

## Before Using the Product

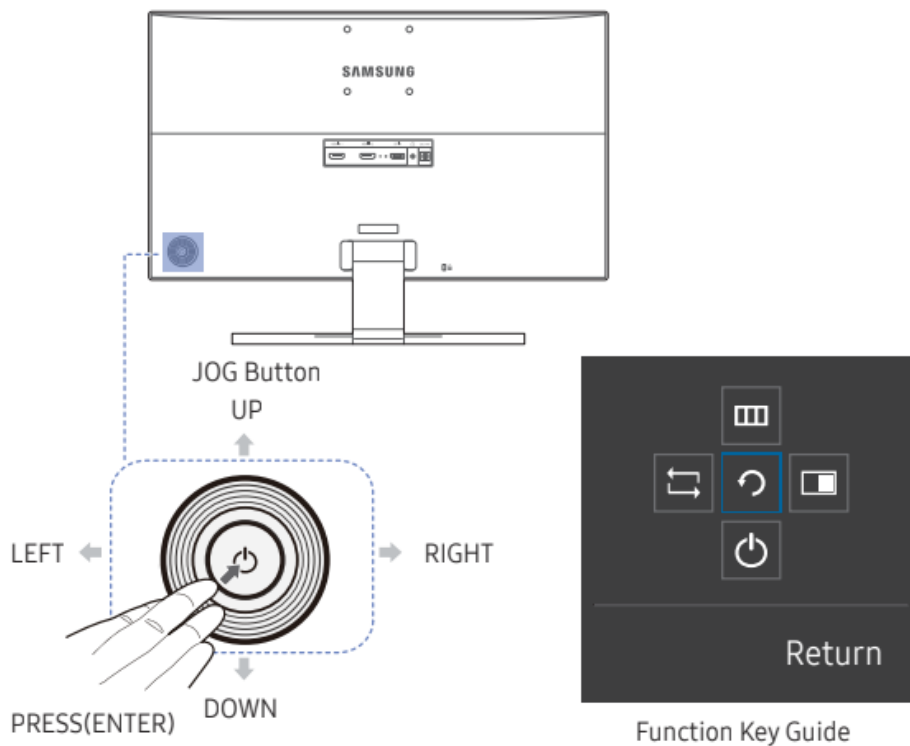
1. Power off the product and computer.
2. Disconnect the power cord from the product.
3. Wipe the monitor with a clean, soft and dry cloth.
  - Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the monitor.
  - Do not spray water or detergent directly on the product.
4. Wet 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.

## Preparations

### Parts

### Control Panel

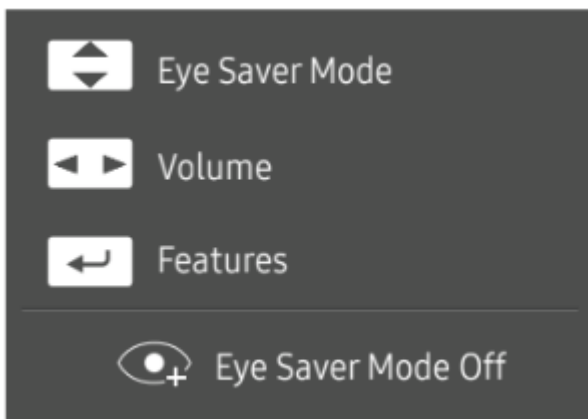
— The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



| Icons              | Description  |
|--------------------|--|
| JOG Button         | <p>Multi directional button that helps navigate.</p> <ul style="list-style-type: none"> <li>• The JOG button is located on the rear left side of the product. The button can be used to move up, down, left or right, or as Enter.</li> </ul>  |
| Function Key Guide | <p>Press the JOG button when the screen is turned on. The Function Key Guide will appear. To access the onscreen menu when the guide is displayed, press the corresponding direction button again.</p> <ul style="list-style-type: none"> <li>• Function Key Guide may vary depending on the function or product model. Please refer to the actual product.</li> </ul> |

### Direct Key guide

— The shortcut button screen (OSD menu) shown below is displayed only when the monitor screen is turned on, the computer resolution changes, or the input source changes.

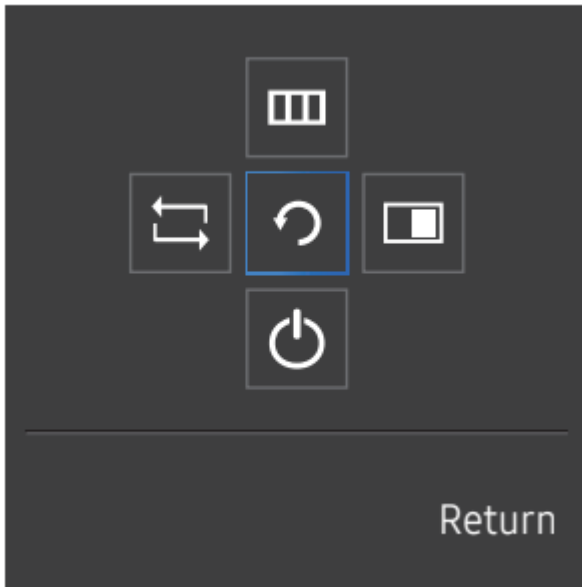


- UP/DOWN: Adjust Brightness, Contrast, Eye Saver Mode.
- LEFT/RIGHT: Adjust Volume.
- PRESS(ENTER): Display Function Key Guide.









### Function Key Guide

To enter the main menu or to use other items, press the JOG button to display the Function Key Guide. You can exit by pressing the JOG button again.





UP/DOWN/LEFT/RIGHT: Move to the item you want. The description for each item will appear when the focus changes. PRESS(ENTER): The selected item will be applied.

| Icons | Description  |
|-------|--|
|       |  <p>Selects  to change the input signal by moving the JOG button in the Function Key Guide screen. A message will appear on the top left corner of the screen if the input signal has been changed.</p>  |
|       |  <p>Selects  by moving the JOG button in the function key guide screen. The OSD (On Screen Display) of your Monitor's feature appears. OSD control lock: Maintain the current settings, or lock the OSD control to prevent unintended changes to settings. Enable/Disable: To lock/unlock the OSD control, press the LEFT button for 10 seconds when the main menu displayed.</p> <ul style="list-style-type: none"> <li>• If the OSD control is locked, Brightness and Contrast can be adjusted. PIP/PBP is available. Eye Saver Mode is available. Information can be viewed.</li> </ul> |
|       |  <p>Selects  by moving the JOG button in the function key guide screen. Press the button when configuring settings for the PIP/PBP function is required.</p>   |
|       |  <p>Selects  to turn the Monitor off by moving the JOG button in the function key guide screen.</p>  |

When the monitor displays nothing (i.e. Power saving mode or Non-signal mode), 2 direct keys for control source and power could be used as below.

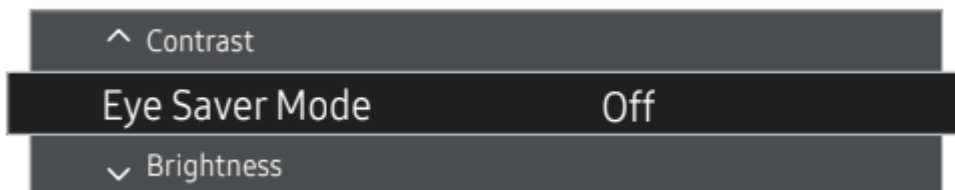
| JOG Button                 | Power saving/Non-signal mode |
|----------------------------|------------------------------|
| UP                         | Source Change                |
| Down                       |                              |
| PRESS(ENTER) for 2 seconds | Power Off                    |

When the monitor displays the Main menu the JOG Button could be used as below.

| JOG Button   | Action   |
|--------------|--|
| UP/DOWN      | Move the option  |
| LEFT         | Exit the Main menu.<br>Close Sublist without saving value.<br>Value decreases in the slider. |
| RIGHT        | Move to next depth.<br>Value increases in the slider.  |
| PRESS(ENTER) | Move to next depth.<br>Save the value and close Sublist.                                     |

## Configuring Eye Saver Mode, Brightness and Contrast from the Initial Screen

Adjust the Brightness, Contrast and Eye Saver Mode by moving the JOG button.



The displayed image may differ depending on the model.

— The default brightness can vary depending on the region.

### Eye Saver Mode

— Not available when **PIP/PBP Mode** is set to **On**.

### Brightness

— This menu is not available when **SAMSUNG MAGIC Bright** is set to Dynamic Contrast mode.


— This menu is not available when **Eco Saving Plus** is enabled.

— This menu is not available when **Eye Saver Mode** is enabled.

### Contrast

— This menu is not available when **SAMSUNG MAGIC Bright** is in Cinema or Dynamic Contrast mode.

— This menu is not available when **Game Mode** is enabled.

— This menu is not available when **PIP/PBP Mode** is set to **On** and the **Size** is set to  (PRP Mode).

## Configuring Volume in the Initial Screen

Adjust the Volume by moving the JOG button when the Direct Key Guide is displayed on the screen.



The displayed image may differ depending on the model.

If the audio quality of a connected input device is poor, the Auto Mute function on the product may mute the sound or cause choppy audio when applying the headphones or speakers. Set the input volume for the input device to at least 20% and control the volume using the volume control (JOG button LEFT/RIGHT) on the product.

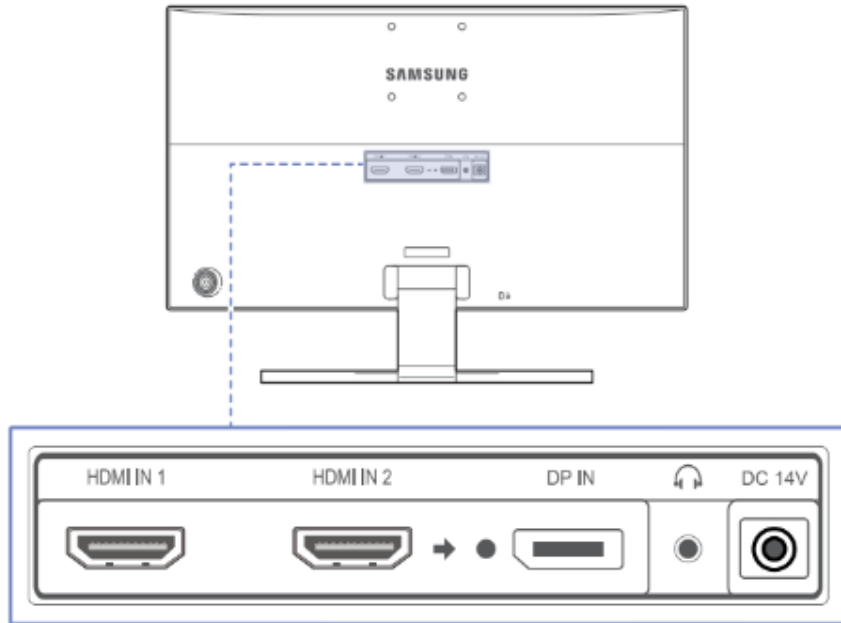
“What is Auto Mute?”

The function mutes the audio to improve sound effect when there is sound noise or when the input signal is weak, usually due to a problem with the volume of an input device.

To activate the **Mute** function, access the **Volume** control screen, then use the JOG button to move the focus down. To deactivate the **Mute** function, access the **Volume** control screen, then increase or decrease the **Volume**.

## Reverse Side

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

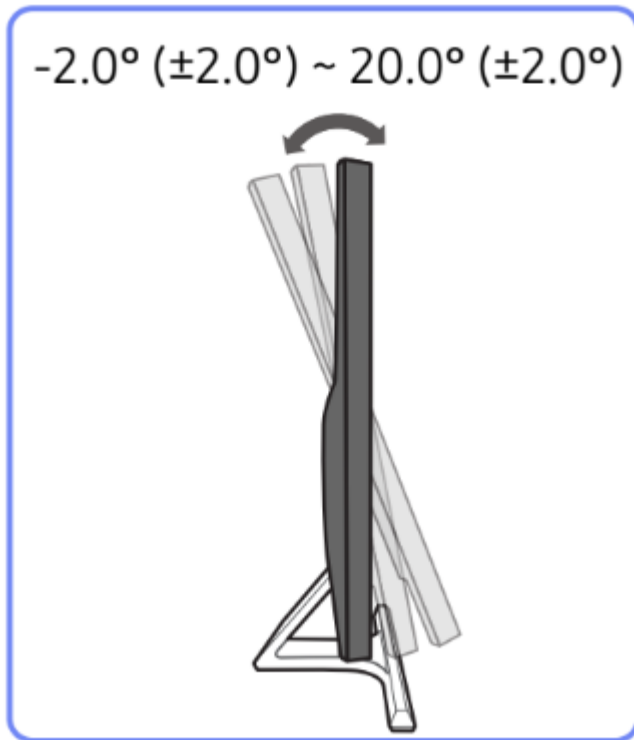


| Port | Description  |
|------|--|
|      | <p>Connect to a source device using an HDMI cable.</p> <p>HDMI 1 support 3840 x 2160 30 Hz “ HDMI 2 support 3840 x 2160 60 Hz</p>                  |
|      | <p>Connects to a PC using a DP cable.</p>  |
|      | <p>Connect to an audio output device such as headphones.</p> <p>— The sound could only be heard when using the HDMI to HDMI cable or DP cable.</p> |
|      | <p>Connects to the AC/DC adapter</p>   |

### Adjusting the Product Tilt

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

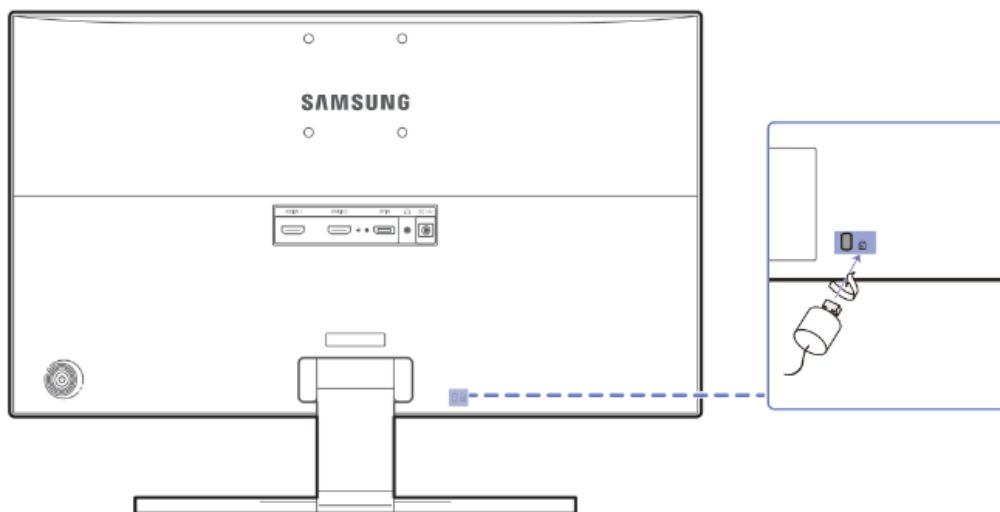




- You can adjust the product tilt.
- Hold the lower part of the product and adjust the tilt carefully

### 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.

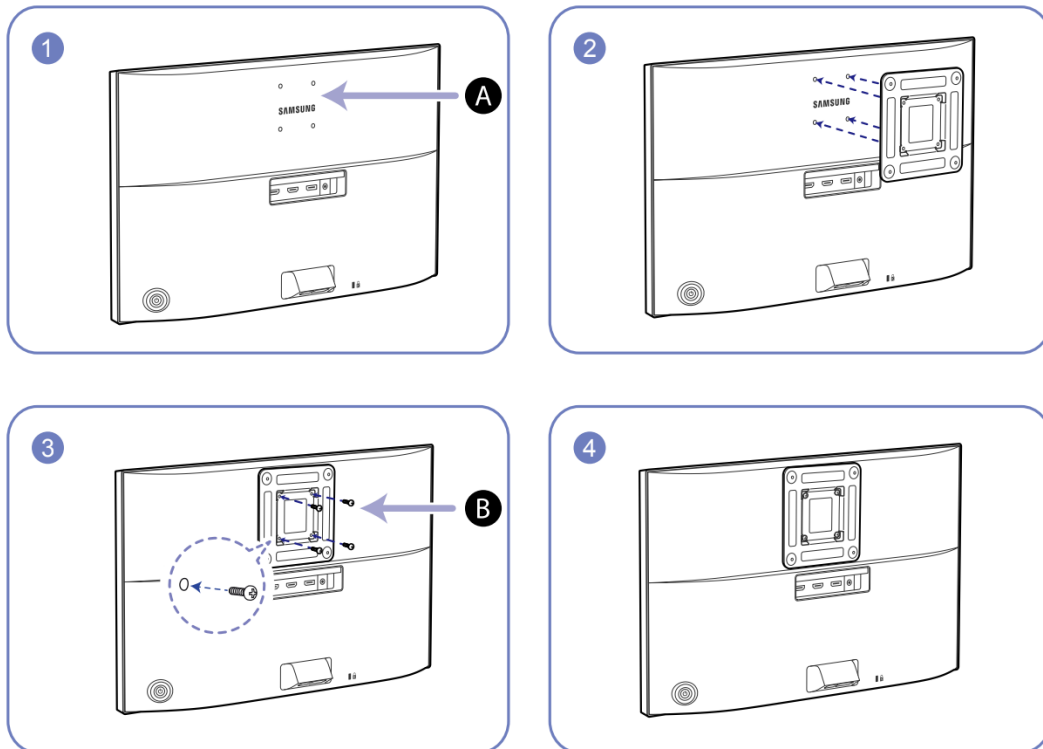


1. Fix the cable of your anti-theft locking device to a heavy object such as a desk.
2. Put one end of the cable through the loop on the other end.

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.

## Installing a Wall-mount Kit or Desktop Stand

Power the product off and remove the power cable from the power socket.



**A** Attach the wall-mount kit or desktop stand here

**B** Bracket (sold separately)

Align the grooves and tightly fasten the screws on the bracket on the product with the corresponding parts on the wall-mount kit or desktop stand you want to attach.

### Notes

- Using a screw longer than the standard length can damage the internal components of the product.
- The length of screws required for a wall mount that does not comply with the VESA standards may vary depending on the specifications.
- Do not use screws that do not comply with the VESA standards. Do not attach the wall-mount kit or desktop stand using excessive force. The product may get damaged or fall

and cause personal injury. Samsung shall not be held liable for any damage or injury caused by using improper screws or attaching the wall-mount kit or desktop stand using excessive force.

- Samsung shall not be held liable for any product damage or personal injury caused by using a wallmount kit other than the one specified or from an attempt to install the wall-mount kit on your own.
- To mount the product on a wall, ensure you purchase a wall-mount kit that can be installed 10 cm or farther away from the wall.
- Be sure to use a wall-mount kit that complies with the standards.
- To install the monitor using a wall mount, disconnect the stand base from the monitor

| Model name | VESA screw hole specs (A * B)<br>in millimeters | Standard Screw | Quantity |
|------------|---|----------------|----------|
| U28E570D   | 75.0 x 75.0                                     | M4             | 4        |

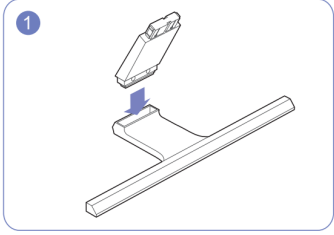
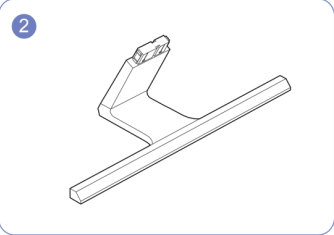
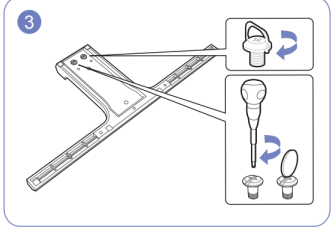
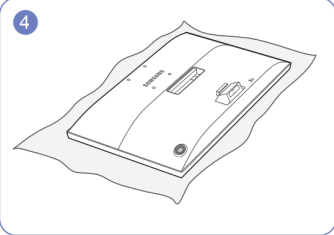
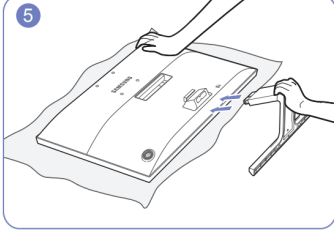
— Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.

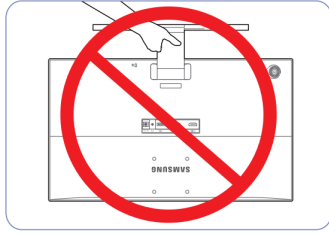
## Installation

### Attaching the Stand

— Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.

— The exterior may differ depending on the product.

|   |   |
|---|---|
|    | <p>Insert the stand neck into the stand base in the direction shown in the figure.</p>  |
|    | <p>Check that the stand neck is firmly connected.</p>   |
|   | <p>Tightly fasten the connecting screw at the bottom of the stand base.</p>   |
|  | <p>Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product is facing downwards.</p>                        |
|  | <p>Hold the main body of the product with your hand as shown by the figure. Push the assembled stand into the main body in the direction of the arrow as shown in the figure.</p> |

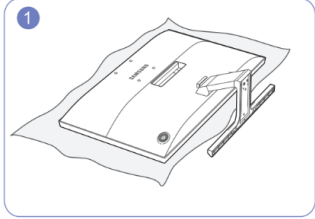
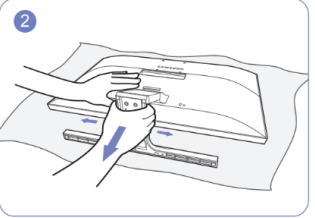
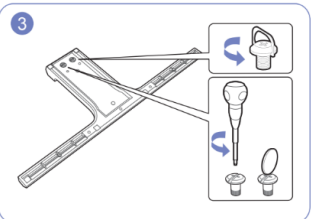
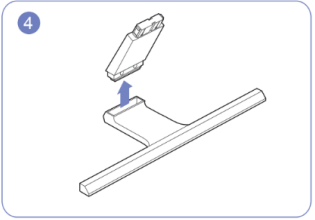


- Caution

Do not hold the product upside down only by the stand.

### Removing the Stand

- Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.
- The exterior may differ depending on the product.

|   |  |
|---|--|
|    | <p>Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product is facing downwards.</p>   |
|    | <p>To disassemble the stand from the monitor, make sure to press the lower part of the monitor with one hand, and pull and sway sideways the stand with the other hand, as shown in the picture.</p> |
|   | <p>Turn the connecting screw at the bottom of the stand base to separate it.</p>   |
|  | <p>Remove the stand neck from the stand base by pulling it in the direction of the arrow as shown in the figure.</p>   |

## Connecting and Using a Source Device

### 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 before connecting all other cables. Ensure you connect a source device first before connecting the power cable. Connecting the power cable during connection may damage the product.
- Check the types of ports at the back of the product you want to connect.

## Connecting and Using a PC

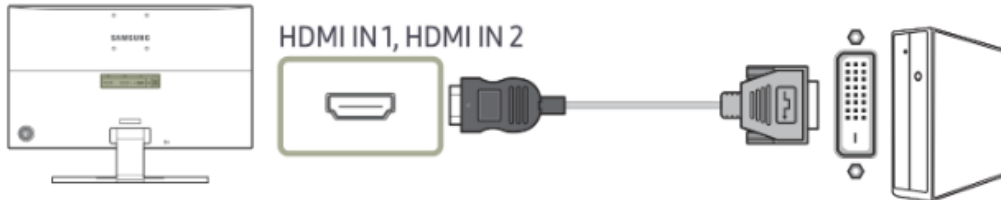
Select a connection method suitable for your PC.

- Connecting parts may differ in different products.
- Provided ports may vary depending on the product.

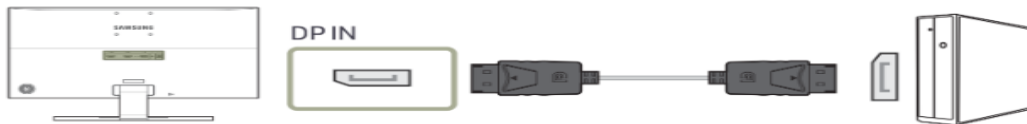
### Connection Using the HDMI Cable



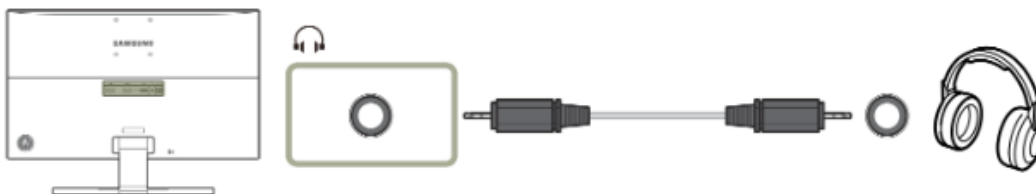
### Connection Using an HDMI-DVI Cable



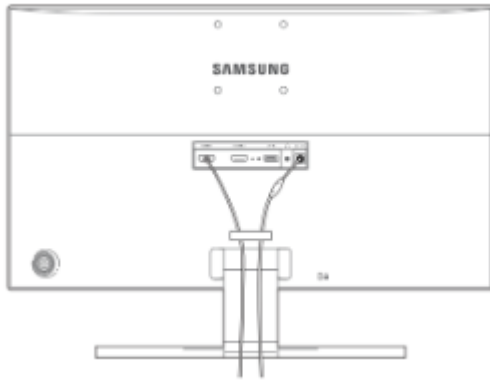
### Connection Using an DP Cable



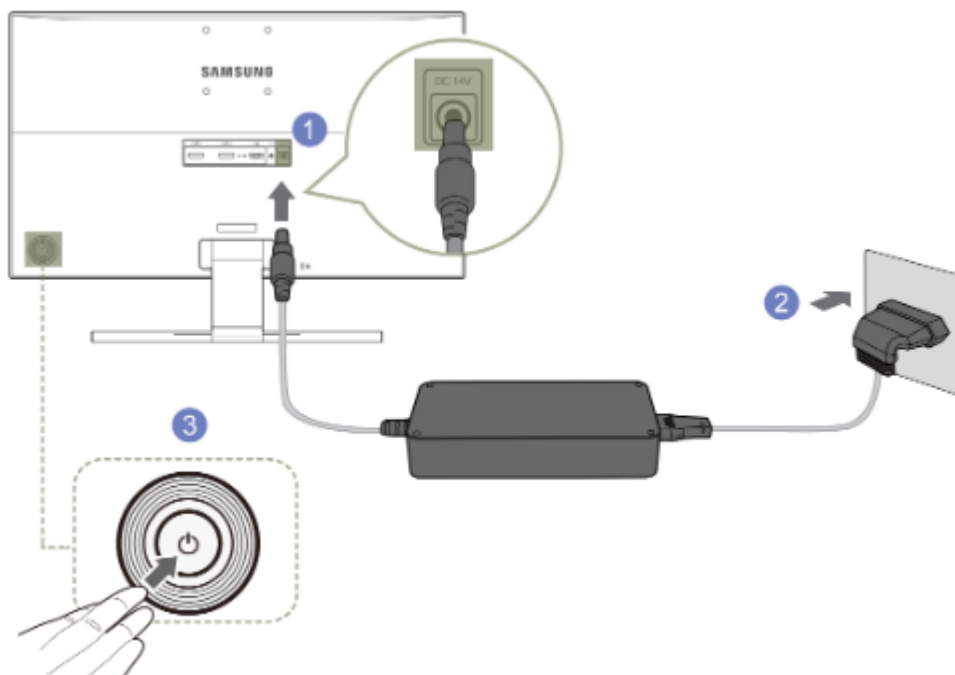
### Connecting to Headphones



### Tidying Up the Connected Cables



## Connecting the Power



1 Connect the power cable to the AC/DC adapter. Then, connect the AC/DC adapter to the DC14V port on the back of the product.

2 Next, connect the power cable to the power outlet.

3 Press the JOG button on the back of the monitor to turn it on.

— The input voltage is switched automatically.

## Correct posture to use the product



Use the product in the correct posture as follows:

- Straighten your back.
- Adjust the angle so light does not reflect on the screen.
- Keep your forearms perpendicular to your upper arms and level with the back of your hands.
- Keep your elbows at about a right angle.
- Adjust the height of the product so you can keep your knees bent at 90 degrees or more, your heels attached to the floor, and your arms lower than your heart.

## Troubleshooting Guide

### Requirements Before Contacting Samsung Customer Service Center

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

#### Testing the Product

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

If the screen is turned off and the power indicator blinks even though the product is properly connected to a PC, perform a self-diagnosis test.

1 Power off both the PC and product.

2 Disconnect the cables from the product.

3 Power on the product.

4 If the message **Check Signal Cable** appears, the product is working normally.

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

## Checking the Resolution and Frequency

For a mode that exceeds the supported resolution(refer to [Standard Signal Mode Table](#)), the message **Not Optimum Mode** will appear for a short time.

— The displayed resolution may vary, depending on the computer system settings and cables

## Check the following.

### Installation issue (PC mode)

- **The screen keeps switching on and off.**
  - Check the cable connection between the product and PC, and ensure the connectors are locked.

### Screen issue

- **The power LED is off. The screen will not switch on.**
  - Check that the power cable is connected properly.
- **The message Check Signal Cable appears.**
  - Check that the cable is properly connected to the product.
  - Check that the device connected to the product is powered on.
- **Not Optimum Mode is displayed.**
  - This message appears when the signal from the graphics card exceeds the maximum resolution or frequency for the product.
  - Change the maximum resolution and frequency to suit the product performance, referring to Standard Signal Mode Table ([P.40](#)).
- **The images on the screen look distorted.**
  - Check the cable connection to the product.
- **The screen appears unstable and shaky. There are shadows or ghost images left on the screen.**
  - Check that the resolution and frequency for the PC are within the range of resolution and frequency compatible with the product. Next, if required, change the settings, referring to Standard Signal Mode Table ([P.40](#)) in this manual and the **Information** menu on the product.
- **The screen is too bright. The screen is too dark.**
  - Adjust Brightness and Contrast.

- **Screen color is inconsistent.**
  - Change the Color settings.
- **The colors on the screen have a shadow and are distorted.**
  - Change the Color settings.
- **White does not really look white.**
  - Change the Color settings.
- **There is no image on the screen and the power LED blinks every 0.5 to 1 second.**
  - The product is operating in power-saving mode.
  - Press any key on the keyboard or move the mouse to return to normal operating mode.
- **Video playback is choppy.**
  - Playback of high-definition large video files can be choppy. This may be because the video player is not optimized for the computer resource.
  - Try playing the file on another video player.

### **Sound issue**

- **There is no sound.**
  - Check the connection of the audio cable or adjust the volume.
  - Check the volume.
- **The volume is too low.**
  - Adjust the volume.
  - If the volume is still low after turning it up to the maximum level, adjust the volume on your PC sound card or software program.

### **Source device issue**

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

## **Q & A**

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

### **How can I change the frequency?**

Set the frequency on your graphics card.

- Windows XP: Go to Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor, and adjust Refresh rate under Monitor settings.
- Windows ME/2000: Go to Control Panel → Display → Settings → Advanced → Monitor, and adjust Refresh rate under Monitor settings.
- Windows Vista: Go to Control Panel → Appearance and Personalization → Personalization → Display Settings → Advanced Settings → Monitor, and adjust Refresh rate under Monitor settings.
- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor, and adjust Refresh rate under Monitor settings.
- Windows 8(Windows 8.1): Go to Settings → Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor, and adjust Refresh rate under Monitor settings.
- Windows 10: Go to Settings → System → Display → Advanced display settings → Display adapter properties → Monitor, and adjust Screen refresh rate under Monitor settings.

### **How can I change the resolution?**

- Windows XP: Go to Control Panel → Appearance and Themes → Display → Settings, and adjust the resolution.
- Windows ME/2000: Go to Control Panel → Display → Settings, and adjust the resolution.
- Windows Vista: Go to Control Panel → Appearance and Personalization → Personalize → Display Settings, and adjust the resolution.
- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Adjust Resolution, and adjust the resolution.
- Windows 8(Windows 8.1): Go to Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution, and adjust the resolution.
- Windows 10: Go to Settings → System → Display → Advanced display settings, and adjust the resolution.

### **How do I set power-saving mode?**

- Windows XP: Set power-saving mode in Control Panel → Appearance and Themes → Display → Screen Saver Settings → Power options or BIOS SETUP on the PC.
- Windows ME/2000: Set power-saving mode in Control Panel → Display → Screen Saver Settings → Power options or BIOS SETUP on the PC.
- Windows Vista: Set power-saving mode in Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.
- Windows 7: Set power-saving mode in Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.

- Windows 8(Windows 8.1): Set power-saving mode in Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.
- Windows 10: Set power-saving mode in Settings → Personalization → Lock screen → Screen timeout settings → Power & sleep or BIOS SETUP on the PC.

## Specifications

### General

|                          |  |
|--------------------------|--|
| Model Name               | U28E570D   |
| Size                     | 70.8 cm  |
| Display area             | 620.93 mm (H) x 341.28 mm (V)  |
| Pixel Pitch              | 0.16 mm (H) x 0.16 mm (V)  |
| Maximum Pixel Clock      | 533.25 MHz (DisplayPort, HDMI)   |
| Power Supply             | AC 100 - 240 V - (+/-10%), 50/60 Hz ± 3 Hz   |
|                          | Refer to the label at the back of the product as the standard voltage can vary in different countries. |
| Signal connectors        | DisplayPort, HDMI  |
| Environmental conditions | Operating  |
|                          | Temperature: 10 °C - 40 °C (50 °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 (1ppm) may be brighter or darker on the LCD panel. This does not affect product performance.

- The above specifications are subject to change without notice to improve quality.
- This device is a Class B digital apparatus.

### Standard Signal Mode Table

| Model Name      | U28E570D             |   |
|-----------------|----------------------|---|
| Synchronization | Horizontal Frequency | 30 - 135 kHz (DisplayPort)  |
|                 |                      | 30 - 90 kHz (HDMI1)<br>30 - 135 kHz (HDMI2)   |
|                 | Vertical Frequency   | 56 - 75 Hz (DisplayPort)  |
|                 |                      | 24 - 75 Hz (HDMI1/HDMI2)  |
| Resolution      | Optimum Resolution   | 3840 x 2160 @ 60 Hz (DisplayPort)   |
|                 |                      | 3840 x 2160 @ 30 Hz (HDMI1)   |
|                 |                      | 3840 x 2160 @ 60 Hz (HDMI2)   |
|                 | Maximum Resolution   | 3840 x 2160 @ 60 Hz (DisplayPort)<br>3840 x 2160 @ 30 Hz (HDMI1)<br>3840 x 2160 @ 60 Hz (HDMI2) |

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

Displayport

| Resolution       | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|------------------|----------------------------|-------------------------|-------------------|---------------------|
| IBM, 720 x 400   | 31.469                     | 70.087                  | 28.322            | -/+                 |
| VESA, 640 x 480  | 31.469                     | 59.940                  | 25.175            | -/-                 |
| MAC, 640 x 480   | 35.000                     | 66.667                  | 30.240            | -/-                 |
| VESA, 640 x 480  | 37.861                     | 72.809                  | 31.500            | -/-                 |
| VESA, 640 x 480  | 37.500                     | 75.000                  | 31.500            | -/-                 |
| VESA, 800 x 600  | 35.156                     | 56.250                  | 36.000            | +/+                 |
| VESA, 800 x 600  | 37.879                     | 60.317                  | 40.000            | +/+                 |
| VESA, 800 x 600  | 48.077                     | 72.188                  | 50.000            | +/+                 |
| VESA, 800 x 600  | 46.875                     | 75.000                  | 49.500            | +/+                 |
| MAC, 832 x 624   | 49.726                     | 74.551                  | 57.284            | -/-                 |
| VESA, 1024 x 768 | 48.363                     | 60.004                  | 65.000            | -/-                 |

Displayport

| Resolution          | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|---------------------|----------------------------|-------------------------|-------------------|---------------------|
| VESA, 1024 x 768    | 56.476                     | 70.069                  | 75.000            | -/-                 |
| VESA, 1024 x 768    | 60.023                     | 75.029                  | 78.750            | +/+                 |
| VESA, 1152 x 864    | 67.500                     | 75.000                  | 108.000           | +/+                 |
| MAC, 1152 x 870     | 68.681                     | 75.062                  | 100.000           | -/-                 |
| VESA, 1280 x 720    | 45.000                     | 60.000                  | 74.250            | +/+                 |
| VESA, 1280 x 800    | 49.702                     | 59.810                  | 83.500            | -/+                 |
| VESA, 1280 x 1024   | 63.981                     | 60.020                  | 108.000           | +/+                 |
| VESA, 1280 x 1024   | 79.976                     | 75.025                  | 135.000           | +/+                 |
| VESA, 1440 x 900    | 55.935                     | 59.887                  | 106.500           | -/+                 |
| VESA, 1600 x 900RB  | 60.000                     | 60.000                  | 108.000           | +/+                 |
| VESA, 1680 x 1050   | 65.290                     | 59.954                  | 146.250           | -/+                 |
| VESA, 1920 x 1080   | 67.500                     | 60.000                  | 148.500           | +/+                 |
| VESA, 2560 x 1440   | 88.787                     | 59.951                  | 241.500           | +/+                 |
| VESA, 3840 x 2160RB | 133.313                    | 59.997                  | 533.250           | +/+                 |

HDMI1

| Resolution       | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|------------------|----------------------------|-------------------------|-------------------|---------------------|
| IBM, 720 x 400   | 31.469                     | 70.087                  | 28.322            | -/+                 |
| VESA, 640 x 480  | 31.469                     | 59.940                  | 25.175            | -/-                 |
| MAC, 640 x 480   | 35.000                     | 66.667                  | 30.240            | -/-                 |
| VESA, 640 x 480  | 37.861                     | 72.809                  | 31.500            | -/-                 |
| VESA, 640 x 480  | 37.500                     | 75.000                  | 31.500            | -/-                 |
| VESA, 800 x 600  | 35.156                     | 56.250                  | 36.000            | +/+                 |
| VESA, 800 x 600  | 37.879                     | 60.317                  | 40.000            | +/+                 |
| VESA, 800 x 600  | 48.077                     | 72.188                  | 50.000            | +/+                 |
| VESA, 800 x 600  | 46.875                     | 75.000                  | 49.500            | +/+                 |
| MAC, 832 x 624   | 49.726                     | 74.551                  | 57.284            | -/-                 |
| VESA, 1024 x 768 | 48.363                     | 60.004                  | 65.000            | -/-                 |
| VESA, 1024 x 768 | 56.476                     | 70.069                  | 75.000            | -/-                 |
| VESA, 1024 x 768 | 60.023                     | 75.029                  | 78.750            | +/+                 |



HDMI1

| Resolution         | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|--------------------|----------------------------|-------------------------|-------------------|---------------------|
| VESA, 1152 x 864   | 67.500                     | 75.000                  | 108.000           | +/+                 |
| MAC, 1152 x 870    | 68.681                     | 75.062                  | 100.000           | -/-                 |
| VESA, 1280 x 720   | 45.000                     | 60.000                  | 74.250            | +/+                 |
| VESA, 1280 x 800   | 49.702                     | 59.810                  | 83.500            | -/+                 |
| VESA, 1280 x 1024  | 63.981                     | 60.020                  | 108.000           | +/+                 |
| VESA, 1280 x 1024  | 79.976                     | 75.025                  | 135.000           | +/+                 |
| VESA, 1440 x 900   | 55.935                     | 59.887                  | 106.500           | -/+                 |
| VESA, 1600 x 900RB | 60.000                     | 60.000                  | 108.000           | +/+                 |
| VESA, 1680 x 1050  | 65.290                     | 59.954                  | 146.250           | -/+                 |
| VESA, 1920 x 1080  | 67.500                     | 60.000                  | 148.500           | +/+                 |
| VESA, 2560 x 1440  | 88.787                     | 59.951                  | 241.500           | +/+                 |
| VESA, 3840 x 2160  | 67.500                     | 30.000                  | 297.000           | +/+                 |

HDMI2

| Resolution       | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|------------------|----------------------------|-------------------------|-------------------|---------------------|
| IBM, 720 x 400   | 31.469                     | 70.087                  | 28.322            | -/+                 |
| VESA, 640 x 480  | 31.469                     | 59.940                  | 25.175            | -/-                 |
| MAC, 640 x 480   | 35.000                     | 66.667                  | 30.240            | -/-                 |
| VESA, 640 x 480  | 37.861                     | 72.809                  | 31.500            | -/-                 |
| VESA, 640 x 480  | 37.500                     | 75.000                  | 31.500            | -/-                 |
| VESA, 800 x 600  | 35.156                     | 56.250                  | 36.000            | +/+                 |
| VESA, 800 x 600  | 37.879                     | 60.317                  | 40.000            | +/+                 |
| VESA, 800 x 600  | 48.077                     | 72.188                  | 50.000            | +/+                 |
| VESA, 800 x 600  | 46.875                     | 75.000                  | 49.500            | +/+                 |
| MAC, 832 x 624   | 49.726                     | 74.551                  | 57.284            | -/-                 |
| VESA, 1024 x 768 | 48.363                     | 60.004                  | 65.000            | -/-                 |
| VESA, 1024 x 768 | 56.476                     | 70.069                  | 75.000            | -/-                 |
| VESA, 1024 x 768 | 60.023                     | 75.029                  | 78.750            | +/+                 |
| VESA, 1152 x 864 | 67.500                     | 75.000                  | 108.000           | +/+                 |
| MAC, 1152 x 870  | 68.681                     | 75.062                  | 100.000           | -/-                 |

HDMI2

| Resolution          | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|---------------------|----------------------------|-------------------------|-------------------|---------------------|
| VESA, 1280 x 720    | 45.000                     | 60.000                  | 74.250            | +/+                 |
| VESA, 1280 x 800    | 49.702                     | 59.810                  | 83.500            | -/+                 |
| VESA, 1280 x 1024   | 63.981                     | 60.020                  | 108.000           | +/+                 |
| VESA, 1280 x 1024   | 79.976                     | 75.025                  | 135.000           | +/+                 |
| VESA, 1440 x 900    | 55.935                     | 59.887                  | 106.500           | -/+                 |
| VESA, 1600 x 900RB  | 60.000                     | 60.000                  | 108.000           | +/+                 |
| VESA, 1680 x 1050   | 65.290                     | 59.954                  | 146.250           | -/+                 |
| VESA, 1920 x 1080   | 67.500                     | 60.000                  | 148.500           | +/+                 |
| VESA, 2560 x 1440   | 88.787                     | 59.951                  | 241.500           | +/+                 |
| VESA, 3840 x 2160RB | 133.313                    | 59.997                  | 533.250           | +/+                 |

- Horizontal Frequency

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

- Vertical Frequency

Repeating the same picture dozens of times per second allows you to view natural pictures. The repeat frequency is called "vertical frequency" or "refresh rate" and is indicated in Hz.

- Some resolutions listed in the table above may not be available depending on graphics card specifications.

**Warning**

This content is compiled from multiple sources and is provided for reference purposes only. It may not be complete or fully applicable to all situations. If you are unable to resolve your issue, please contact the product manufacturer or an authorized service provider for official support.



