have nothing to do with the product.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version. (Please contact the graphics card or computer manufacturer for further details about how to adjust the screen settings.)</td>
</tr>
<tr>
<td>PC is shown in Source when a PC is not connected.</td>
<td>PC is always shown in Source irrespective of whether or not a PC is connected.</td>
</tr>
</tbody>
</table>

**Screen issue**

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The power LED is off. The screen will not switch on.</td>
<td>Make sure that the power cord is connected.</td>
</tr>
<tr>
<td>No Signal is displayed on the screen.</td>
<td>Check that the product is connected correctly with a cable.</td>
</tr>
<tr>
<td>Check that the device connected to the product is powered on.</td>
<td></td>
</tr>
<tr>
<td>Not Optimum Mode is displayed.</td>
<td>This message is displayed when a signal from the graphics card exceeds the product’s maximum resolution and frequency.</td>
</tr>
<tr>
<td>Refer to the Standard Signal Mode Table and set the maximum resolution and frequency according to the product specifications.</td>
<td></td>
</tr>
<tr>
<td>The images on the screen look distorted.</td>
<td>Check the cable connection to the product.</td>
</tr>
</tbody>
</table>
## Screen issue

<table>
<thead>
<tr>
<th>Description</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen is not clear. The screen is blurry.</td>
<td>Adjust <strong>Coarse</strong> and <strong>Fine</strong>. Remove any accessories (video extension cable, etc) and try again. Set the resolution and frequency to the recommended level.</td>
</tr>
<tr>
<td>The screen appears unstable and shaky.</td>
<td>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.</td>
</tr>
<tr>
<td>There are shadows or ghost images left on the screen.</td>
<td><strong>Adjust Brightness</strong> and <strong>Contrast</strong>.</td>
</tr>
<tr>
<td>The screen is too bright. The screen is too dark.</td>
<td>Go to <strong>Picture</strong> and adjust the <strong>Colour Space</strong> settings.</td>
</tr>
<tr>
<td>Screen colour is inconsistent.</td>
<td>Go to <strong>Picture</strong> and adjust the <strong>White Balance</strong> settings.</td>
</tr>
<tr>
<td>White does not really look white.</td>
<td>The product is in power-saving mode.</td>
</tr>
<tr>
<td>There is no image on the screen and the power LED blinks every 0.5 to 1 second.</td>
<td>Press any key on the keyboard or move the mouse to return to the previous screen.</td>
</tr>
<tr>
<td>The product will turn off automatically.</td>
<td>Go to <strong>System</strong> and make sure <strong>Sleep Timer</strong> is set to <strong>Off</strong>. 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.</td>
</tr>
<tr>
<td>Picture quality of the product is different from the dealer shop where it was purchased.</td>
<td>Use an HDMI cable to obtain high-definition (HD) picture quality.</td>
</tr>
</tbody>
</table>
### Screen issue

<table>
<thead>
<tr>
<th>Description</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen display does not look normal.</td>
<td>Encoded video content may cause the display to appear corrupted in scenes featuring fast moving objects such as in a sports event or action video. Low signal level or low picture quality may cause the display to appear corrupted. This does not mean the product is defective. A cell phone within a distance of one-meter radius may cause static on analogue and digital products.</td>
</tr>
<tr>
<td>The brightness and colour do not look normal.</td>
<td>Go to <strong>Picture</strong> and adjust the screen settings such as <strong>Picture Mode</strong>, <strong>Colour</strong>, <strong>Brightness</strong> and <strong>Sharpness</strong>. Go to <strong>System</strong> and adjust the <strong>Energy Saving</strong> settings. Reset the screen settings to the default settings.</td>
</tr>
<tr>
<td>Broken lines are displayed on the edges of the screen.</td>
<td>If <strong>Picture Size</strong> is set to <strong>Screen Fit</strong>, change the setting to <strong>16:9</strong>.</td>
</tr>
<tr>
<td>Lines (red, green or blue) are displayed on the screen.</td>
<td>These lines are displayed when there is a defect in DATA SOURCE DRIVER IC on the monitor. Contact a Samsung Service Centre to resolve the issue.</td>
</tr>
<tr>
<td>The display looks unstable and then freezes.</td>
<td>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.</td>
</tr>
<tr>
<td>The screen cannot be displayed in full screen.</td>
<td>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.</td>
</tr>
</tbody>
</table>
## Sound issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is no sound.</td>
<td>Check the connection of the audio cable or adjust the volume.</td>
</tr>
<tr>
<td></td>
<td>Check the volume.</td>
</tr>
<tr>
<td>The volume is too low.</td>
<td>Adjust the volume.</td>
</tr>
<tr>
<td></td>
<td>If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software programme.</td>
</tr>
<tr>
<td>Video is available but there is no sound.</td>
<td>If an HDMI cable is connected, check the audio output settings on the PC.</td>
</tr>
<tr>
<td></td>
<td>Go to <strong>Sound</strong> and change <strong>Speaker Select</strong> to <strong>Internal</strong>.</td>
</tr>
<tr>
<td></td>
<td>If a source device is used</td>
</tr>
<tr>
<td></td>
<td>• Make sure the audio cable is properly connected to the audio input port on the product.</td>
</tr>
<tr>
<td></td>
<td>• Check the audio output settings for the source device.</td>
</tr>
<tr>
<td></td>
<td>(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.)</td>
</tr>
<tr>
<td></td>
<td>If a DVI-HDMI cable is used, a separate audio cable is required.</td>
</tr>
<tr>
<td></td>
<td>If the product has a headphone port, make sure nothing is connected to it.</td>
</tr>
<tr>
<td></td>
<td>Reconnect the power cable to the device and then reboot the device.</td>
</tr>
<tr>
<td>There is static coming from the speakers.</td>
<td>Check the cable connection. Make sure a video cable is not connected to an audio input port.</td>
</tr>
<tr>
<td></td>
<td>Check the signal strength after connecting a cable.</td>
</tr>
<tr>
<td></td>
<td>Low signal level can cause corrupted sound.</td>
</tr>
</tbody>
</table>
### Sound issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>There is audible sound when the volume is muted.</td>
<td>When <strong>Speaker Select</strong> is set to <strong>External</strong>, the volume button and mute function are disabled. Adjust the volume for the external speakers.</td>
</tr>
<tr>
<td></td>
<td>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).</td>
</tr>
<tr>
<td>Sound from the monitor does not change after <strong>Sound Mode</strong> is changed.</td>
<td>Audio settings for main speakers are separate from the internal speakers on the product. Audio settings on a source device do not affect the internal speaker settings on the product.</td>
</tr>
<tr>
<td>There is an echo sound coming from the speakers.</td>
<td>Different decoding speeds between the product speakers and external speakers can cause an echo. In this case, set <strong>Speaker Select</strong> to <strong>External</strong>.</td>
</tr>
</tbody>
</table>

### Remote control issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>The remote control does not work.</td>
<td>Make sure that the batteries are correctly in place (+/-).</td>
</tr>
<tr>
<td></td>
<td>Check if the batteries are flat.</td>
</tr>
<tr>
<td></td>
<td>Check for power failure.</td>
</tr>
<tr>
<td></td>
<td>Make sure that the power cord is connected.</td>
</tr>
<tr>
<td></td>
<td>Check for any special lighting or neon signs switched on in the vicinity.</td>
</tr>
</tbody>
</table>

### Source device issue

<table>
<thead>
<tr>
<th>Issue</th>
<th>Resolution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A beeping sound is heard when my PC is booting.</td>
<td>If a beeping sound is heard when your PC is booting, have your PC serviced.</td>
</tr>
</tbody>
</table>
### Other issue

<table>
<thead>
<tr>
<th>Small particles are found on the edges of the product.</th>
<th>The particles are part of the product design. The product is not defective.</th>
</tr>
</thead>
<tbody>
<tr>
<td>The PIP menu is not available.</td>
<td>The menu is enabled or disabled depending on the Source mode.</td>
</tr>
</tbody>
</table>
| When I try to change the PC resolution, a message “The defined resolution is not supported.” appears. | The message “The defined resolution is not supported.” appears if the input source resolution exceeds the maximum resolution of the display.  
To resolve the issue, change the PC resolution to a resolution supported on the display. |
| There is no sound from the speakers in HDMI mode when a DVI-HDMI cable is connected. | DVI cables do not transmit sound data.  
Make sure to connect the audio cable to the correct input jack to enable audio. |
| HDMI Black Level is not functioning properly on an HDMI device with YCbCr output. | This function is available only when a source device, such as a DVD player and STB, is connected to the product via an HDMI (RGB signal) cable. |
| There is no sound in HDMI mode.                        | Displayed picture colours may not look normal. Video or sound may not be available. This can occur if a source device that only supports an older version of the HDMI standard is connected to the product.  
If these issues occur, connect an audio cable along with the HDMI cable. |

<table>
<thead>
<tr>
<th>Sound input</th>
<th>Screen mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>PC</td>
<td>Auto</td>
</tr>
<tr>
<td>DVI PC</td>
<td>Audio In(Stereo ports)</td>
</tr>
</tbody>
</table>
**Other issue**

**The IR sensor is not functioning.**

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

- If the sensor light does not turn on, turn the power switch off and then on again on the back of the product.
  (The power LED lights up red when the screen is switched off.)
  If the sensor light still does not turn on after the power switch is turned off and then on again, an internal jack may be disconnected.
  Contact your nearest service centre to have the product serviced.

- If the sensor light that is on does not flash red when a button is pressed on the remote control, the IR sensor may be defective.
  Contact your nearest service centre to have the product serviced.

- If there is no change on the screen when a button is pressed on the remote control although the sensor light flashes red, the mainboard may be defective.
  Contact your nearest service centre to have the product serviced.
## Q & A

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How can I change the frequency?</td>
<td>Set the frequency on your graphics card.</td>
</tr>
<tr>
<td></td>
<td>- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor and adjust the frequency in Monitor Settings.</td>
</tr>
<tr>
<td></td>
<td>- Windows 8: Go to Settings → Control Panel → Appearance and Personalization → Display → Adjust resolution → Advanced Settings → Monitor and adjust the frequency in Monitor Settings.</td>
</tr>
<tr>
<td></td>
<td>- Windows 10: Go to Settings → System → Display → Advanced display settings → Display adapter properties → Monitor, and adjust Screen refresh rate under Monitor settings.</td>
</tr>
<tr>
<td>How can I change the resolution?</td>
<td>- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Adjust Resolution and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows 8: Go to Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows 10: Go to Settings → System → Display → Advanced display settings, and adjust the resolution.</td>
</tr>
<tr>
<td>How do I set powersaving mode?</td>
<td>- Windows 7: Set power-saving mode in Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows 8: Set power-saving mode in Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows 10: Set power-saving mode in Settings → Personalization → Lock screen → Screen timeout settings → Power &amp; sleep or BIOS SETUP on the PC.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model Name</th>
<th>ED65E / EM65E</th>
<th>ED75E / EM75E</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>65 CLASS (64.5 inches / 163 cm)</td>
<td>75 CLASS (74.5 inches / 189 cm)</td>
</tr>
<tr>
<td>Display area</td>
<td>1428.48 mm (H) x 803.52 mm (V)</td>
<td>1650.24 mm (H) x 928.26 mm (V)</td>
</tr>
<tr>
<td></td>
<td>56.2 inches (H) x 31.6 inches (V)</td>
<td>65.0 inches (H) x 36.5 inches (V)</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>10 W + 10 W</td>
<td>10 W + 10 W</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model Name</th>
<th>DC32E / DC32E-M</th>
<th>DC40E / DC40E-M / DC40E-H</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Panel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Size</td>
<td>32 CLASS (31.5 inches / 80.1 cm)</td>
<td>40 CLASS (40.0 inches / 101.6 cm)</td>
</tr>
<tr>
<td>Display area</td>
<td>698.4 mm (H) x 392.85 mm (V)</td>
<td>885.6 mm (H) x 498.15 mm (V)</td>
</tr>
<tr>
<td></td>
<td>27.5 inches (H) x 15.5 inches (V)</td>
<td>34.9 inches (H) x 19.6 inches (V)</td>
</tr>
<tr>
<td><strong>Audio Output</strong></td>
<td>10 W</td>
<td>10 W + 10 W</td>
</tr>
</tbody>
</table>
### Model Name

<table>
<thead>
<tr>
<th>Panel</th>
<th>DC48E / DC48E-M / DC48E-H</th>
<th>DC55E / DC55E-M</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Size</strong></td>
<td>48 CLASS (47.6 inches / 120.9 cm)</td>
<td>55 CLASS (54.6 inches / 138.7 cm)</td>
</tr>
<tr>
<td><strong>Display area</strong></td>
<td>1054.08 mm (H) x 592.92 mm (V)</td>
<td>1209.6 mm (H) x 680.4 mm (V)</td>
</tr>
<tr>
<td></td>
<td>41.5 inches (H) x 23.3 inches (V)</td>
<td>47.6 inches (H) x 26.8 inches (V)</td>
</tr>
</tbody>
</table>

### Audio Output

- DC48E / DC48E-M: 10 W + 10 W
- DC55E / DC55E-M: 10 W + 10 W

### Power Supply

- This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.

### Environmental considerations

#### Operating
- Temperature: 0 °C - 40 °C (32 °F - 104 °F)
- Humidity: 10% - 80%, non-condensing

#### Storage
- Temperature: -20 °C - 45 °C (-4 °F - 113 °F)
- Humidity: 5% - 95%, non-condensing

---

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

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

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

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

### Synchronization
- **Horizontal Frequency**: 30 – 81 kHz
- **Vertical Frequency**: 48 – 75 Hz

### Resolution
- **Optimum resolution**: 1920 x 1080 @ 60 Hz
- **Maximum resolution**: 1920 x 1080 @ 60 Hz

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

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Horizontal Frequency (kHz)</th>
<th>Vertical Frequency (Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM, 720 x 400</td>
<td>31.469</td>
<td>70.087</td>
<td>28.322</td>
<td>-/+</td>
</tr>
<tr>
<td>MAC, 640 x 480</td>
<td>35.000</td>
<td>66.667</td>
<td>30.240</td>
<td>-/-</td>
</tr>
<tr>
<td>MAC, 832 x 624</td>
<td>49.726</td>
<td>74.551</td>
<td>57.284</td>
<td>-/-</td>
</tr>
<tr>
<td>MAC, 1152 x 870</td>
<td>68.681</td>
<td>75.062</td>
<td>100.000</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>31.469</td>
<td>59.940</td>
<td>25.175</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.861</td>
<td>72.809</td>
<td>31.500</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.500</td>
<td>75.000</td>
<td>31.500</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>35.156</td>
<td>56.250</td>
<td>36.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>37.879</td>
<td>60.317</td>
<td>40.000</td>
<td>+/-</td>
</tr>
<tr>
<td>Resolution</td>
<td>Horizontal Frequency (kHz)</td>
<td>Vertical Frequency (Hz)</td>
<td>Pixel Clock (MHz)</td>
<td>Sync Polarity (H/V)</td>
</tr>
<tr>
<td>----------------</td>
<td>----------------------------</td>
<td>-------------------------</td>
<td>-------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>48.077</td>
<td>72.188</td>
<td>50.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>46.875</td>
<td>75.000</td>
<td>49.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>48.363</td>
<td>60.004</td>
<td>65.000</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>56.476</td>
<td>70.069</td>
<td>75.000</td>
<td>-/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>60.023</td>
<td>75.029</td>
<td>78.750</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1152 x 864</td>
<td>67.500</td>
<td>75.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 720</td>
<td>45.000</td>
<td>60.000</td>
<td>74.250</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 800</td>
<td>49.702</td>
<td>59.810</td>
<td>83.500</td>
<td>-/+</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>63.981</td>
<td>60.020</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>79.976</td>
<td>75.025</td>
<td>135.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1366 x 768</td>
<td>47.712</td>
<td>59.790</td>
<td>85.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1440 x 900</td>
<td>55.935</td>
<td>59.887</td>
<td>106.500</td>
<td>-/+</td>
</tr>
<tr>
<td>VESA, 1600 x 900 RB</td>
<td>60.000</td>
<td>60.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1680 x 1050</td>
<td>65.290</td>
<td>59.954</td>
<td>146.250</td>
<td>-/+</td>
</tr>
<tr>
<td>VESA, 1920 x 1080</td>
<td>67.500</td>
<td>60.000</td>
<td>148.500</td>
<td>+/-</td>
</tr>
</tbody>
</table>
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 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.

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: 6,220,800
- Run Auto Adjustment to improve the picture quality. If noise is still found even after auto adjustment, adjust Coarse or Fine.
- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
  - Activate power-saving mode or a dynamic screen saver if you will not be using the product for an extended period of time.

Prevention of Afterimage Burn-in

What is afterimage burn-in?

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

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

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

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

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

- **Regular colour Change**
  - Use 2 colours
    Switch between 2 colours every 30 minutes as shown above.

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

  - Avoid using grey as it may contribute to afterimage burn-in.
  - Avoid using colours of contrasting brightness (black and white; grey).

- **Regular Text colour Change**
  - Use bright colours of similar brightness.
    Interval: Change text colour and background colour every 30 minutes

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

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

480i / 480p / 720p / 1080i / 1080p. Each of the scanning rates above refers to the number of effective scanning lines that decides the screen resolution. The scanning rate may be indicated in i (interlaced) or p (progressive), depending on the scanning method.

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

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

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

Non-interlace Mode and Interface Mode
Non-interlace mode (progressive scan) displays a horizontal line from the top to the bottom of a screen progressively. Interface 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 product and screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same colour. Dot pitch is measured in millimeters.

Vertical Frequency
The product displays a single image many times per second (like a fluorescent light that flickers) to display an image for a viewer to see. The rate of a single image being displayed repeatedly per second is called vertical frequency or refresh rate. Vertical frequency is measured in Hz. E.g. 60Hz refers to a single image being displayed 60 times in one second.

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

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

Component ports (green, blue and red)
The component ports, which identify, transmit and receive contrast signals, provide superior picture quality to any other video connection methods.

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).

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.