User manual

S22C450D
S24C450DL
S24C450D
S27C450D

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

SAMSUNG

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

Icons used in this manual

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

Cleaning

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

Take the following steps when cleaning.
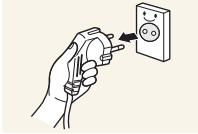
1. Power off the monitor and computer.

2. Disconnect the power cord from the monitor.

> Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.
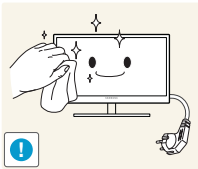
3. Wipe the monitor screen using a clean, soft and dry cloth.

- 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.
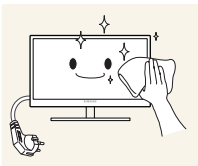
4. Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the monitor.
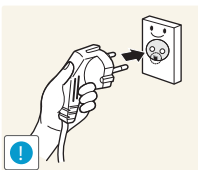
5. Connect the power cord to the product after cleaning the product.

6. Power on the monitor and computer.

Before Using the Product

Securing the Installation Space

- Ensure some space around the product for ventilation. An internal temperature rise may cause fire and damage the product. Be sure to allow the amount of space as shown below or greater when installing the product.

> The exterior may differ depending on the product.
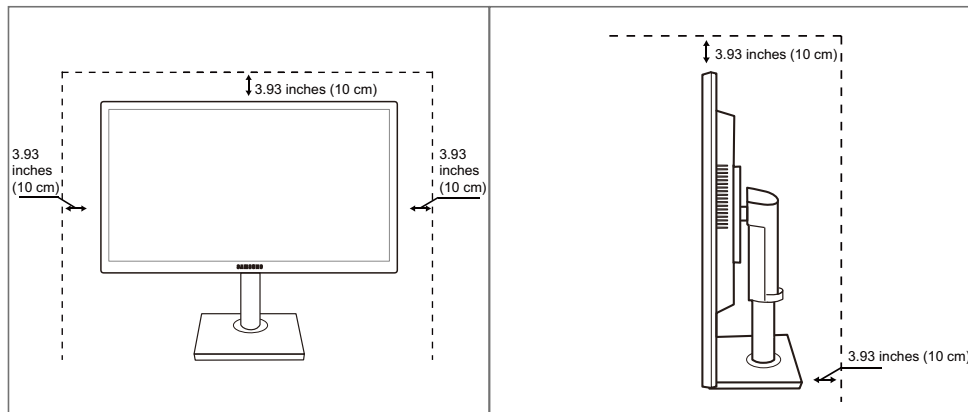
Precautions for storage

> Be sure to contact Samsung Customer Service Center if the inside of the monitor needs cleaning. (A service fee will be charged.)

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.

Electricity and Safety

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

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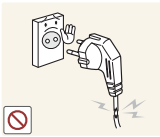
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.
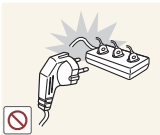
Do not plug many products into the same power socket.

- Otherwise, the socket may overheat and cause a fire.

Do not touch the power plug with wet hands.

- Otherwise, an electric shock may result.
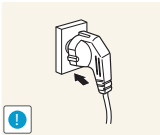
Insert the power plug all the way in so it is not loose.

- An unstable connection may cause a fire.
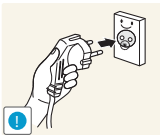
Ensure you connect the power plug to a grounded power socket. (type 1 insulated devices only).

- An electric shock or injury may result.
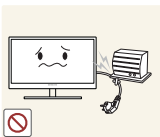
Do not bend or pull the power cord with force. Do not weigh the power cord down with a heavy object.

- A damaged power cord may cause an electric shock or fire.

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

- An electric shock or fire may result.

Remove foreign substances such as dust around the plug pins and power socket with a dry cloth.

- Otherwise, a fire may result.

 Caution

Do not unplug the power cord when the product is in use.

- The product may become damaged by an electric shock.
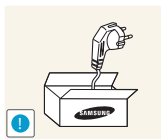
Do not use the power cord for products other than authorized products supplied by Samsung.

- An electric shock or fire may result.
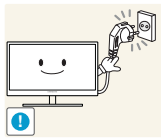
Keep the power socket where the power cord is connected unobstructed.

- If any problem occurs in the product, unplug the power cable to completely cut the power to the product.

  Power to the product cannot be completely cut off with the power button.
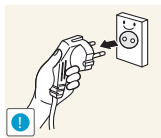
Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

Installation and Safety

 Warning

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

- Otherwise, a fire may result.

Avoid installing the product in a narrow space with bad ventilation, such as a bookshelf or wall closet.

- Otherwise, a fire may result due to an increased internal temperature.

Keep the plastic packaging bag for the product in a place that cannot be reached by children.

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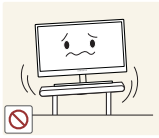
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.).

- The product may fall and break or cause a personal injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.
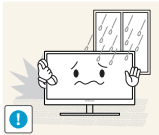
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- An electric shock or fire may result.
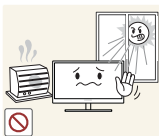
Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- Otherwise, the product lifespan may be reduced, or a fire may result.
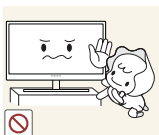
Do not install the product within the reach of young children.

- The product may fall and injure children.

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
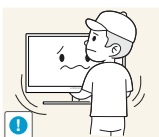
Take care not to drop the product when moving it.

- Otherwise, product failure or personal injury may result.
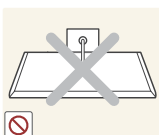
Do not set down the product on its front.

- 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 break or cause a personal injury.
- Install the product only on cabinets or shelves of the right size.
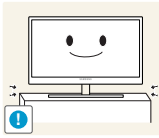
Put down the product carefully.

- The product may fall and break or cause a personal injury.

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

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

Operation and Safety

⚠ Warning

High voltage runs through the product. Do not attempt to disassemble, repair, or modify the product on your own.

- An electric shock or fire may result.
- Contact Samsung Customer Service Center for repair.
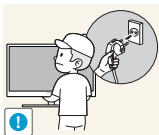
To move the product, first disconnect all the cables from it, including the power cable.

- Otherwise, the power cord may be damaged and a fire or electric shock may result.
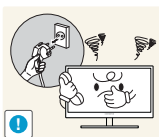
If the product generates a strange noise, a burning smell, or smoke, remove the power cord immediately and contact Samsung Customer Service Center.

- An electric shock or fire may result.
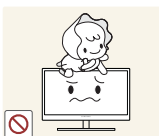
Do not let children hang from the product or climb on top of it.

- The product may fall, and your child may become injured or seriously harmed.

If the product falls or the exterior is damaged, power off the product, remove the power cord, and contact Samsung Customer Service Center.

- Otherwise, an electric shock or fire may result.

Do not put a heavy object, toy, or sweets on top of the product.

- The product or heavy objects may fall as children try to reach for the toy or sweets resulting in a serious injury.
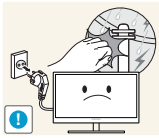
If there is a thunderstorm or lightning strike, turn off the power and disconnect the power cable.

- An electric shock or fire may result.

Do not drop objects on the product or apply impact.

- An electric shock or fire may result.

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

- Otherwise, the cable may be damaged and product failure, an electric shock or fire may result.

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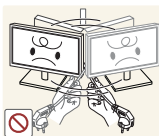
Do not lift or move the product by pulling the power cord or any cable.

- Otherwise, the cable may be damaged and product failure, an electric shock or fire may result.
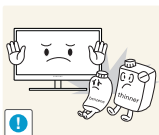
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.

Ensure the vents are not blocked by tablecloths or curtains.

- Otherwise, a fire may result from an increased internal temperature.

Do not insert a metallic object (a chopstick, coin, hair pin, etc.) or inflammable object (paper, match, etc.) into the vent or ports of the product.

- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

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

- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

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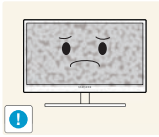
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- If you are not going to use the product for an extended period of time, activate power-saving mode or a moving-picture screen saver.
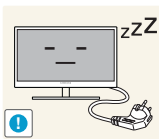
Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc.).

- Otherwise, a fire may result from accumulated dust, overheating, an electric shock, or electric leakage.

Use the product at the recommended resolution and frequency.

- Otherwise,Your eyesight may deteriorate.
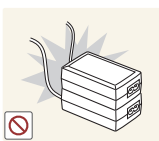
Do not put DC power adapters together.

- Otherwise, a fire may result.
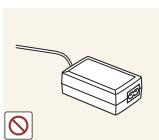
Remove the plastic bag from the DC power adapter before you use it.

- Otherwise, a fire may result.

Do not let water enter the DC power device or get the device wet.

- An electric shock or fire may result.
- Avoid using the product outdoors where it can be exposed to rain or snow.
- Be careful not to get the DC power adapter wet when you wash the floor.

Do not put the DC power adapter near to any heating apparatus.

- Otherwise, a fire may result.
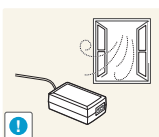
Keep the DC power adapter in a well-ventilated area.
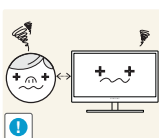
Looking at the screen too close for an extended period of time can deteriorate your eyesight.

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

- The product may fall and break or cause a personal injury.

Do not use humidifiers or stoves around the product.

- An electric shock or fire may result.
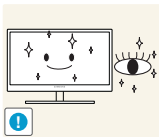
Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.
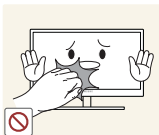
Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.
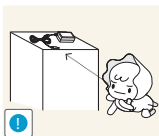
Store the small accessories used with the product out of reach of children.
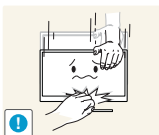
Exercise caution when adjusting the product angle or stand height.

- Otherwise, children's fingers or hands may become stuck and injured.
- Tilting the product excessively may cause it to fall and result in personal injury.

Do not place heavy objects on the product.

- Product failure or personal injure may result.
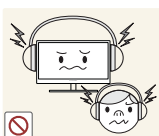
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.

Correct posture to use the product

Use the product in the correct posture as follows:

- Straighten your back.
- Allow a distance of 45 to 50 cm between your eye and the screen, and look slightly downward at the screen.
  Keep your eyes directly in front of the screen.
- 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.

1 Preparations

1.1 Checking the Components

1.1.1 Checking the Components

> - Contact the dealer from whom you purchased the product if any item is missing.
> - The appearance of the components may differ from the images shown.

Components
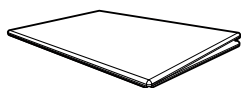
Quick Setup Guide

Warranty card
(Not available in some locations)
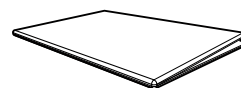
Regulatory guide
(optional)
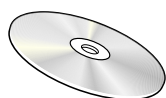
User manual
(optional)

Power cable
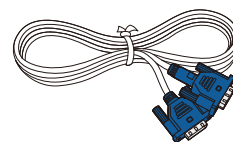
D-SUB cable
(optional)
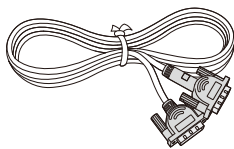
DVI cable
(optional)
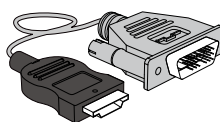
HDMI-DVI cable
(optional)

DP cable
(optional)
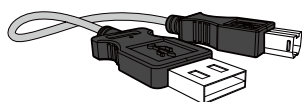
USB cable
(optional)

Stand base
(optional)

Stand base
(Applicable to the stand models that have USB ports only.)
(optional)

Preparations
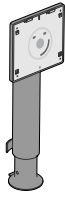
Stand neck

(optional)

Components may vary depending on the country.

Preparations

1.2　Parts

1.2.1　Frontal Buttons

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

Key Guide

Icons	Description
MENU	• Open or close the onscreen display (OSD) menu, or return to the parent menu. • OSD control lock: Maintain the current settings, or lock the OSD control to prevent unintended changes to settings. Enable: To lock the OSD control, press the [MENU] button for 10 seconds. Disable: To unlock the locked OSD control, press the [MENU] button for more than 10 seconds. > If the OSD control is locked, 　• **Brightness** and **Contrast** can be adjusted. **Eye Saver Mode** is available. **INFORMATION** can be viewed. 　• The **Eye Saver Mode** function can be used by pressing the [ ] button. (The **Eye Saver Mode** is available even when the OSD control is locked.)
	Press [ ] to enable or disable **Eye Saver Mode**. The items below are not available if the **Eye Saver Mode** function is enable. • **PICTURE** → **Brightness**, **Game Mode**, � ᴬᴹˢᵁᴺᴳ**MAGICBright**, ˢᴬᴹˢᵁᴺᴳ**MAGICAngle** • **COLOR** • **SETUP&RESET** → **Smart Eco Saving**
▲/▼	Move to the upper or lower menu or adjust the value for an option on the OSD menu.

Icons	Description
⊙	Use this button to control the brightness, contrast and sharpness of the screen.
⊡/⊡	Confirm a menu selection. Pressing the [⊡/⊡] button when the OSD menu is not displayed will change the input source (**Analog**/**DVI**/**DisplayPort**). If you power on the product or change the input source by pressing the [⊡/⊡] button, a message that shows the changed input source will appear at the top left corner of the screen. This function is not available for products with an Analog interface only.
AUTO	Press the [AUTO] button to automatically adjust the screen settings. • Changing the resolution in Display Properties will activate the **Auto Adjustment** function. • This function is only available in **Analog** mode.
⏻	Turn the screen on or off.
Key Guide	When a control button on the product is pressed, the Key Guide will be displayed before the onscreen menu opens. (The guide shows the function of the button pressed.) To access the onscreen menu when the guide is displayed, press the corresponding button again. The Key Guide may vary depending on the function or product model. Refer to the actual product.

1.2.2   Reverse Side

 The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.
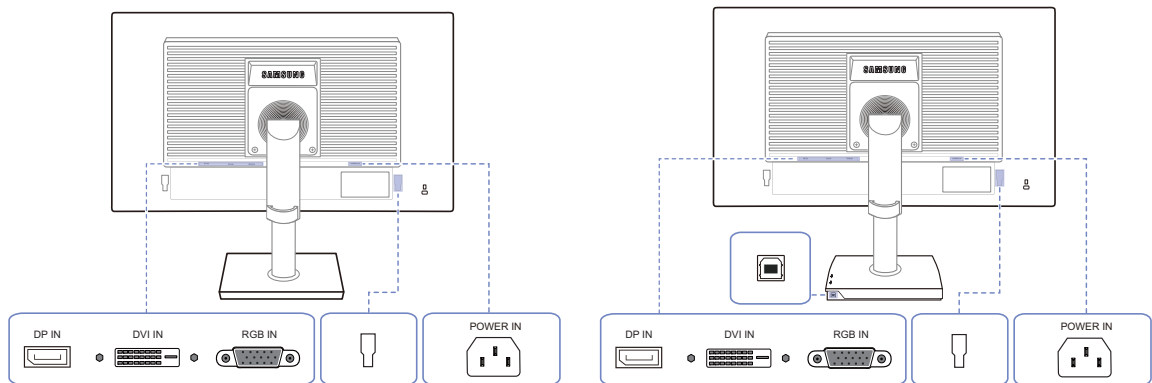
Port	Description
	Connect to a PC using a DP cable.
	Connect to a PC using the DVI cable. The [DVI IN] terminal is supplied for the digital (DVI)-dedicated models only.
	Connect to a PC using the D-SUB cable.
	Connect to an external device.
	Connect the [ ] port of the monitor and the USB port of the computer with the USB cable. Applicable to the stand models that have USB ports only.
	Connect the power cord for your monitor to the [POWER IN] port on the back of the product.

Preparations

1.2.3   Right Side View

 The color and shape of parts may differ from what is shown. Specifications are subject to change
without notice to improve quality.
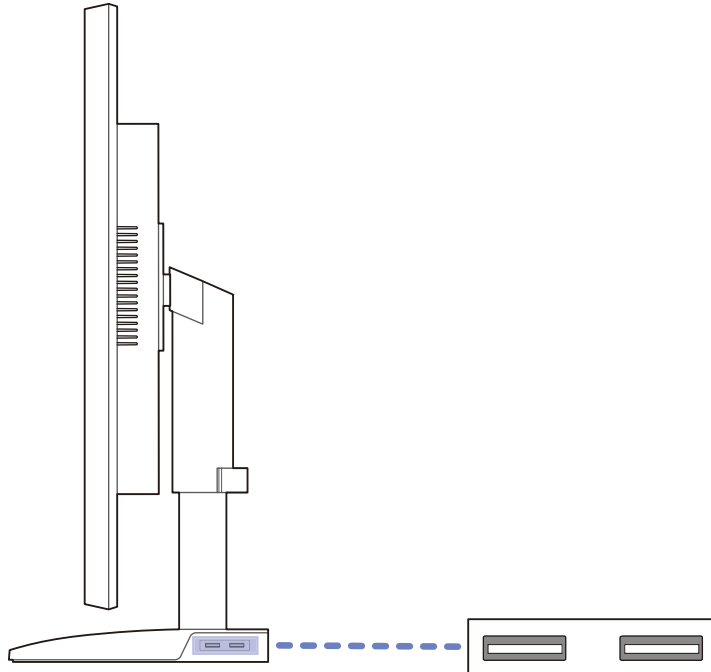
Port	Description
	Connect to a USB device. Applicable to the stand models that have USB ports only.

Preparations

1.3   Installation

1.3.1   Attaching the Stand
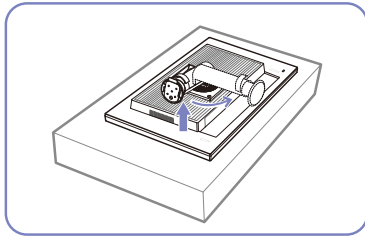
Place a protective cloth or cushion on a flat surface. Next, place the product with the face down on top of the cloth or cushion.
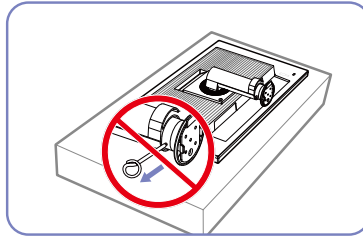
Do not remove the fixing pin until you are finished attaching the stand.
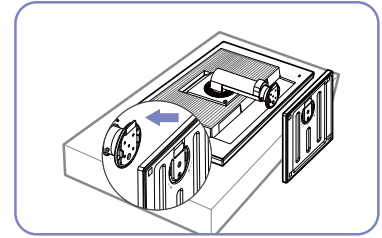
Insert the stand base into the stand in the direction of the arrow.
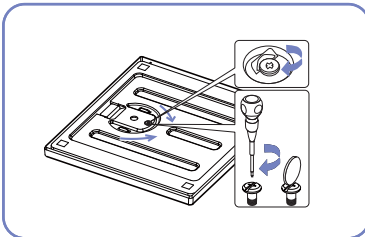
Fasten the screw tightly (using a screwdriver or coin) into the bottom of the stand base.
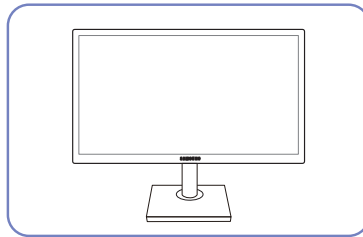
After installing the stand, place the product upright.
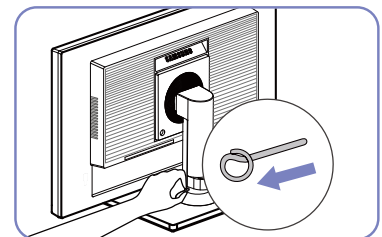
You can remove the fixing pin and adjust the stand now.

- Caution

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

  ● Disassembly is in the reverse order of assembly.
  ● The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Preparations

1.3.2   Adjusting the Product Tilt and Height

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

21.5"-24"

-3°(±2°) - 25°(±2°)

27"

-4°(±2°) - 25°(±2°)
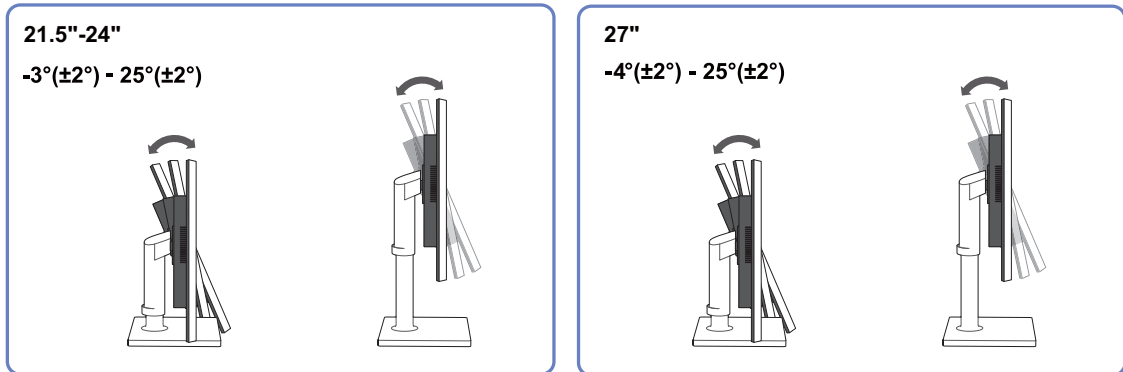
21.5" (without a USB port)   23" - 27" / 21.5" (with a USB port)

0 (± 5 mm) -
100 mm (± 5 mm)

0 (± 5 mm) -
130 mm (± 5 mm)
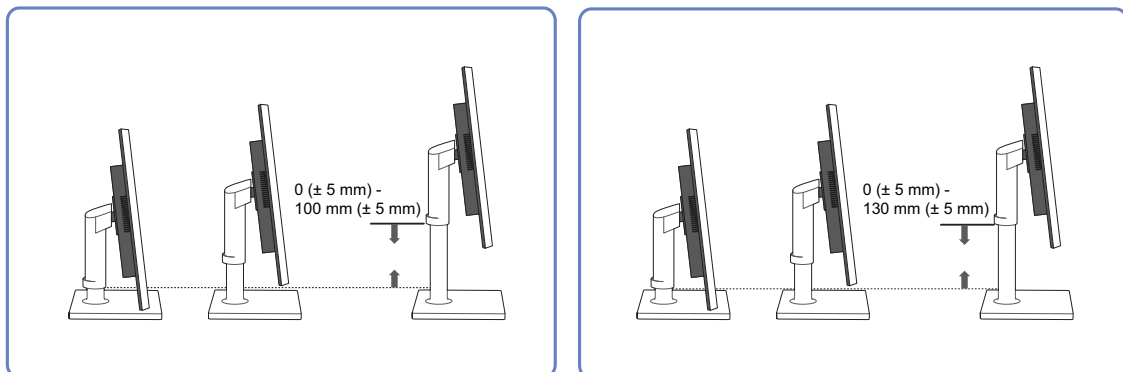
- To adjust the height, remove the fixing pin.

- The monitor tilt and height can be adjusted.

- Hold the top center of the product and adjust the height carefully.

Preparations

1.3.3 Rotating the Monitor

You can rotate your monitor as shown below.
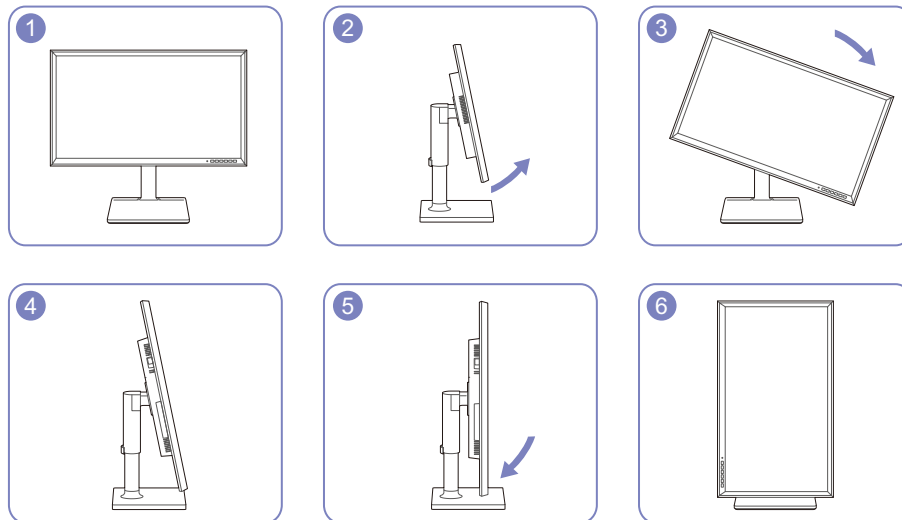
- Be sure to fully extend the stand before rotating the monitor.
- If you rotate the monitor without fully extending the stand, the corner of the monitor may hit the floor and get damaged.
- Do not rotate the monitor counterclockwise. The monitor may get damaged.

1 Preparations

1.3.4 Installing a Wall-mount Kit or Desktop Stand

Before Installation

> Power the product off and remove the power cable from the power socket.
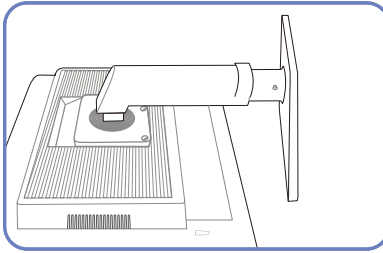
Place a protective cloth or cushion on a flat surface. Next, place the product with the face down on top of the cloth or cushion.
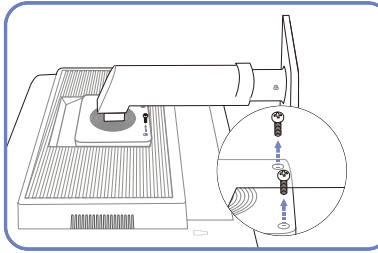
Unfasten the screw from the back of the product.
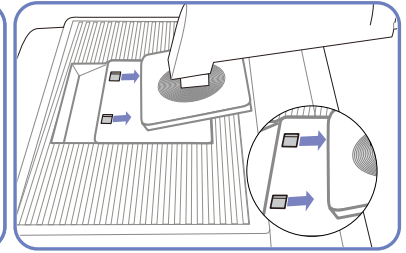
Lift and detach the stand.

Installing a Wall-mount Kit or Desktop Stand
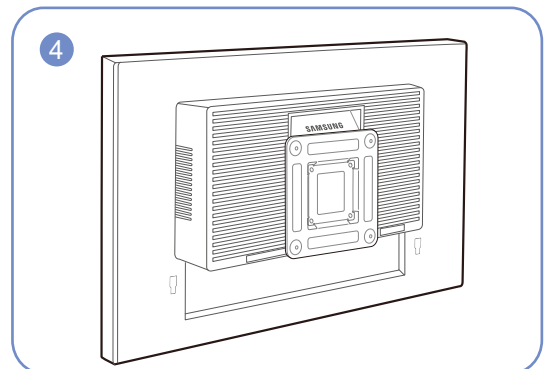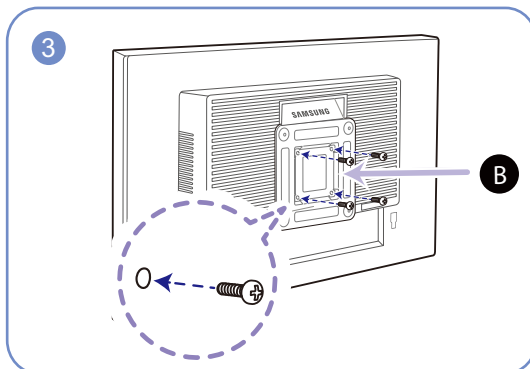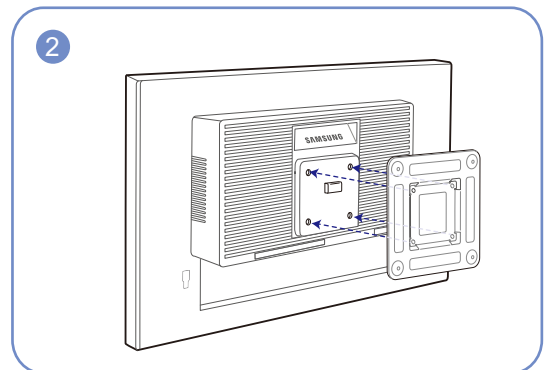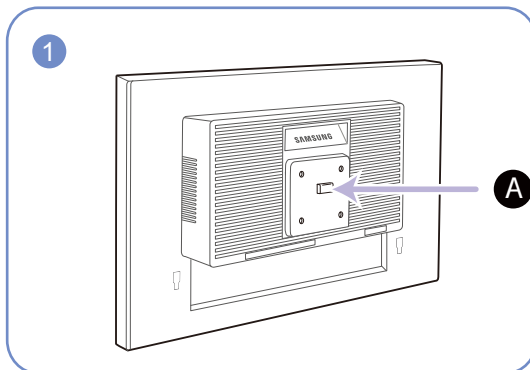
Ⓐ Attach the wall-mount kit or desktop stand here

Ⓑ 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.

1 Preparations

 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 wall-mount 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.

1.3.5 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 lock device is sold separately.
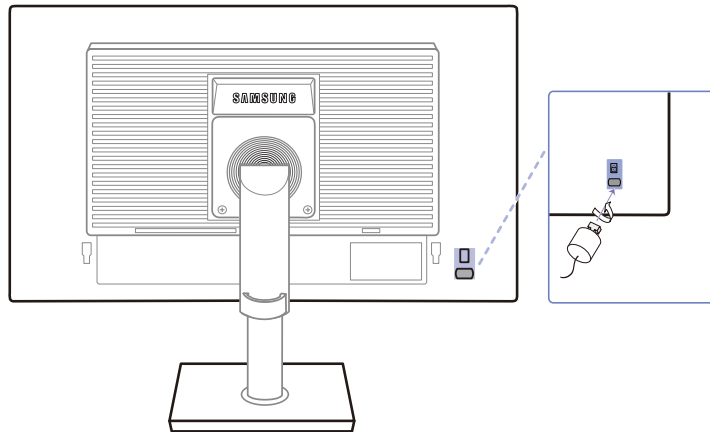
> The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

To lock an anti-theft locking device:

1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.

2 Put one end of the cable through the loop on the other end.

3 Insert the locking device into the anti-theft lock slot at the back of the product.

4 Lock the locking device.

> - An anti-theft locking device can be purchased separately.
> - Refer to the user guide provided with your anti-theft locking device for details.
> - Anti-theft locking devices can be purchased at electronics retailers or online.

2

Connecting and Using a Source Device

2.1 Before Connecting

2.1.1 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.

- Check the types of ports at the back of the product you want to connect.

Connecting and Using a Source Device

2.2 Connecting and Using a PC

2.2.1 Connecting to a PC

- Select a connection method suitable for your PC.

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

Connection Using the D-SUB Cable (Analog Type)

> Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
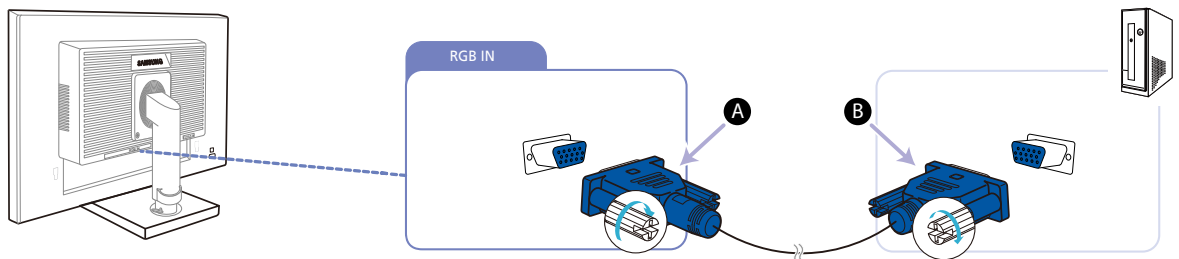
1 Connect the D-SUB cable to the [RGB IN] port on the back of the product and the RGB port on the PC.

> Connect **A** to the [RGB IN] port on the product, then connect **B** to the RGB port on the computer.

2 Press [/] to change the input source to **Analog**.

> This function is not available for products with an Analog interface only.

Connecting and Using a Source Device

Connection Using the DVI Cable

> Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
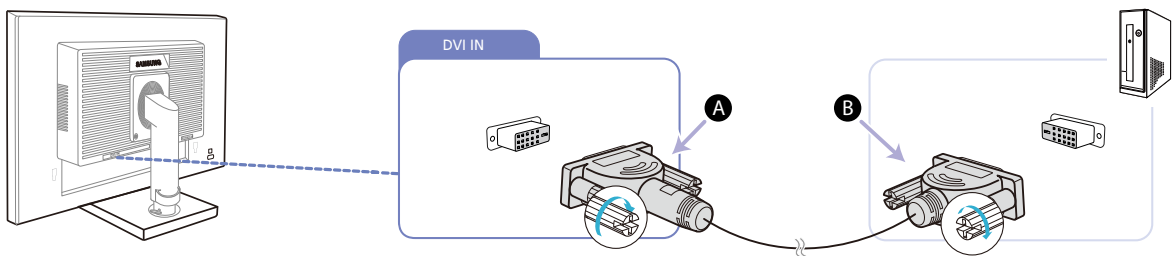
DVI IN

1 Connect the DVI cable to the [DVI IN] port on the back of the product and the DVI port on the PC.

> Connect Ⓐ to the [DVI IN] port on the product, then connect Ⓑ to the DVI port on the computer.

2 Press [/] to change the input source to **DVI**.

> The [DVI IN] terminal is supplied for the digital (DVI)-dedicated models only.

Connection Using the DVI-HDMI Cable

> Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
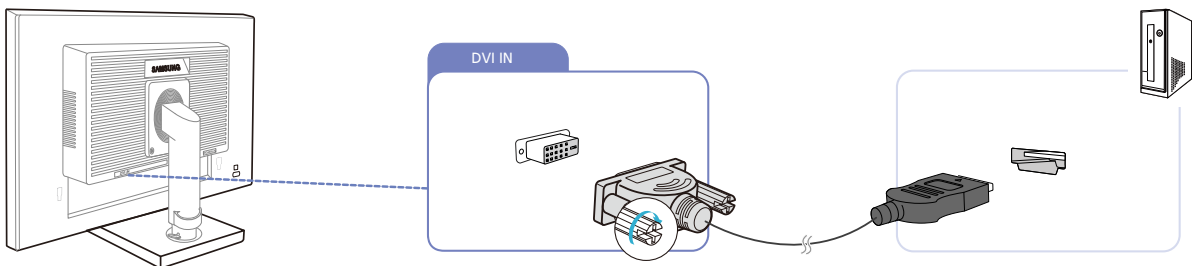
DVI IN

1 Connect the HDMI-DVI cable to the [DVI IN] port on the back of the product and the HDMI port on the PC.

2 Press [/] to change the input source to **DVI**.

> The [DVI IN] terminal is supplied for the digital (DVI)-dedicated models only.

2

Connecting and Using a Source Device

Connection Using the DP Cable

 Do not connect the power cable before connecting all other cables. Ensure you connect a source device first before connecting the power cable.
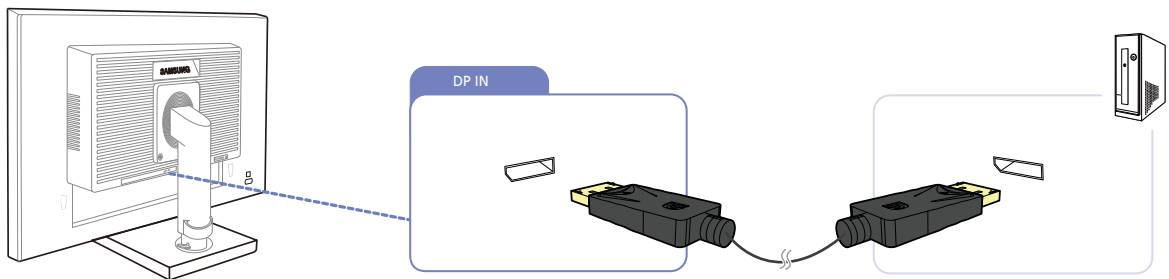
1 Connect the DP cable to the [DP IN] port on the back of the product and the DP port on the PC.

2 Press [/] to change the input source to **DisplayPort**.

2.2.2 Connecting the Power

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

 - To use the product, connect the power cable to a power outlet and the [POWER IN] port on the product.
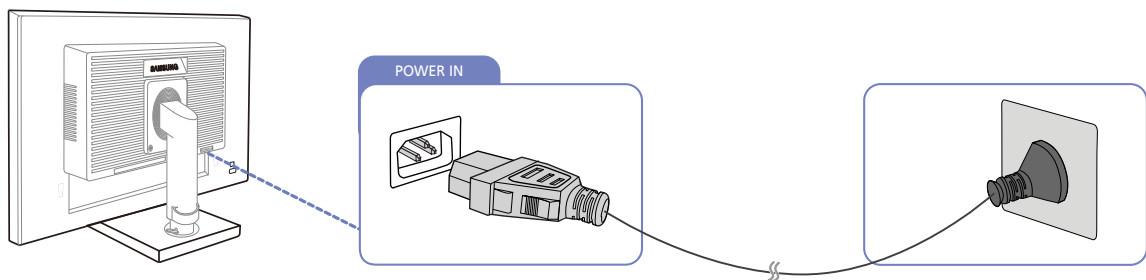
 The input voltage is switched automatically.

2 Connecting and Using a Source Device

Connecting a USB Device

 - Applicable to the stand models that have USB ports only.
 - You can use a USB device such as a mouse, keyboard, memory stick or external hard disk drive (HDD) by connecting it directly to the [ ] port on the monitor. You do not need to connect it to the computer.
   An external mass-storage HDD requires an external power supply and be sure to connect it to a power source.

The [ ] USB port of the monitor supports High-Speed Certified USB 2.0.

	High speed	Full speed	Low speed
Data Rate	480 Mbps	12 Mbps	1.5 Mbps
Power Consumption	2.5 W (Max., each port)	2.5 W (Max., each port)	2.5 W (Max., each port)

1 Connect the [ ] port of the monitor and the USB port of the computer with the USB cable.

 - To use [ ] port, you have to connect the UP (Upstream Cable) to the PC.
 - Make sure to use the USB cable supplied with this monitor to connect the monitor's [ ] port and your computer's USB port.

2   Connecting and Using a Source Device
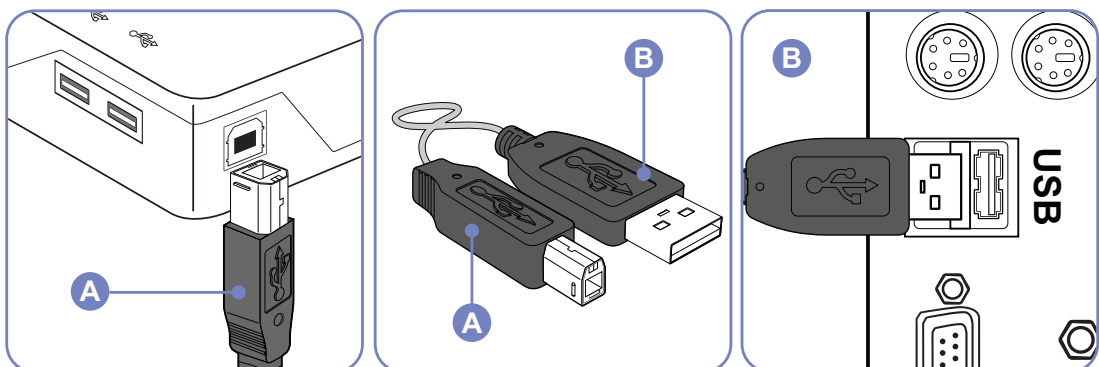
2 Use the USB cable to connect a USB device to the [ ] port on the monitor.

3 The use procedures are as the same as those for using an external device connecting to the PC.

- You can connect and use a keyboard and mouse.
- You can play a file from a media device. (Examples of media devices: MP3, digital camera, etc.)
- You can run, move, copy or delete the files on the storage device. (Examples of storage devices: external memory, memory card, memory reader, HDD-type MP3 player, etc.)
- You can use other USB devices that can be connected to a computer.

- When connecting a device to the [ ] port of the monitor, connect the device using a cable appropriate to the device.
- For the purchase of the cable and external devices, ask the service center of the corresponding product.
- The company is not liable for problems or damages to an external device caused by using an unauthorized cable for the connection.
- Some products do not follow the USB standard, and it may cause a malfunction of the device.
- If the device malfunctions even if it is connected to the computer, contact the service center of the device/computer.

Connecting and Using a Source Device

2.2.3 Driver Installation

> - You can set the optimum resolution and frequency for this product by installing the corresponding drivers.
> - An installation driver is contained on the CD supplied with the product.
> - If the file provided is faulty, visit the Samsung homepage (http://www.samsung.com) and download the file.

1 Insert the user manual CD provided with the product into the CD-ROM drive.

2 Click "Windows Driver".

3 Follow the instructions given on the screen to proceed with installation.

4 Select your product model from the list of models.
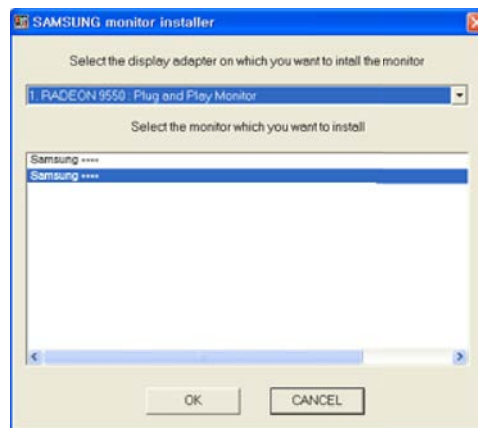
5 Go to Display Properties and check that the resolution and refresh rate are appropriate.

Refer to your Windows OS manual for further details.

Connecting and Using a Source Device

2.2.4   Setting Optimum Resolution

An information message about setting optimum resolution will appear if you power on the product for the first time after purchase.

Select a language on the product and change the resolution on your PC to the optimum setting.

Setup Guide

The optimal resolution for this
monitor is as follows:

****x**** **Hz

Use the above settings to set
the resolution on your PC.

◄   English   ►

OK

AUTO
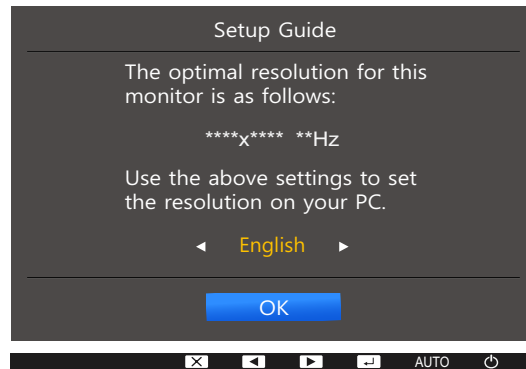
1 Press [/] to move to the language you want and press [/].

2 To hide the information message, press [MENU].

  If the optimum resolution is not selected, the message will appear up to three times for a specified time even when the product is turned off and on again.

  The optimum resolution can also be selected in **Control Panel** on your PC.

3

Screen Setup

A detailed description of each function is provided. Refer to your product for details.

Configure the screen settings such as brightness.

3.1   Brightness

You can adjust the general brightness of the picture. (Range: 0~100)

A higher value will make the picture appear brighter.

- This menu is not available when ᴹ⁴ᴳⁱᶜBright is set to **Dynamic Contrast** mode.
- This menu is not available when **Smart Eco Saving** is set.
- This menu is not available when **Eye Saver Mode** is enabled.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.1.1   Configuring Brightness

1   Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2   Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3   Press [▲/▼] to move to **Brightness** and press [/] on the product.
The following screen will appear.

PICTURE		Adjust the brightness
Brightness	100	level. Values closer to 100 mean a brighter screen.
Contrast	75	
Sharpness	60	
Eye Saver Mode	Off	
Game Mode	Off	
ˢᴬᴹˢᵁᴺᴳMAGICBright	Custom	
ˢᴬᴹˢᵁᴺᴳMAGICAngle	Off	

AUTO
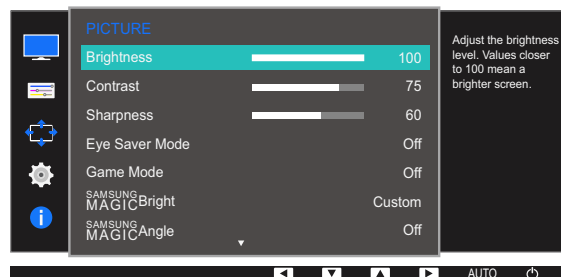
4   Adjust the **Brightness** using the [▲/▼] buttons.

5   The selected option will be applied.

3 Screen Setup

3.2 Contrast

Adjust the contrast between the objects and background. (Range: 0~100)

A higher value will increase the contrast to make the object appear clearer.

- This menu is not available when ^{SAMSUNG}MAGICBright is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.2.1 Configuring Contrast

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲/▼] to move to **Contrast** and press [/] on the product.
The following screen will appear.

PICTURE	
Brightness	100
Contrast	75
Sharpness	60
Eye Saver Mode	Off
Game Mode	Off
SAMSUNG MAGIC Bright	Custom
SAMSUNG MAGIC Angle	Off

Adjust the contrast level. Values closer to 100 mean a bigger light/dark contrast.
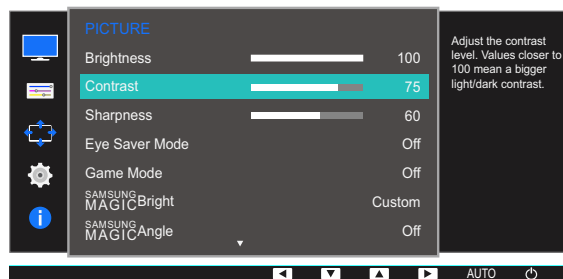
4 Adjust the **Contrast** using the [▲/▼] buttons.

5 The selected option will be applied.

Screen Setup

3.3   Sharpness

Make the outline of objects more clear or blurry. (Range: 0~100)

A higher value will make the outline of objects clearer.

> - This menu is not available when ^{SAMSUNG}MAGICBright is in **Cinema** or **Dynamic Contrast** mode.
> - This menu is not available when ^{SAMSUNG}MAGICUpscale is in **Mode1** or **Mode2**.
> - This menu is not available when **Game Mode** is enabled.
> - The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.3.1   Configuring Sharpness

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [ ] on the product.

3 Press [▲/▼] to move to **Sharpness** and press [ ] on the product.
The following screen will appear.

PICTURE		Adjust the sharpness of the picture. Values closer to 100 mean a sharper image.
Brightness	100	
Contrast	75	
Sharpness	60	
Eye Saver Mode	Off	
Game Mode	Off	
^{SAMSUNG}MAGICBright	Custom	
^{SAMSUNG}MAGICAngle	Off	

◄ ▼ ▲ ►   AUTO
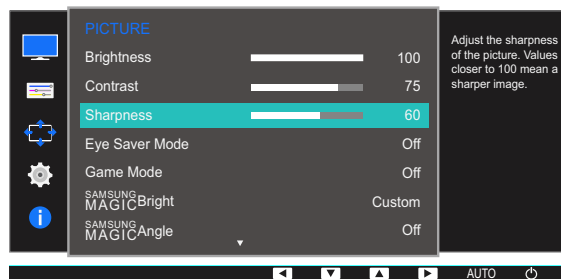
4 Adjust the **Sharpness** using the [▲/▼] buttons.

5 The selected option will be applied.

3.4 Eye Saver Mode

Set to an optimum picture quality suitable for eye relaxation.

TÜV Rheinland "Low Blue Light Content" is a certification for products which meet requirements for lower blue light levels. When **Eye Saver Mode** is '**On**', the blue light that wavelength is around 400nm will decrease, and it will provide an optimum picture quality suitable for eye relaxation. At the same time, the blue light level is lower than in the default settings, and it was tested by TÜV Rheinland and certified as it met the requirements of TÜV Rheinland "Low Blue Light Content" standards.

> The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.4.1 Configuring Eye Saver Mode

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲ / ▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲ / ▼] to move to **Eye Saver Mode** and press [/] on the product.
The following screen will appear.

PICTURE		
Brightness		100
Contrast		75
Sharpness		60
Eye Saver Mode	✓ Off	
Game Mode	On	
SAMSUNG MAGIC Bright		
SAMSUNG MAGIC Angle		Off

Set to an optimum picture quality suitable for eye relaxation.

AUTO
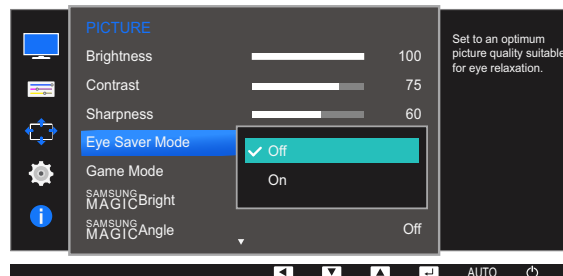
4 Press [▲ / ▼] to move to the option you want and press [/].

5 The selected option will be applied.

3.5   Game Mode

Configure the product screen settings for game mode. Use this feature when playing games on a PC or when a game console such as PlayStation™ or Xbox™ is connected.

> - This menu is not available when **Eye Saver Mode** or **Smart Eco Saving** is enabled.
> - The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.5.1   Configuring Game Mode

1   Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2   Press [▲/▼] to move to **PICTURE** and press [▢/☑] on the product.

3   Press [▲/▼] to move to **Game Mode** and press [▢/☑] on the product.

The following screen will appear.

PICTURE		
Brightness	▬▬▬▬▬	100
Contrast	▬▬▬▬	75
Sharpness	▬▬▬▬	60
Eye Saver Mode		
Game Mode	✓ Off	
SAMSUNG MAGICBright	On	
SAMSUNG MAGICAngle	Always On	

Optimizes image settings for playing games.

◄   ▼   ▲   ↵   AUTO   ⏻
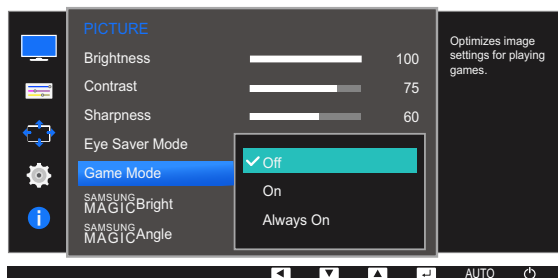
4   Press [▲/▼] to move to the option you want and press [▢/☑].

5   The selected option will be applied.

> - When the monitor turns off, enters power-saving mode or changes input sources, **Game Mode** turns **Off** even if it is set to **On**.
> - If you want to keep **Game Mode** enabled all the time, select **Always On**.

Screen Setup

3.6 SAMSUNG MAGIC Bright

This menu provides an optimum picture quality suitable for the environment where the product will be used.

- This menu is not available when Smart Eco Saving is set.
- This menu is not available when Game Mode is enabled.
- This menu is not available when Eye Saver Mode is enabled.
- This menu is not available when ^SAMSUNG^MAGIC^Angle is enabled.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

You can customize the brightness to suit your preferences.

3.6.1 Configuring SAMSUNG MAGIC Bright

1 Press any button on the front of the product to display the Key Guide. Next, press [MENU] to display the corresponding menu screen.

2 Press [▲/▼] to move to PICTURE and press [/] on the product.

3 Press [▲/▼] to move to ^SAMSUNG^MAGIC^Bright and press [/] on the product.
The following screen will appear.

In PC mode

	PICTURE		
	Brightness	100	Set to an optimum picture quality suitable for the working environment.
	Contrast	75	
	Sharpness		
	Eye Saver Mode	✔ Custom	
	Game Mode	Standard	
	^SAMSUNG^MAGIC^Bright	Cinema	
	^SAMSUNG^MAGIC^Angle	Dynamic Contrast	

◄ ▼ ▲ ↵ AUTO ⏻
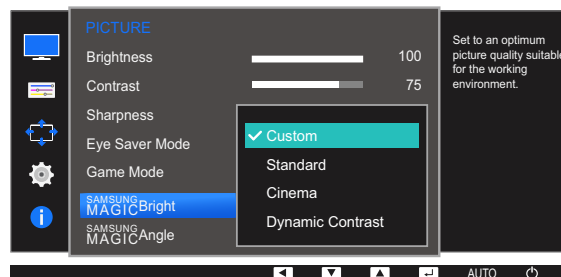
- **Custom**: Customize the contrast and brightness as required.
- **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
- **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
- **Dynamic Contrast**: Obtain balanced brightness through automatic contrast adjustment.

4 Press [▲/▼] to move to the option you want and press [/].

5 The selected option will be applied.

Screen Setup

3.7   SAMSUNG MAGIC Angle

^{SAMSUNG}_{MAGIC}**Angle** allows you to configure the settings to obtain the optimum picture quality according to your viewing angle.

- This menu is not available when ^{SAMSUNG}_{MAGIC}**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** or **Eye Saver Mode** is enabled.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

You can customize the angle to suit your preferences.

3.7.1   Configuring SAMSUNG MAGIC Angle

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲/▼] to move to ^{SAMSUNG}_{MAGIC}**Angle** and press [/] on the product.

The following screen will appear.

PICTURE		
Brightness		100
Contrast		
Sharpness		
Eye Saver Mode	✔ Off	
Game Mode	Lean Back Mode 1	
^{SAMSUNG}_{MAGIC}Bright	Lean Back Mode 2	
^{SAMSUNG}_{MAGIC}Angle	Standing Mode	
	Side Mode	

Select an angle that best suits your viewing position.
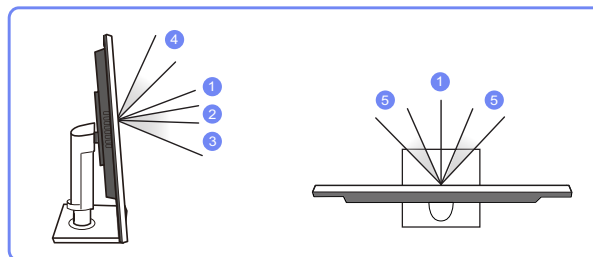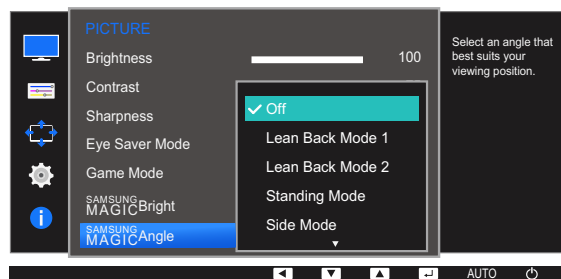
- **Off** ①: Select this option to view directly in front of the product.
- **Lean Back Mode 1** ②: Select this option to view from a place slightly lower than the product.
- **Lean Back Mode 2** ③: Select this option to view from a place lower than **Lean Back Mode 1**.
- **Standing Mode** ④: Select this option to view from a place higher than the product.
- **Side Mode** ⑤: Select this option to view from either side of the product.
- **Group View**: Select this option for more than one viewer to view from places ①, ④, and ⑤.
- **Custom**: **Lean Back Mode 1** will be applied by default if **Custom** is selected.

Screen Setup

4 Press [/] to move to the option you want and press [/].

5 The selected option will be applied.

Screen Setup

3.8   SAMSUNG MAGIC Upscale

^{SAMSUNG}_{MAGIC}Upscale function can enhance the layers of the picture details and the vividness of the picture.

- The function has more obvious effects on low-resolution pictures.
- 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.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.8.1   Configuring SAMSUNG MAGIC Upscale

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲/▼] to move to ^{SAMSUNG}_{MAGIC}Upscale and press [/] on the product. The following screen will appear.
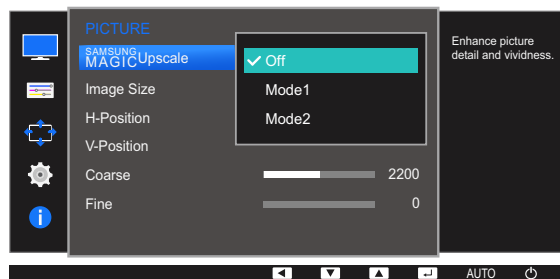
Comparing with **Mode1**, **Mode2** has a stronger effect.

4 Press [▲/▼] to move to the option you want and press [/].

5 The selected option will be applied.

Screen Setup

3.9   Image Size

Change the picture size.

> The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.9.1   Changing the Image Size

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲/▼] to move to **Image Size** and press [/] on the product. The following screen will appear.

In **PC** mode
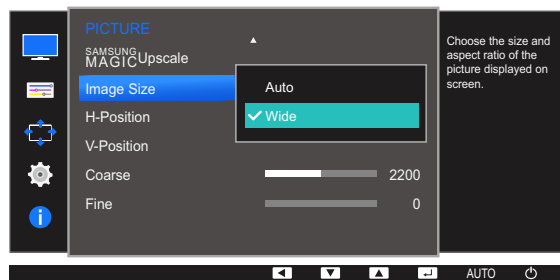
- Auto: Display the picture according to the aspect ratio of the input source.
- Wide: Display the picture in full screen regardless of the aspect ratio of the input source.

Screen Setup

In **AV** mode
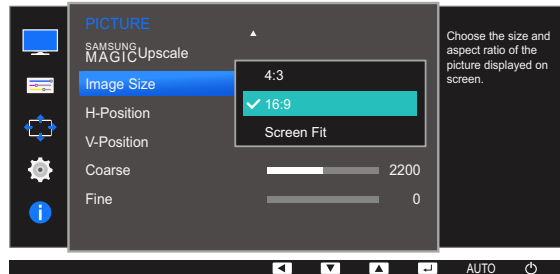
- **4:3**: Display the picture with an aspect ratio of 4:3. Suitable for videos and standard broadcasts.
- **16:9**: Display the picture with an aspect ratio of 16:9.
- **Screen Fit**: Display the picture with the original aspect ratio without cutting off.

 Changing the screen size is available when the following conditions are satisfied.
- A digital output device is connected using the DVI/HDMI/DP cable.
- The input signal is 480p, 576p, 720p, or 1080p and monitor can display normally (not every model can support all of these signals).
- This can only be set when the external input is connected through DVI/HDMI/DP and **PC/AV Mode** is set to **AV**.

4 Press [/] to move to the option you want and press [/].

5 The selected option will be applied.

Screen Setup

3.10 H-Position & V-Position

H-Position: Move the screen to the left or right.

V-Position: Move the screen up or down.

- This menu is available in **Analog** mode.
- This menu is only available when **Image Size** is set to **Screen Fit** in **AV** Mode. When a 480P or 576P or 720P or 1080P signal is input in **AV** mode and the monitor can display normally ,select **Screen Fit** to adjust horizontal position in 0-6 levels.
- The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.10.1 Configuring H-Position & V-Position

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [▢/▣] on the product.

3 Press [▲/▼] to move to **H-Position** or **V-Position**, and press [▢/▣]. The following screen will appear.

PICTURE				Move the image displayed on the screen to the left or right.
SAMSUNG MAGIC Upscale		Off		
Image Size		Wide		
H-Position	▬▬▬	50		
V-Position	▬▬	50		
Coarse	▬▬▬	2200		
Fine	▬	0		

◀ ▼ ▲ ▶   AUTO ⏻

PICTURE				Move the image displayed on the screen up or down.
SAMSUNG MAGIC Upscale		Off		
Image Size		Wide		
H-Position	▬▬▬	50		
V-Position	▬▬	50		
Coarse	▬▬▬	2200		
Fine	▬	0		

◀ ▼ ▲ ▶   AUTO ⏻
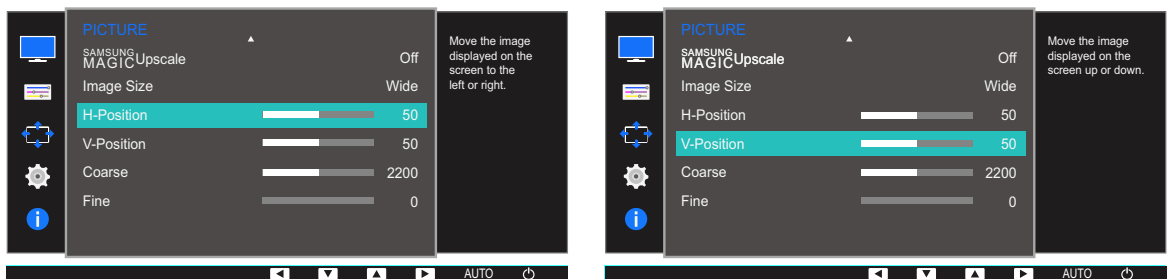
4 Press [▲/▼] to configure **H-Position** or **V-Position**.

5 The selected option will be applied.

Screen Setup

3.11 Coarse

Adjust the screen frequency.

 - This menu is available in **Analog** mode only.
 - The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.11.1 Adjusting Coarse

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **PICTURE** and press [/] on the product.

3 Press [/] to move to **Coarse** and press [/] on the product. The following screen will appear.

PICTURE		
SAMSUNG MAGIC Upscale		Off
Image Size		Wide
H-Position		50
V-Position		50
Coarse		2200
Fine		0

Adjust the screen frequency.

AUTO
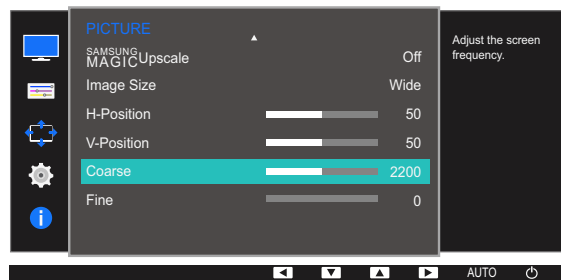
4 Adjust the **Coarse** using the [/] buttons.

5 The selected option will be applied.

Screen Setup

3.12   Fine

Fine-adjust the screen to obtain a vivid picture.

> - This menu is available in **Analog** mode only.
> - The functions available on the monitor may vary depending on the model. Refer to the actual product.

3.12.1   Adjusting Fine

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **PICTURE** and press [/] on the product.

3 Press [▲/▼] to move to **Fine** and press [/] on the product. The following screen will appear.

PICTURE		
SAMSUNG MAGIC Upscale		Off
Image Size		Wide
H-Position		50
V-Position		50
Coarse		2200
Fine		0

Fine-tune the screen to get a vivid picture.

◀ ▼ ▲ ▶   AUTO ⏻
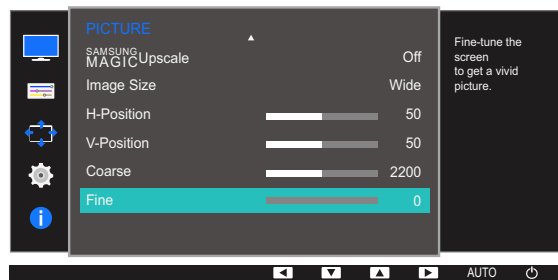
4 Adjust the **Fine** using the [▲/▼] buttons.

5 The selected option will be applied.

Configuring Tint

A detailed description of each function is provided. Refer to your product for details.

Adjust the tint of the screen. This menu is not available when ^{SAMSUNG}_{MAGIC}**Bright** is in **Cinema** or **Dynamic Contrast** mode. This menu is not available when **Game Mode** or **Eye Saver Mode** is enabled.

4.1 Red

Adjust the value of the color red in the picture. (Range: 0~100)

A higher value will increase the intensity of the color.

4.1.1 Configuring Red

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **COLOR** and press [/] on the product.

3 Press [/] to move to **Red** and press [/] on the product.

The following screen will appear.

COLOR		
Red		50
Green		50
Blue		50
Color Tone		Normal
Gamma		Mode1

Adjust the red saturation level. Values closer to 100 mean greater intensity for the color.

◄ ▼ ▲ ►   AUTO
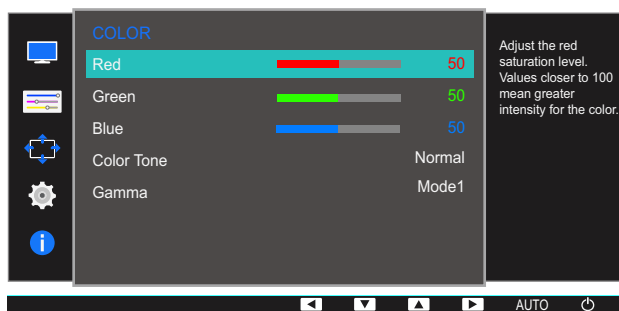
4 Adjust the **Red** using the [/] buttons.

5 The selected option will be applied.

4.2   Green

Adjust the value of the color green in the picture. (Range: 0~100)

A higher value will increase the intensity of the color.

4.2.1   Configuring Green

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **COLOR** and press [/] on the product.

3 Press [/] to move to **Green** and press [/] on the product.

The following screen will appear.

COLOR			Adjust the green saturation level. Values closer to 100 mean greater intensity for the color.
Red		50	
Green		50	
Blue		50	
Color Tone		Normal	
Gamma		Mode1	

AUTO
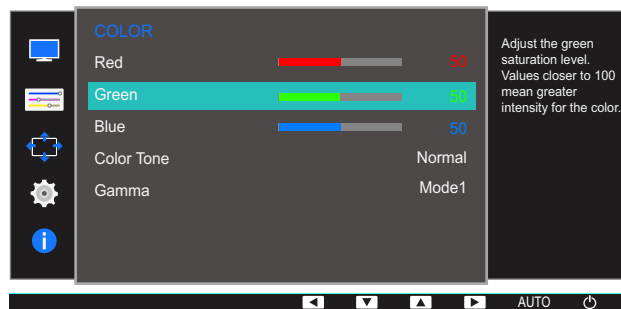
4 Adjust the **Green** using the [/] buttons.

5 The selected option will be applied.

4

Configuring Tint

4.3 Blue

Adjust the value of the color blue in the picture. (Range: 0~100)

A higher value will increase the intensity of the color.

4.3.1 Configuring Blue

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **COLOR** and press [/] on the product.

3 Press [/] to move to **Blue** and press [/] on the product.

The following screen will appear.

COLOR			
Red			50
Green			50
Blue			50
Color Tone			Normal
Gamma			Mode1

Adjust the blue saturation level. Values closer to 100 mean greater intensity for the color.

AUTO
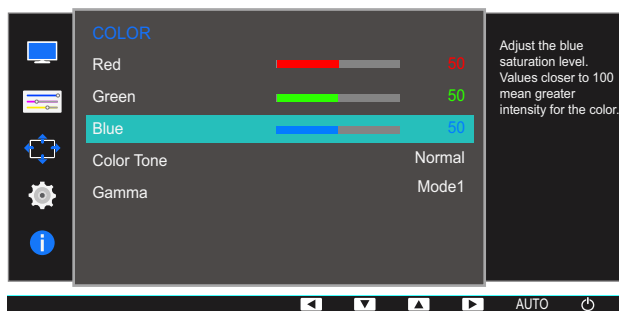
4 Adjust the **Blue** using the [/] buttons.

5 The selected option will be applied.

Configuring Tint

4.4 Color Tone

Adjust the general color tone of the picture.

 This menu is not available when $^{\text{SAMSUNG}}_{\text{MAGIC}}$Angle is enabled.

4.4.1 Configuring the Color Tone Settings

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **COLOR** and press [/] on the product.

3 Press [/] to move to **Color Tone** and press [/] on the product.

The following screen will appear.

	COLOR		Select a color tone that best suits your viewing needs.
	Red	50	
	Green		
	Blue	Cool 2	
	Color Tone	Cool 1	
	Gamma	✓ Normal	
		Warm 1	
		Warm 2	
		AUTO	
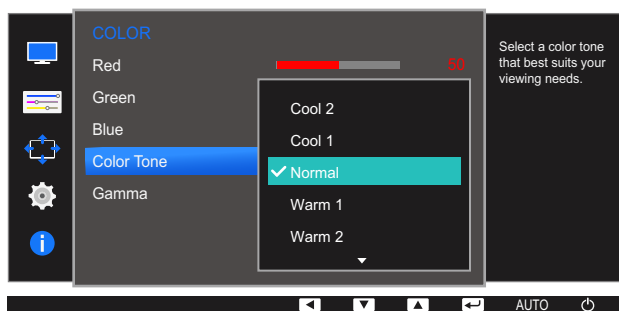
 Cool 2: Set the color temperature to be cooler than **Cool 1**.

 Cool 1: Set the color temperature to be cooler than **Normal** mode.

 Normal: Display the standard color tone.

 Warm 1: Set the color temperature to be warmer than **Normal** mode.

 Warm 2: Set the color temperature to be warmer than **Warm 1**.

 Custom : Customize the color tone.

4 Press [/] to move to the option you want and press [/].

5 The selected option will be applied.

4.5 Gamma

Adjust the mid-range brightness (Gamma) of the picture.

> This menu is not available when ^{SAMSUNG}MAGIC**Angle** is enabled.

4.5.1 Configuring Gamma

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **COLOR** and press [/] on the product.

3 Press [▲/▼] to move to **Gamma** and press [/] on the product.
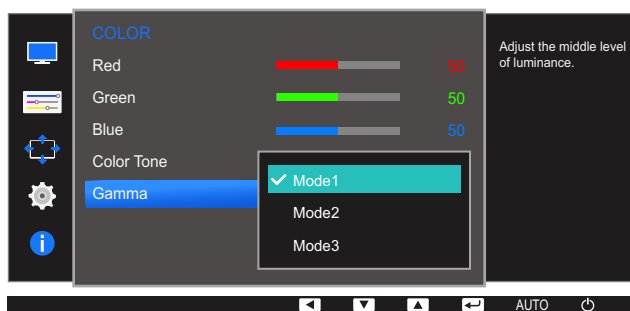
The following screen will appear.

COLOR			Adjust the middle level of luminance.
Red		50	
Green		50	
Blue		50	
Color Tone			
Gamma	✔ Mode1		
	Mode2		
	Mode3		

AUTO

4 Press [▲/▼] to move to the option you want and press [/].

5 The selected option will be applied.

Resizing or Relocating the Screen

A detailed description of each function is provided. Refer to your product for details.

5.1   Language

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.

5.1.1   Changing the Language

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲ / ▼] to move to **MENU SETTINGS** and press [/] on the product.

3 Press [▲ / ▼] to move to **Language** and press [/] on the product.
The following screen will appear.

MENU SETTINGS		Set the menu language.
Language	Deutsch	
Menu H-Position	✓ English	
Menu V-Position	Español	
Display Time	Français	
Transparency	Italiano ▼	

AUTO

4 Press [▲ / ▼] to move to the language you want and press [/].

5 The selected option will be applied.

Resizing or Relocating the Screen

5.2   Menu H-Position & Menu V-Position

Menu H-Position: Move the menu position to the left or right.

Menu V-Position: Move the menu position up or down.

### 5.2.1   Configuring Menu H-Position & Menu V-Position

1   Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2   Press [▲ / ▼] to move to **MENU SETTINGS** and press [▱ / ▱] on the product.

3   Press [▲ / ▼] to move to **Menu H-Position** or **Menu V-Position**, and press [▱ / ▱].

      The following screen will appear.

MENU SETTINGS		Move the menu position to the left or right.
Language	English	
Menu H-Position	100	
Menu V-Position	1	
Display Time	20 sec	
Transparency	On	

◀ ▼ ▲ ▶   AUTO

MENU SETTINGS		Move the menu position up or down.
Language	English	
Menu H-Position	100	
Menu V-Position	1	
Display Time	20 sec	
Transparency	On	
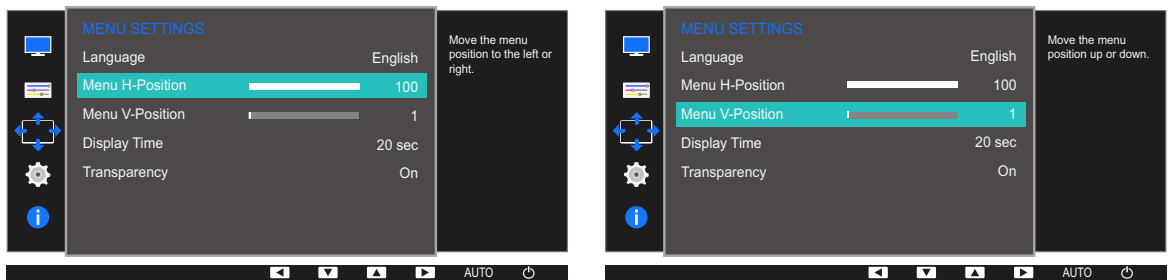
◀ ▼ ▲ ▶   AUTO

4   Press [▲ / ▼] to configure **Menu H-Position** or **Menu V-Position**.

5   The selected option will be applied.

5

Resizing or Relocating the Screen

5.3 Display Time

Set the on-screen display (OSD) menu to automatically disappear if the menu is not used for a specified period of time.

Display Time can be used to specify the time after which you want the OSD menu to disappear.

5.3.1 Configuring Display Time

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **MENU SETTINGS** and press [／] on the product.

3 Press [▲/▼] to move to **Display Time** and press [／] on the product.
   The following screen will appear.
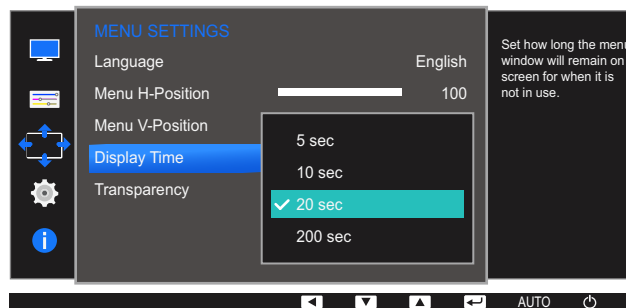
```
                MENU SETTINGS
                Language                    English      Set how long the menu
                                                         window will remain on
                Menu H-Position                   100    screen for when it is
                                                         not in use.
                Menu V-Position
                Display Time         5 sec
                Transparency         10 sec
                                   ✓ 20 sec
                                     200 sec

                      ◄    ▼    ▲    ↵    AUTO    ⏻
```

4 Press [▲/▼] to move to the option you want and press [／].

5 The selected option will be applied.

Resizing or Relocating the Screen

5.4 Transparency

Set the transparency for the menu windows.

5.4.1 Changing Transparency

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **MENU SETTINGS** and press [/] on the product.

3 Press [/] to move to **Transparency** and press [/] on the product.
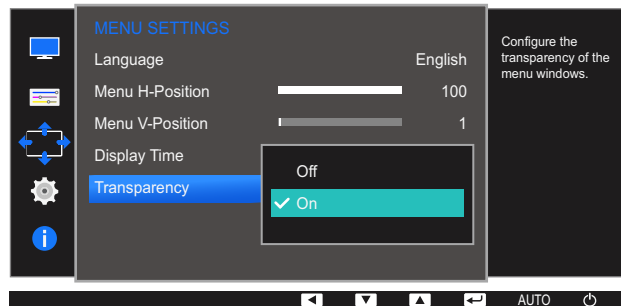
The following screen will appear.

MENU SETTINGS		
Language		English
Menu H-Position		100
Menu V-Position		1
Display Time		
Transparency	Off	
	✓ On	

Configure the transparency of the menu windows.

AUTO

4 Press [/] to move to the option you want and press [/].

5 The selected option will be applied.

6

Setup and Reset

A detailed description of each function is provided. Refer to your product for details.

6.1 Reset All

Return all the settings for the product to the default factory settings.

> 📝 The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.1.1 Initializing Settings (Reset All)

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **SETUP&RESET** and press [/] on the product.

3 Press [▲/▼] to move to **Reset All** and press [/] on the product.

The following screen will appear.

SETUP&RESET		Return all the
Reset All		settings for the product to the
Smart Eco Saving	Off	default factory
Off Timer Plus	►	settings.
PC/AV Mode	►	
Key Repeat Time	Acceleration	
Source Detection	Auto	

◄ ▼ ▲ ►   AUTO ⏻

All the menu settings will be reset
to default.
Are you sure you want to reset?

Yes   No

✕   ◄   ►   ↵   AUTO   ⏻

4 Press [▲/▼] to move to the option you want and press [/].

5 The selected option will be applied.

6 **Setup and Reset**

6.2   Smart Eco Saving

The **Smart Eco Saving** function reduces power consumption by controlling the electric current used by the monitor panel.

> - This menu is not available when **Eye Saver Mode** is enabled.
> - **Game Mode** will automatically turn off when **Smart Eco Saving** is enabled.
> - The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.2.1   Configuring Smart Eco Saving

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **SETUP&RESET** and press [/] on the product.

3 Press [▲/▼] to move to **Smart Eco Saving** and press [/] on the product.
   The following screen will appear.

SETUP&RESET		Adjust the power consumption of the product to save energy automatically
Reset All		
Smart Eco Saving	✔ Off	
Off Timer Plus	On	
PC/AV Mode		
Key Repeat Time	Acceleration	
Source Detection	Auto	
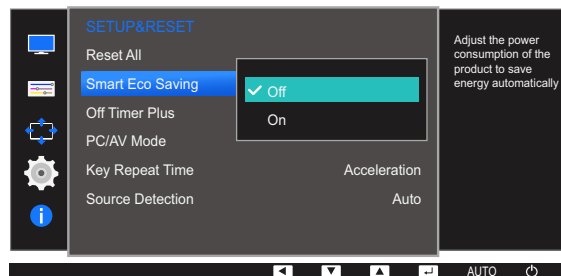
◁ ▽ △ ↵   AUTO ⏻

- **Off**: Deactivate the **Smart Eco Saving** function.
- **On**: The power consumption will automatically be reduced by about 10% over the current setting. (The reduction of power consumption depends on the customer screen brightness condition.)

4 Press [▲/▼] to move to the option you want and press [/].

5 The selected option will be applied.

6.3 Off Timer Plus

You can set the product to automatically turn off.

⬗ The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.3.1 Configuring Off Timer

Off Timer

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **SETUP&RESET** and press [/] on the product.

3 Press [▲/▼] to move to **Off Timer Plus** and press [/] on the product.

4 Press [▲/▼] to move to **Off Timer** and press [/] on the product.

5 Press [▲/▼] to move to **Off Timer** and press [/] on the product.

The following screen will appear.

SETUP&RESET		Set the monitor to automatically turn off after a certain time period.
Reset All		
Smart Eco Saving	Off	
Off Timer Plus	►	
PC/AV Mode	►	
Key Repeat Time	Acceleration	
Source Detection	Auto	

◄ ▼ ▲ ►   AUTO

Off Timer Plus		Enable or disable the Off Timer.
Off Timer	►	
Eco Timer	►	

◄ ▼ ▲ ↵   AUTO

Off Timer		Enable or disable the Off Timer.
Off Timer	✔ Off	
Turn Off After	On	

◄ ▼ ▲ ↵   AUTO

6 Setup and Reset

- ● **Off**: Deactivate the off timer so that the product does not power off automatically.
- ● **On**: Activate the off timer so that the product powers off automatically.

6 Press [▲/▼] to move to the option you want and press [/].

7 The selected option will be applied.

Turn Off After

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **SETUP&RESET** and press [/] on the product.

3 Press [▲/▼] to move to **Off Timer Plus** and press [/] on the product.

4 Press [▲/▼] to move to **Off Timer** and press [/] on the product.

5 Press [▲/▼] to move to **Turn Off After** and press [/] on the product.

The following screen will appear.
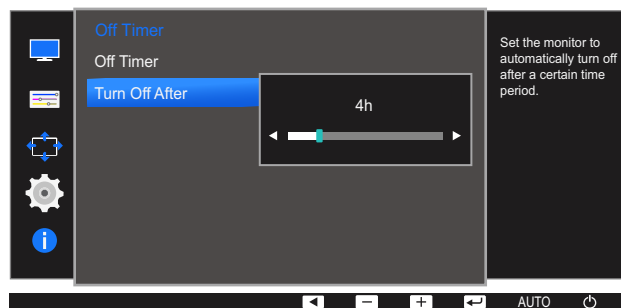
6 Press [▲/▼] to configure **Turn Off After**.

7 The selected option will be applied.

- ● The off timer can be set within a range of 1 to 23 hours. The product will automatically power off after the specified number of hours.
- ● This option is only available when **Off Timer** is set to **On**.
- ● For products for the market in some regions, the **Off Timer** is set to automatically activate 4 hours after the product powers on. This is done in accordance with power supply regulations. If you do not want the timer to activate, go to **MENU** → **SETUP&RESET** → **Off Timer Plus** and set **Off Timer** to **Off**.

6

Setup and Reset

6.3.2 Configuring Eco Timer

Eco Timer

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲ / ▼] to move to **SETUP&RESET** and press [/   ] on the product.

3 Press [▲ / ▼] to move to **Off Timer Plus** and press [/   ] on the product.

4 Press [▲ / ▼] to move to **Eco Timer** and press [/   ] on the product.

5 Press [▲ / ▼] to move to **Eco Timer** and press [/   ] on the product.

The following screen will appear.

- ● **Off**: Deactivate the eco timer to disable the automatic power off feature. The product will not power off while in power-saving mode if this feature is deactivated.

- ● **On**: Activate the eco timer so that the product powers off automatically when it has been in power-saving mode for a specified period of time.

6 Press [▲ / ▼] to move to the option you want and press [/   ].

7 The selected option will be applied.

Setup and Reset

Eco Off After

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲ / ▼] to move to **SETUP&RESET** and press [/] on the product.

3 Press [▲ / ▼] to move to **Off Timer Plus** and press [/] on the product.

4 Press [▲ / ▼] to move to **Eco Timer** and press [/] on the product.

5 Press [▲ / ▼] to move to **Eco Off After** and press [/] on the product.

The following screen will appear.
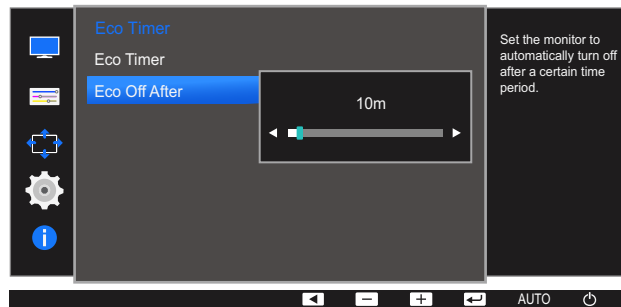
6 Press [▲ / ▼] to configure **Eco Off After**.

7 The selected option will be applied.

> - The Eco timer can be set between 10 and 180 minutes. The product will automatically power off after the specified time has elapsed.
> - This option is only available when **Eco Timer** is set to **On**.

6   Setup and Reset

6.4   PC/AV Mode

Set **PC/AV Mode** to **AV**. The picture size will be enlarged. This option is useful when you view a movie.

- This function does not support Analog mode.
- Supplied for the wide models only such as 16:9 or 16:10.
- If the monitor (when set to DVI/HDMI/DP) is in power saving mode or is displaying the message **Check Signal Cable**, press the [**MENU**] button to display the On Screen Display (OSD). You can select **PC** or **AV**.
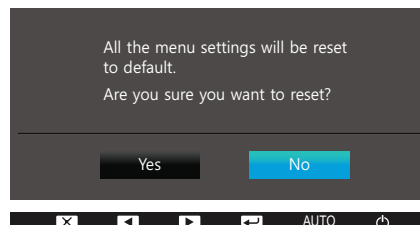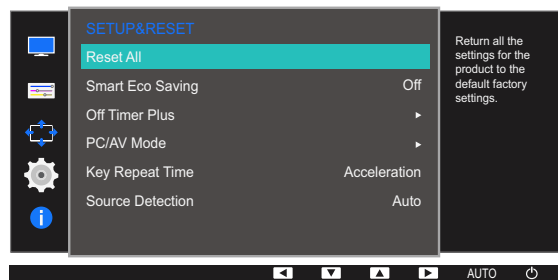- The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.4.1   Configuring PC/AV Mode

1   Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2   Press [▲/▼] to move to **SETUP&RESET** and press [/] on the product.

3   Press [▲/▼] to move to **PC/AV Mode** and press [/] on the product.
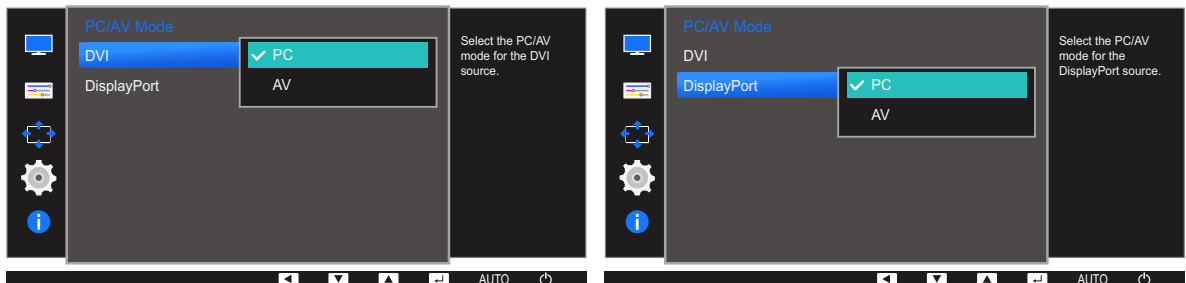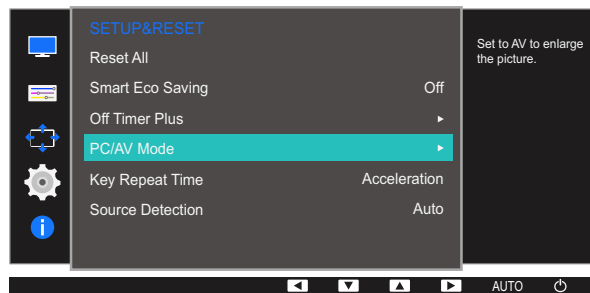
The following screen will appear.

SETUP&RESET		Set to AV to enlarge the picture.
Reset All		
Smart Eco Saving	Off	
Off Timer Plus	▶	
PC/AV Mode	▶	
Key Repeat Time	Acceleration	
Source Detection	Auto	

◀ ▼ ▲ ▶   AUTO

PC/AV Mode			Select the PC/AV mode for the DVI source.
DVI	✔ PC		
DisplayPort	AV		

◀ ▼ ▲ ↵   AUTO

PC/AV Mode			Select the PC/AV mode for the DisplayPort source.
DVI			
DisplayPort	✔ PC		
	AV		

◀ ▼ ▲ ↵   AUTO

4   Press [▲/▼] to move to the option you want and press [/].

5   The selected option will be applied.

6   Setup and Reset

6.5   Key Repeat Time
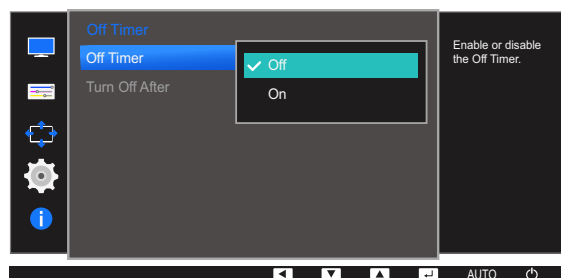
Control the response rate of a button when the button is pressed.

> The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.5.1   Configuring Key Repeat Time

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **SETUP&RESET** and press [▢/▢] on the product.

3 Press [▲/▼] to move to **Key Repeat Time** and press [▢/▢] on the product.

The following screen will appear.

SETUP&RESET		Configure the response rate of a button when the button is pressed.
Reset All		
Smart Eco Saving	Off	
Off Timer Plus		
PC/AV Mode		
Key Repeat Time	✓ Acceleration	
Source Detection	1 sec	
	2 sec	
	No Repeat	

◄ ▼ ▲ ↵   AUTO   ⏻
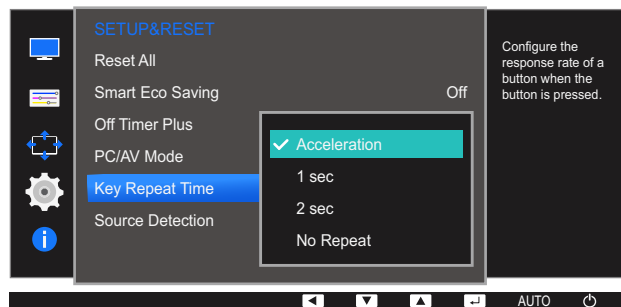
• **Acceleration**, **1 sec**, or **2 sec** can be selected. If **No Repeat** is selected, a command responds only once when a button is pressed.

4 Press [▲/▼] to move to the option you want and press [▢/▢].

5 The selected option will be applied.

6 Setup and Reset **70**

Setup and Reset
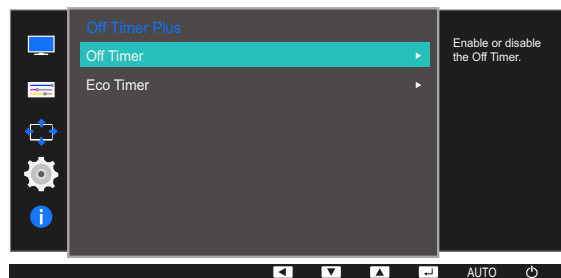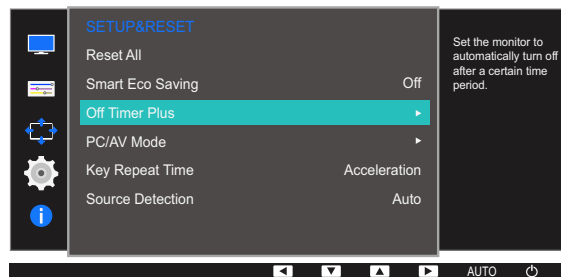
6.6   Source Detection

You can activate **Source Detection**.

 The functions available on the monitor may vary depending on the model. Refer to the actual product.

6.6.1   Configuring Source Detection

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [/] to move to **SETUP&RESET** and press [/] on the product.

3 Press [/] to move to **Source Detection** and press [/] on the product.

The following screen will appear.

SETUP&RESET		Decide how input
Reset All		sources will be
Smart Eco Saving	Off	detected.
Off Timer Plus	▶	
PC/AV Mode	▶	
Key Repeat Time		
Source Detection	✔ Auto	
	Manual	
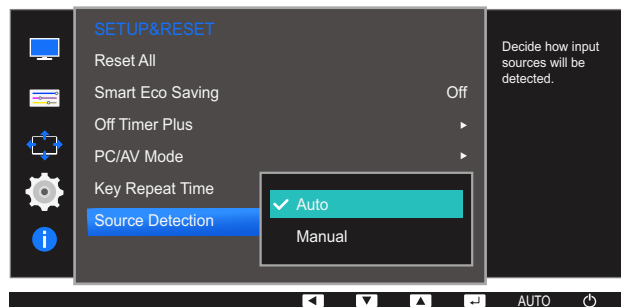
◄   ▼   ▲   ↵   AUTO   ⏻

- **Auto**: The input source is automatically recognized.
- **Manual**: Manually select an input source.

4 Press [/] to move to the option you want and press [/].

5 The selected option will be applied.

INFORMATION Menu and Others

A detailed description of each function is provided. Refer to your product for details.

7.1   INFORMATION

View the current input source, frequency and resolution.

7.1.1   Displaying INFORMATION

1 Press any button on the front of the product to display the Key Guide. Next, press [**MENU**] to display the corresponding menu screen.

2 Press [▲/▼] to move to **INFORMATION**. The current input source, frequency and resolution will appear.

PICTURE	**INFORMATION**
COLOR	LS********/**
MENU SETTINGS	S / N : **************
SETUP&RESET	Analog
INFORMATION	**kHz **Hz **
	**** x ****
	Optimal Mode
	**** x **** **Hz

☒ ▼ ▲ ▶ AUTO ⏻

PICTURE	**INFORMATION**
COLOR	LS********/**
MENU SETTINGS	S / N : **************
SETUP&RESET	DVI
INFORMATION	**kHz **Hz **
	**** x ****
	Optimal Mode
	**** x **** **Hz

☒ ▼ ▲ ▶ AUTO ⏻

PICTURE	**INFORMATION**
COLOR	LS********/**
MENU SETTINGS	S / N : **************
SETUP&RESET	DisplayPort
INFORMATION	**kHz **Hz **
	**** x ****
	Optimal Mode
	**** x **** **Hz

☒ ▼ ▲ ▶ AUTO ⏻
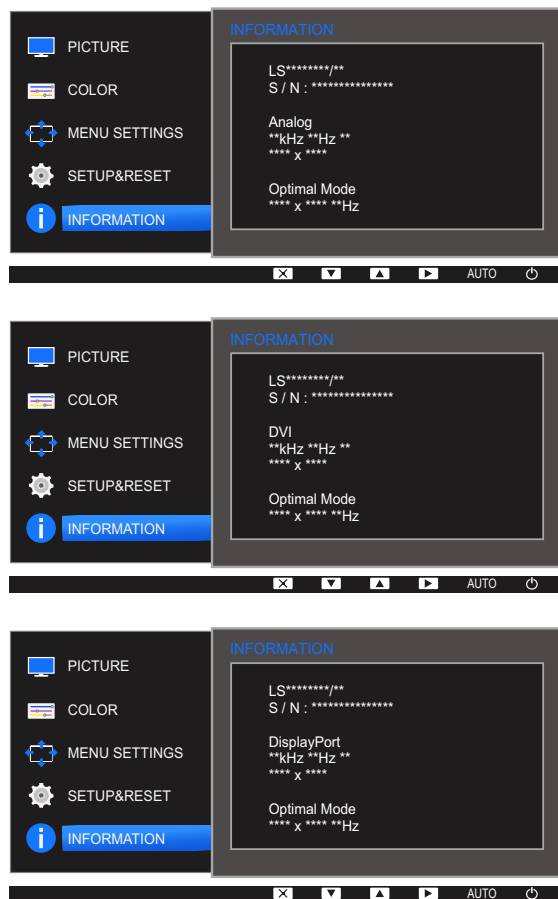
> 🖉 The displayed menu items may vary depending on the model.

7.2 Configuring Brightness, Contrast and Sharpness from the Initial Screen

Adjust the **Brightness**, **Contrast** and **Sharpness** setting using the [ ] buttons in the initial screen (where no OSD menu is displayed).

 Brightness :

- This menu is not available when ^{SAMSUNG}_{MAGIC}**Bright** is set to **Dynamic Contrast** mode.
- This menu is not available when **Smart Eco Saving** is enabled.
- This menu is not available when **Eye Saver Mode** is enabled.

 Contrast :

- This option is not available when ^{SAMSUNG}_{MAGIC}**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.

 Sharpness :

- This option is not available when ^{SAMSUNG}_{MAGIC}**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.

1 Press any button on the front of the product (when no menu screen is displayed) to display the Key guide. Next, press the [ ] button. The following screen will appear.

Sharpness		
Brightness ◄ ▬▬▬▬▬▬▮ ►	100	
∨ Contrast		
☒ ▭ ⊞ ▽		

2 Press the [/] button to alternate between the **Brightness**, **Contrast** and **Sharpness** settings.

3 Adjust the **Brightness**, **Contrast** and **Sharpness** settings using the [▲/▼] buttons.

8 Installing the Software

8.1   MultiScreen

MultiScreen

"MultiScreen" enables users to use the monitor by partitioning multiple sections.

8.1.1   Installing the Software

1 Insert the installation CD into the CD-ROM drive.

2 Select the "MultiScreen" setup program.

> If the pop-up screen for the software installation does not appear on the main screen, find and double-click the "MultiScreen" setup file on the CD-ROM.

3 When the Installation Wizard appears, click "Next".

4 Complete the remaining software installation steps according to the instructions displayed on the screen.

> - The software may not work properly if you do not restart the computer after the installation.
> - The "MultiScreen" icon may not appear depending on the computer system and the product specifications.
> - If the shortcut icon does not appear, press the F5 key.

Restrictions and Problems with the Installation ("MultiScreen")

The "MultiScreen" installation may be affected by the Graphics Card, Motherboard and the Networking Environment.

System Requirements

OS

- Windows™ 2000
- Windows XP Home Edition
- Windows XP Professional
- Windows Vista 32Bit
- Windows 7 32Bit
- Windows 8 32Bit

> For "MultiScreen", the operating systems Windows 2000 or later is recommended.

Installing the Software

Hardware

- At least 32MB of memory

- At least 60MB of free space on the hard disk drive

8.1.2   Removing the Software

Click **Start**, select **Settings**/**Control Panel**, and then double-click **Add or Remove Programs**.

Select "MultiScreen" from the program list and click the **Add/Delete** button.

9   Troubleshooting Guide

9.1   Requirements Before Contacting Samsung Customer Service Center

9.1.1   Testing the Product

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

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.

9.1.2   Checking the Resolution and Frequency

For a mode that exceeds the supported resolution (refer to "10.6Standard Signal Mode Table"), the message **Not Optimum Mode** will appear for a short time.

9.1.3   Check the following.

Installation issue (PC mode)

Issues	Solutions
The screen keeps switching on and off.	Check the cable connection between the product and PC, and ensure the connectors are locked. (Refer to "2.2Connecting and Using a PC")

Troubleshooting Guide

Screen issue

Issues	Solutions
The power LED is off. The screen will not switch on.	Check that the power cable is connected properly. (Refer to "2.2Connecting and Using a PC")
The message **Check Signal Cable** appears.	Check that the cable is properly connected to the product. (Refer to "2.2Connecting and Using a PC")
	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 (page 90).
The images on the screen look distorted.	Check the cable connection to the product (Refer to "2.2Connecting and Using a PC")
The screen is not clear. The screen is blurry.	Adjust **Coarse** (page 52) and **Fine** (page 53).
	Remove any accessories (video extension cable, etc.) and try again.
	Set the resolution and frequency to the recommended level.
The screen appears unstable and shaky.	Check that the resolution and frequency 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 (page 90) in this manual and the **INFORMATION** menu on the product.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust **Brightness** (page 40) and **Contrast** (page 41).
Screen color is inconsistent.	Change the **COLOR** settings. (Refer to "Configuring Tint")
The colors on the screen have a shadow and are distorted.	Change the **COLOR** settings. (Refer to "Configuring Tint")
White does not really look white.	Change the **COLOR** settings. (Refer to "Configuring Tint")

9 Troubleshooting Guide

Issues	Solutions
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.

Source device issue

Issues	Solutions
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.

 The LED lights on the frame of the product may be seen depending on the user's viewing angle. The light is harmless to people and has no bearing on product features and performance. The product is safe to use.

9 Troubleshooting Guide

9.2   Q & A

Question	Answer
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: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**.

Question	Answer
How can I change the resolution?	• Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings**, and adjust the resolution. • Windows ME/2000: Go to **Control Panel** → **Display** → **Settings**, and adjust the resolution. • Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings**, and adjust the resolution. • Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution. • Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution.
How do I set power-saving mode?	• Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC. • Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.

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

Specifications

10.1 General (S22C450D)

Model Name		S22C450D
Panel	Size	22 CLASS (21.5 inches / 54.6 cm)
	Display area	476.64 mm (H) x 268.11 mm (V) 18.8 Inches (H) x 10.6 Inches (V)
	Pixel Pitch	0.24825 mm (H) x 0.24825 mm (V) 0.009774 Inches (H) x 0.009774 Inches (V)
Power Supply		This product uses 100 to 240 V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Dimensions (W x H x D) / Weight	Without Stand	504.3 x 301.9 x 55.4 mm / 3.07 kg 19.9 x 11.9 x 2.2 Inches / 6.8 lbs
	With Stand	With USB: Min: 504.3 x 359.4 x 210.0 mm / 4.77 kg 19.9 x 14.1 x 8.3 Inches / 10.5 lbs Max: 504.3 x 489.4 x 210.0 mm / 4.77 kg 19.9 x 19.3 x 8.3 Inches / 10.5 lbs Without USB: Min: 504.3 x 325.3 x 210.0 mm / 4.57 kg 19.9 x 12.8 x 8.3 Inches / 10.1 lbs Max: 504.3 x 425.3 x 210.0 mm / 4.57 kg 19.9 x 16.7 x 8.3 Inches / 10.1 lbs
VESA Mounting Interface		100.0 mm x 100.0 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10% – 80%, non-condensing
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) 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.

Specifications

 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.

(USA only)
Dispose unwanted electronics through an approved recycler.
To find the nearest recycling location, go to our website:
www.samsung.com/recyclingdirect or call, (877) 278 - 0799

Specifications

10.2   General (S24C450D)

Model Name		S24C450D
Panel	Size	24 CLASS (24 inches / 60.9 cm)
	Display area	531.36 mm (H) x 298.89 mm (V) 20.9 Inches (H) x 11.8 Inches (V)
	Pixel Pitch	0.27675 mm (H) x 0.27675 mm (V) 0.010896 Inches (H) x 0.010896 Inches (V)
Power Supply		This product uses 100 to 240 V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Dimensions (W x H x D) / Weight	Without Stand	565.4 x 333.2 x 56.6 mm / 3.40 kg 22.3 x 13.1 x 2.2 Inches / 7.5 lbs
	With Stand	With USB: Min: 565.4 x 361.8 x 224.0 mm / 5.10 kg 22.3 x 14.2 x 8.8 Inches / 11.2 lbs Max: 565.4 x 491.8 x 224.0 mm / 5.10 kg 22.3 x 19.4 x 8.8 Inches / 11.2 lbs Without USB: Min: 565.4 x 356.8 x 224.0 mm / 5.10 kg 22.3 x 14.0 x 8.8 Inches / 11.2 lbs Max: 565.4 x 486.8 x 224.0 mm / 5.10 kg 22.3 x 19.2 x 8.8 Inches / 11.2 lbs
VESA Mounting Interface		100.0 mm x 100.0 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10% – 80%, non-condensing
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) 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.

10 Specifications

Specifications

 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.

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10 Specifications

10.3   General (S24C450DL)

Model Name		S24C450DL
Panel	Size	24 CLASS (23.6 inches / 59.8 cm)
	Display area	521.28 mm (H) x 293.22 mm (V) 20.5 Inches (H) x 11.5 Inches (V)
	Pixel Pitch	0.2715 mm (H) x 0.2715 mm (V) 0.010689 Inches (H) x 0.010689 Inches (V)
Power Supply		This product uses 100 to 240 V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Dimensions (W x H x D) / Weight	Without Stand	554.6 x 330.5 x 55.4 mm / 3.78 kg 21.8 x 13.0 x 2.2 Inches / 8.3 lbs
	With Stand	With USB: Min: 554.6 x 357.3 x 224.0 mm / 5.48 kg 21.8 x 14.1 x 8.8 Inches / 12.1 lbs Max: 554.6 x 487.3 x 224.0 mm / 5.48 kg 21.8 x 19.2 x 8.8 Inches / 12.1 lbs Without USB: Min: 554.6 x 352.3 x 224.0 mm / 5.48 kg 21.8 x 13.9 x 8.8 Inches / 12.1 lbs Max: 554.6 x 482.3 x 224.0 mm / 5.48 kg 21.8 x 19.0 x 8.8 Inches / 12.1 lbs
VESA Mounting Interface		100.0 mm x 100.0 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10% – 80%, non-condensing
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) 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.

10 Specifications

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.

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10 **Specifications**

10.4 General (S27C450D)

Model Name		S27C450D
Panel	Size	27 CLASS (27.0 inches / 68.5 cm)
	Display area	597.60 mm (H) x 336.15 mm (V) 23.5 Inches (H) x 13.2 Inches (V)
	Pixel Pitch	0.3114 mm (H) x 0.3114 mm (V) 0.01226 Inches (H) x 0.01226 Inches (V)
Power Supply		This product uses 100 to 240 V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Dimensions (W x H x D) / Weight	Without Stand	639.0 x 378.1 x 57.6 mm / 4.60 kg 25.2 x 14.9 x 2.3 Inches / 10.1 lbs
	With Stand	With USB: Min: 639.0 x 402.8 x 224.0 mm / 6.29 kg 25.2 x 15.9 x 8.8 Inches / 13.9 lbs Max: 639.0 x 532.8 x 224.0 mm / 6.29 kg 25.2 x 21.0 x 8.8 Inches / 13.9 lbs Without USB: Min: 639.0 x 397.8 x 224.0 mm / 6.29 kg 25.2 x 15.7 x 8.8 Inches / 13.9 lbs Max: 639.0 x 527.8 x 224.0 mm / 6.29 kg 25.2 x 20.8 x 8.8 Inches / 13.9 lbs
VESA Mounting Interface		100.0 mm x 100.0 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10% – 80%, non-condensing
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) 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.

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Specifications

10.5 PowerSaver

The power-saving function of this product reduces power consumption by switching off the screen and making the Power LED blink if the product is not used for a specified period of time. The power is not turned off in power-saving mode. To switch the screen back on, press any key on the keyboard or move the mouse. Power-saving mode functions only when the product is connected to a PC that has a power-saving function.

PowerSaver	Energy Star Power Consumption	Power saving mode	Power off (Power button)
Power Indicator	On	Blinking	Off
Power Consumption (S22C450D)	Typical 21 W	Typical 0.3 W	Typical 0.3 W
Power Consumption (S24C450D)	Typical 23 W	Typical 0.3 W	Typical 0.3 W
Power Consumption (S24C450DL)	Typical 22 W	Typical 0.3 W	Typical 0.3 W
Power Consumption (S27C450D)	Typical 29 W	Typical 0.3 W	Typical 0.3 W

- The displayed power consumption level can vary in different operating conditions or when settings are changed. (S**C450** Model Power saving mode / Power off (Power button) : Max 0.45 W)
- ENERGY STAR® is a US registered mark of the United States Environmental Protection Agency. Energy Star power is measured with the test method in the current Energy Star® Standard.
- To reduce the power consumption to 0, disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.)

Specifications

10.6 Standard Signal Mode Table

- 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. Therefore, 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 the screen size of your product.

- Check the frequency when you exchange a CDT monitor (connected to a PC) for an LCD monitor. If the LCD monitor does not support 85 Hz, change the vertical frequency to 60 Hz using the CDT monitor before you exchange it with the LCD monitor.

Model Name	Synchronization		Resolution	
	Horizontal Frequency	Vertical Frequency	Optimum Resolution	Maximum Resolution
S22C450D S24C450D S24C450DL S27C450D	30 – 81 kHz	56 – 75 Hz	1920 x 1080 @ 60 Hz	1920 x 1080 @ 60 Hz

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.

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

Specifications

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	+/+
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 900	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

 ● 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.

Appendix

Responsibility for the Pay Service (Cost to Customers)

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

Not a product defect

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

- If a service technician gives instructions on how to use product or simply adjusts options without disassembling product.
- If a defect is caused by external environmental factors. (Internet, Antenna, Wired Signal, etc.)
- If a product is reinstalled or devices are connected additionally after installing the purchased product for the first time.
- If a product is reinstalled to move to a different spot or to move to a different house.
- If customer requests instructions on how to use because of another company's product.
- If customer requests instructions on how to use the network or another company's program.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

- external impact or drop.
- use of supplies or separately sold product unspecified by Samsung.
- repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- remodeling or repairing the product by customer.
- using it with incorrect voltage or non-authorised electrical connections.
- not following the "cautions" in User Manual.

Others

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

Appendix

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

Appendix

Correct Disposal

Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

(Applicable in countries with separate collection systems)

This marking on the product, accessories or literature indicates that the product and its electronic accessories (e.g. charger, headset, USB cable) should not be disposed of with other household waste at the end of their working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate these items from other types of waste and recycle them responsibly to promote the sustainable reuse of material resources.

Household users should contact either the retailer where they purchased this product, or their local government office, for details of where and how they can take these items for environmentally safe recycling.

Business users should contact their supplier and check the terms and conditions of the purchase contract. This product and its electronic accessories should not be mixed with other commercial wastes for disposal.

Extended warranty

You can buy an extended warranty within 90 days of purchasing the product.

The extended warranty will cover an additional period of 3 years, beyond the standard 3 year warranty.

Samsung guarantee that replacement parts will be available for 5 years after the end of production.

After 5 years, in the event that the Samsung's service center has run out of replacement parts and

cannot repair the product, Samsung will replace your product at no additional charge. If the model you

purchased is no longer available, Samsung replace it with the current equivalent model.

Appendix

Terminology

OSD (On Screen Display)

On screen display (OSD) allows you to customize on-screen settings to optimize the picture quality as required. You can change the screen brightness, tint, size and many other settings using menus displayed on the screen.

Gamma

The Gamma menu adjusts the grey scale that represents middle tones on the screen. Adjusting the brightness brightens the whole screen, but adjusting Gamma only brightens the medium brightness.

Grey scale

Scale refers to levels of color intensity that show variations of color change from darker areas to brighter areas on the screen. Changes to the screen brightness are expressed with black and white variation, and grey scale refers to the medium area between black and white. Changing the grey scale through Gamma adjustment will change the medium brightness on the screen.

Scanning rate

Scanning rate, or refresh rate, refers to the frequency of screen refreshes. Screen data is transmitted as it refreshes to display an image, although the refreshing is invisible to the naked eye. The number of screen refreshes is called scanning rate and is measured in Hz. A scanning rate of 60Hz means that the screen refreshes 60 times per second. The screen scanning rate depends on the performance of the graphics cards in your PC and monitor.

Horizontal Frequency

Characters or images displayed on the monitor screen consist of numerous dots (pixels). Pixels are transmitted in horizontal lines, which are then arranged vertically to create an image. The horizontal frequency is measured in kHz and represents how many times horizontal lines per second are transmitted and displayed on the monitor screen. A horizontal frequency of 85 means that the horizontal lines that make up an image are transmitted 85000 times per second. The horizontal frequency is indicated in 85kHz.

Vertical Frequency

One image is made of numerous horizontal lines. The vertical frequency is measured in Hz and represents how many images can be created per second by those horizontal lines. A vertical frequency of 60 means that an image is transmitted 60 times per second. The vertical frequency is also called "refresh rate" and affects screen flicker.

Resolution

Resolution is the number of horizontal pixels and vertical pixels that form a screen. It represents the level of display detail.

A higher resolution displays a greater amount of information on the screen and is suitable for performing multiple tasks at the same time.

E.g. A resolution of 1920 x 1080 consists of 1920 horizontal pixels (horizontal resolution) and 1080 vertical lines (vertical resolution).

Plug & Play

The Plug & Play feature allows the automatic exchange of information between a monitor and PC to produce an optimum display environment.

The monitor uses VESA DDC (international standard) to execute Plug & Play.

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