

User Manual

SE200 SE450 SE650 SERIES

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.

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

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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.

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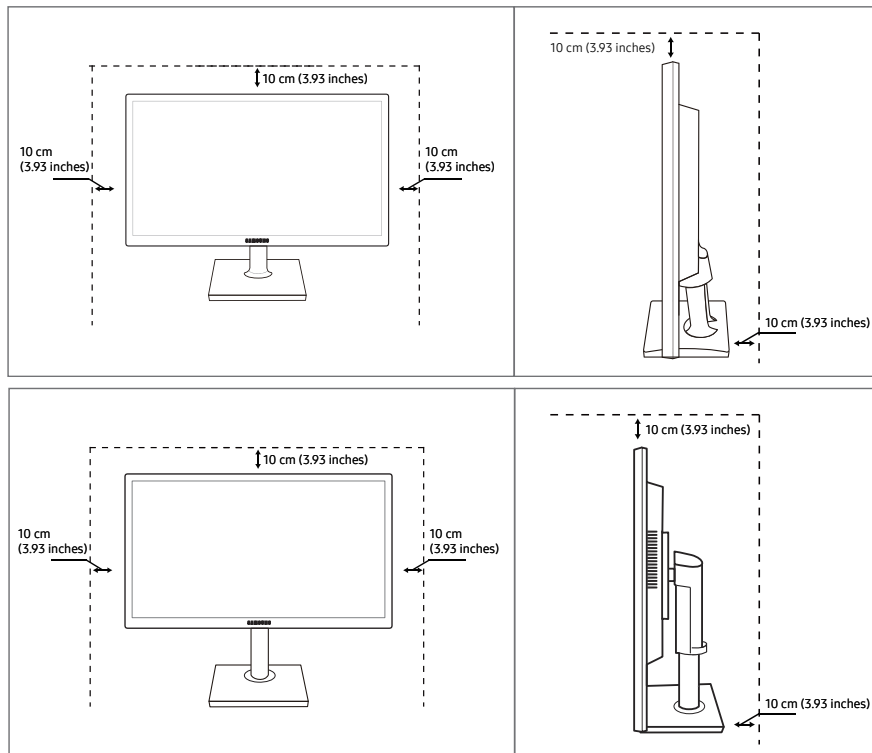
Chapter 01

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

High-glossy models can develop white stains on the surface if an ultrasonic wave humidifier is used nearby.

— Contact your nearest Samsung Customer Service Center if you want to clean the inside of the product (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.

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 product and computer.
- 2 Disconnect the power cord from the product.
 - Hold the power cable by the plug and do not touch the cable with wet hands. Otherwise, an electric shock may result.
- 3 Wipe the monitor with a clean, soft and dry cloth.
 - Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the monitor.
 - Do not spray water or detergent directly on the product.
- 4 Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.
- 5 Connect the power cord to the product when cleaning is finished.
- 6 Power on the product and computer.

Electricity and Safety

Warning

- Do not use a damaged power cord or plug, or a loose power socket.
- Do not use multiple products with a single power socket.
- Do not touch the power plug with wet hands.
- Insert the power plug all the way in so it is not loose.
- Connect the power plug to a grounded power socket (type 1 insulated devices only).
- Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.
- Do not place the power cord or product near heat sources.
- Clean any dust around the pins of the power plug or the power socket with a dry cloth.

Caution

- Do not disconnect the power cord while the product is being used.
- Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.
- Keep the power socket where the power cord is connected unobstructed.
 - The power cord must be disconnected to cut off power to the product when an issue occurs.
- Hold the plug when disconnecting the power cord from the power socket.

Installation

Warning

- DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.
- Do not install the product in poorly ventilated spaces such as a bookcase or closet.
- Install the product at least 10 cm away from the wall to allow ventilation.
- Keep the plastic packaging out of the reach of children.
 - Children may suffocate.
- Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.)
 - The product may fall and become damaged and/or cause an injury.
 - Using the product in an area with excess vibration may damage the product or cause a fire.
- Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.
- Do not expose the product to direct sunlight, heat, or a hot object such as a stove.
 - The product lifespan may be reduced or a fire may result.
- Do not install the product within the reach of young children.
 - The product may fall and injure children.
- Edible oil (such as soybean oil) may damage or distort the product. Keep the product away from oil pollution. And do not install or use the product in the kitchen or near the kitchen stove.

Caution

- Do not drop the product while moving.
- Do not set down the product on its front.
- When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.
 - The product may fall and become damaged and/or cause an injury.
 - Install the product only on cabinets or shelves of the right size.
- Set down the product gently.
 - Product failure or personal injury may result.
- Installing the product in an unusual place (a place exposed to a lot of fine dust, chemical substances, extreme temperatures or a significant presence of moisture, or a place where the product will operate continuously for an extended period of time) may seriously affect its performance.
 - Be sure to consult Samsung Customer Service Center if you want to install the product at such a place.

Operation

Warning

- There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.
 - Contact Samsung Customer Service Center for repairs.
- To move the product, first disconnect all the cables from it, including the power cable.
- If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.
- Do not let children hang from the product or climb on top of it.
 - Children may become injured or seriously harmed.
- If the product is dropped or the outer case is damaged, turn off the power and disconnect the power cord. Then contact Samsung Customer Service Center.
 - Continued use can result in a fire or electric shock.
- Do not leave heavy objects or items that children like (toys, sweets, etc.) on top of the product.
 - The product or heavy objects may fall as children try to reach for the toys or sweets resulting in a serious injury.
- During a lightning or thunderstorm, power off the product and remove the power cable.
- Do not drop objects on the product or apply impact.
- Do not move the product by pulling the power cord or any cable.
- If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.
- Do not lift or move the product by pulling the power cord or any cable.
- Do not use or keep combustible spray or an inflammable substance near the product.
- Ensure the vents are not blocked by tablecloths or curtains.
 - An increased internal temperature may cause a fire.
- Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).
 - Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.
- Do not place objects containing liquid (vases, pots, bottles, etc) or metallic objects on top of the product.
 - Be sure to power off the product and disconnect the power cord when water or other foreign substances have entered the product. Then contact Samsung Customer Service Center.

Caution

- Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.
 - Activate power-saving mode or a moving-picture screen saver if you will not be using the product for an extended period of time.
- Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).
 - Dust accumulation combined with heat can cause a fire, electric shock or electric leakage.
- Use the product at the recommended resolution and frequency.
 - Your eyesight may deteriorate.
- Do not hold the product upside-down or move it by holding the stand.
 - The product may fall and become damaged or cause an injury.
- Looking at the screen too close for an extended period of time can deteriorate your eyesight.
- Do not use humidifiers or stoves around the product.
- Rest your eyes for more than 5 minutes or look at distance objects for every 1 hour of product use.
- Do not touch the screen when the product has been turned on for an extended period of time as it will become hot.
- Store small accessories out of the reach of children.
- Exercise caution when adjusting the product angle or stand height.
 - Your hand or finger may get stuck and injured.
 - Tilting the product at an excessive angle may cause the product to fall and an injury may result.
- Do not place heavy objects on the product.
 - Product failure or personal injury may result.
- When using headphones or earphones, do not turn the volume too high.
 - Having the sound too loud may damage your hearing.

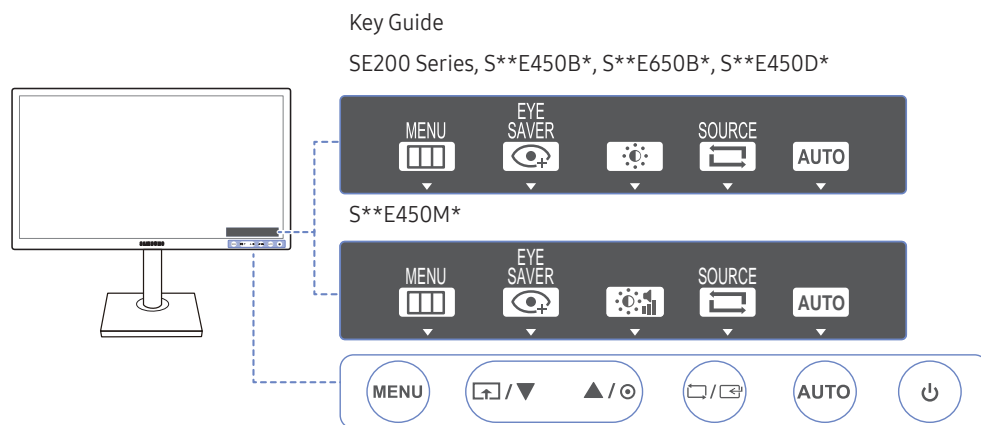
Chapter 02

Preparations





Parts

Frontal Buttons

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












Icons	Description
MENU	<p>Open or close the onscreen display (OSD) menu, or return to the parent menu.</p> <p>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.</p> <p>If the OSD control is locked, Brightness and Contrast can be adjusted. Eye Saver Mode is available. INFORMATION can be viewed.</p> <p>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.)</p>
	<p>Press to enable or disable Eye Saver Mode.</p> <p>The items below are not available if the Eye Saver Mode function is enable.</p> <ul style="list-style-type: none"> PICTURE → Brightness, Game Mode, MAGICBright, MAGICAngle COLOR SETUP&RESET → Smart ECO Saving
	<p>Move to the upper or lower menu or adjust the value for an option on the OSD menu.</p>
	<p>Use this button to control the brightness, contrast and sharpness of the screen. (Except S**E450M*)</p> <p>Use this button to control the brightness and contrast of the screen. (S**E450M*)</p> <p>Volume can be adjusted if a cable is connected to the IN port. (S**E450M*)</p>

Icons	Description
	<p>Confirm a menu selection.</p> <p>Pressing the  button when the OSD menu is not displayed will change the input source (Analog / DVI / DisplayPort (S**E450D*)). 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.</p> <p>— This function is not available for products with an Analog interface only.</p>
AUTO	<p>Press the AUTO button to automatically adjust the screen settings.</p> <p>— Changing the resolution in Display Properties will activate the Auto Adjustment function.</p> <p>— This function is only available in Analog mode.</p>
	Turn the screen on or off.
Key Guide	<p>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.)</p> <p>To access the onscreen menu when the guide is displayed, press the corresponding button again.</p> <p>The Key Guide may vary depending on the function or product model. Refer to the actual product.</p>

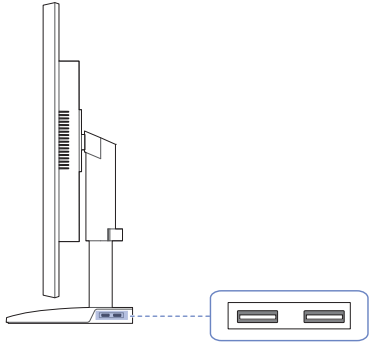
Reverse Side


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

Port	Description
DP IN 	Connect to a PC using a DP cable. (S**E450D*)
DVI IN 	Connect to a PC using the DVI cable. — The DVI IN terminal is supplied for the digital (DVI)-dedicated models only.
RGB IN 	Connect to a PC using the D-SUB cable.
OUT 	Connect to an audio output device such as headphones. (S**E450M*) — Applicable to the models that have speakers only.
IN 	Connect to an audio-input source using an audio cable. (S**E450M*) — Applicable to the models that have speakers only.
	Connect the  port of the monitor and the USB port of the computer with the USB cable. (S**E450D*) — Applicable to the stand models that have USB ports only.
	Connect to an external device.
POWER IN 	Connect the power cord for your monitor to the POWER IN port on the back of the product.


Right Side View (S**E450D*)

— 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.

Changing Brightness, Contrast and Sharpness settings

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



— The displayed image may differ depending on the model.

Brightness

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

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

Sharpness

— 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** mode.

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

Changing the Volume setting

Adjust the **Volume** by pressing the  button when the Key Guide is displayed.



— The displayed image may differ depending on the model.

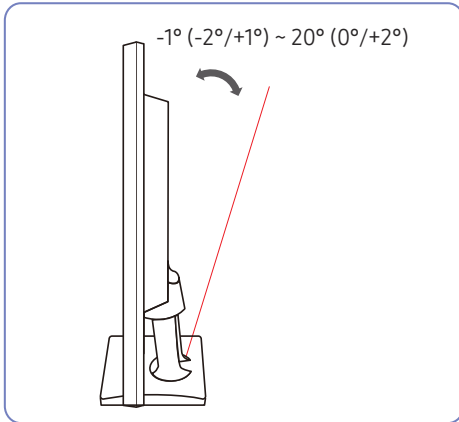
— Applicable to the models that have speakers only.

— **Volume** can be adjusted if a cable is connected to the IN port.

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

Adjusting the Product Tilt (SE200 Series)

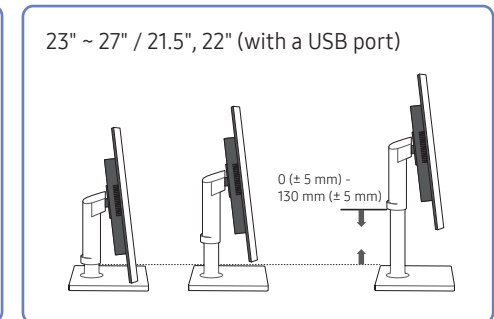
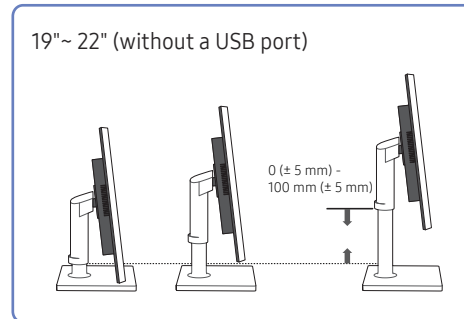
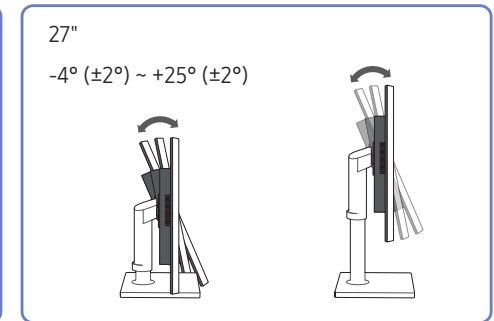
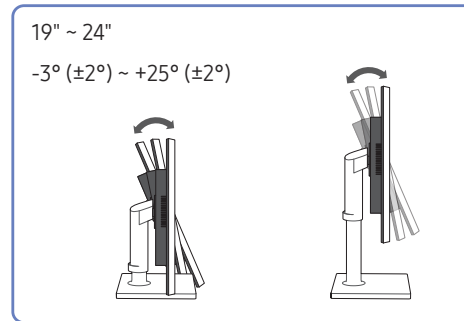
— The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.



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

Adjusting the Product Tilt and Height (SE450, SE650 Series)

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

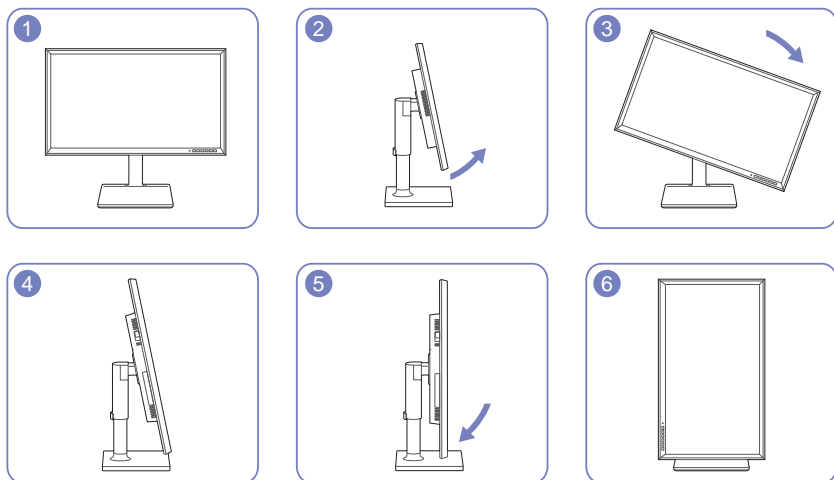


- To adjust the height, remove the fixing pin.
- The monitor tilt and height can be adjusted.
- Hold the top center of the product and adjust the height carefully.
- The rotation and height adjustment has a certain tolerance. Stay within the tolerances when rotating or adjusting the height of the product.

Rotating the Monitor (SE450, SE650 Series)

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

You can rotate your monitor as shown below.



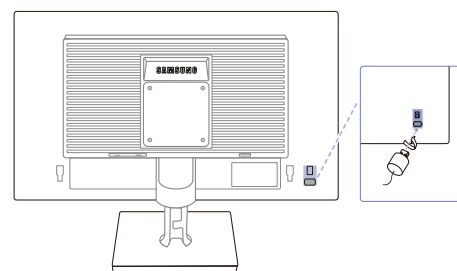
- Be sure to fully extend the stand before rotating the monitor.
- If you rotate the monitor without fully extending the stand, the corner of the monitor may hit the floor and get damaged.
- Do not rotate the monitor counterclockwise. The product may get damaged.

Anti-theft Lock

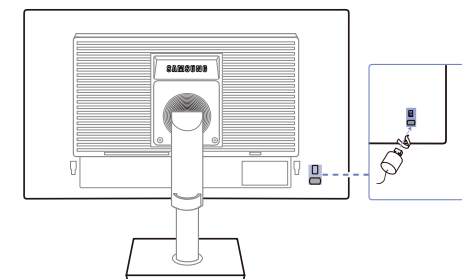
- An anti-theft lock allows you to use the product securely even in public places.
- The locking device shape and locking method depend on the manufacturer. Refer to the user guide provided with your anti-theft locking device for details.

To lock an anti-theft locking device:

SE200 Series



SE450, SE650 Series



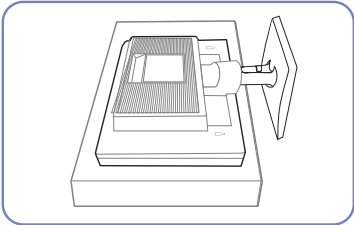
- 1 Fix the cable of your anti-theft locking device to a heavy object such as a desk.
- 2 Put one end of the cable through the loop on the other end.
- 3 Insert the locking device into the anti-theft lock slot at the back of the product.
- 4 Lock the locking device.
 - An anti-theft locking device can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

Installing a Wall-mount Kit or Desktop Stand

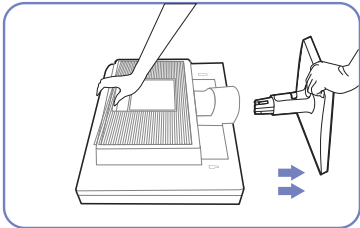
Before Installation

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

SE200 Series

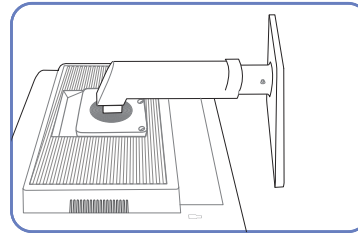


Place a protective cloth or cushion on a flat surface. Next, place the product with the face down on top of the cloth or cushion.

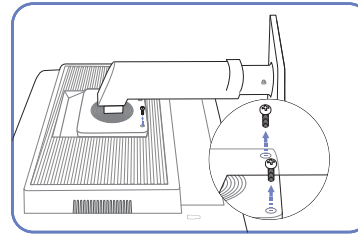


Hold the main body of the product with your hand as shown by the figure.
Pull the stand in the direction of the arrow as shown in the figure to separate it.

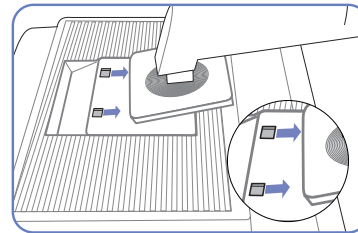
SE450, SE650 Series



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.



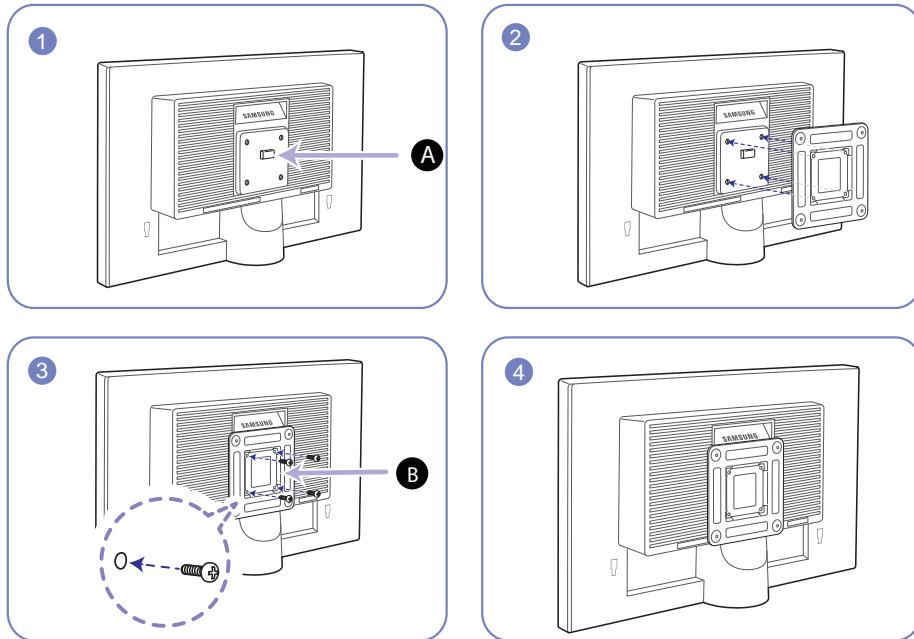
Unfasten the screw from the back of the product.



Lift and detach the stand.

Installing a Wall-mount Kit or Desktop Stand

SE200 Series



A Attach the wall-mount kit or desktop stand here

B Bracket (sold separately)

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

- Notes

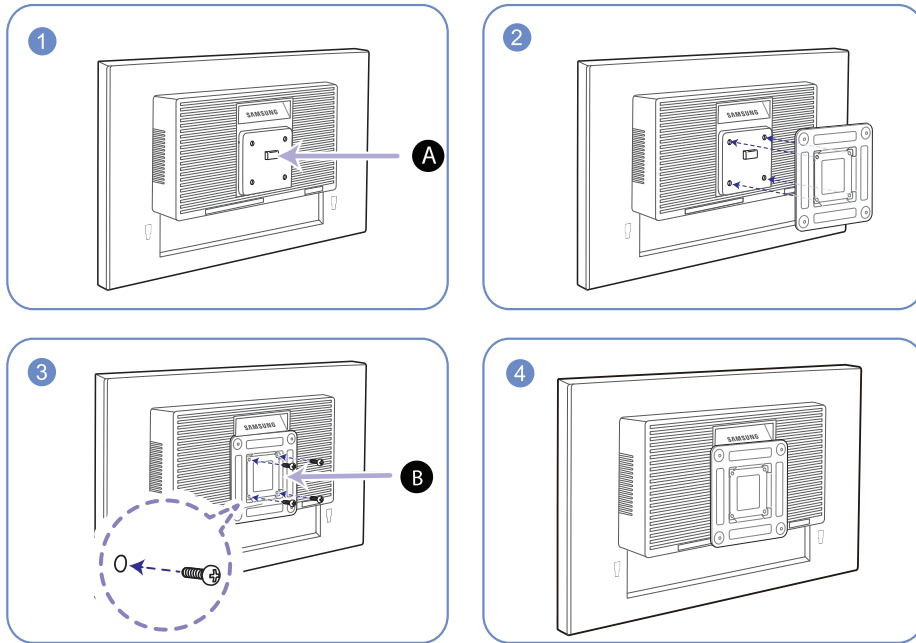
- Using a screw longer than the standard length can damage the internal components of the product.
- The length of screws required for a wall mount that does not comply with the VESA standards may vary depending on the specifications.
- Do not use screws that do not comply with the VESA standards. Do not attach the wall-mount kit or desktop stand using excessive force. The product may get damaged or fall and cause personal injury. Samsung shall not be held liable for any damage or injury caused by using improper screws or attaching the wall-mount kit or desktop stand using excessive force.
- Samsung shall not be held liable for any product damage or personal injury caused by using a 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.

Unit: mm (inches)

Model name	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
SE200 Series	100.0 x 100.0 (3.9 x 3.9)	M4	4

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

SE450, SE650 Series



A Attach the wall-mount kit or desktop stand here

B Bracket (sold separately)

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

• Notes

- Using a screw longer than the standard length can damage the internal components of the product.
- The length of screws required for a wall mount that does not comply with the VESA standards may vary depending on the specifications.
- Do not use screws that do not comply with the VESA standards. Do not attach the wall-mount kit or desktop stand using excessive force. The product may get damaged or fall and cause personal injury. Samsung shall not be held liable for any damage or injury caused by using improper screws or attaching the wall-mount kit or desktop stand using excessive force.
- Samsung shall not be held liable for any product damage or personal injury caused by using a 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.

Unit: mm (inches)

Model name	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
SE450, SE650 Series	100.0 x 100.0 (3.9 x 3.9)	M4	4

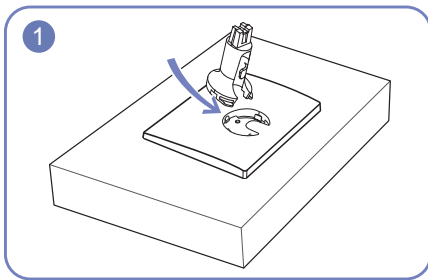
— Do not install your Wall Mount Kit while your product is turned on. It may result in personal injury due to electric shock.

Installation

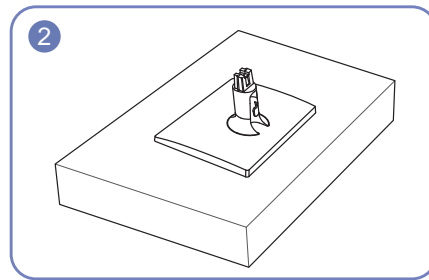
Attaching the Stand (SE200 Series)

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

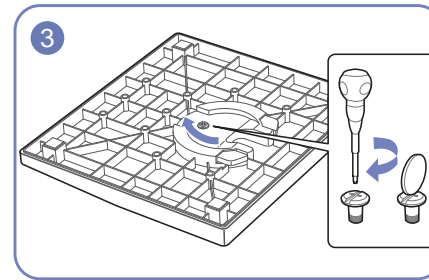
— The exterior may differ depending on the product.



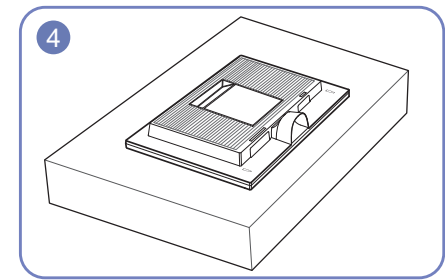
Insert the Stand Connector into the Stand in the direction shown by the figure.



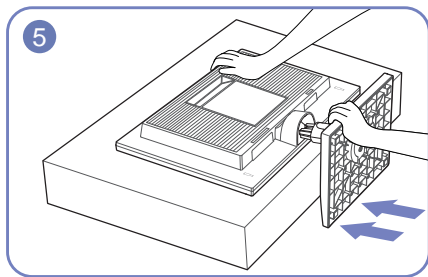
Check if the Stand Connector is firmly connected.



Turn the connecting screw at the bottom of the stand fully so that it is completely fixed.



Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product is facing downwards.



Hold the main body of the product with your hand as shown by the figure.

Push the assembled stand into the main body in the direction of the arrow as shown in the figure.

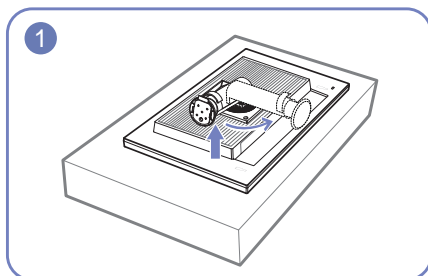


- Caution

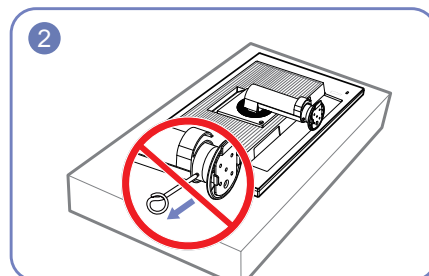
Do not hold the product upside down only by the stand.

Attaching the Stand (SE450, SE650 Series)

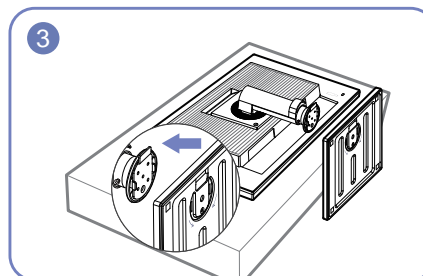
- Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.
- The exterior may differ depending on the product.
- Disassembly is the reverse order of assembly.



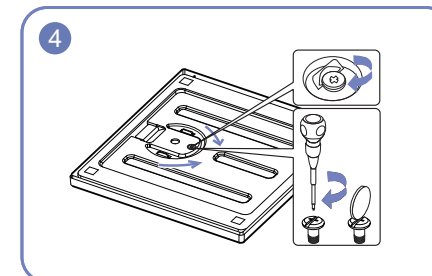
Place a protective cloth or cushion on a flat surface. Next, place the product with the face down on top of the cloth or cushion.



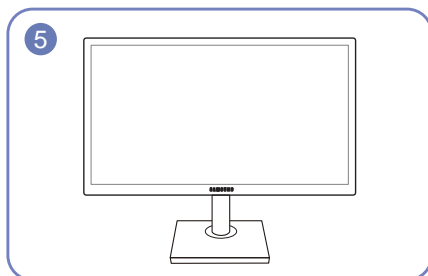
Do not remove the fixing pin until you are finished attaching the stand.



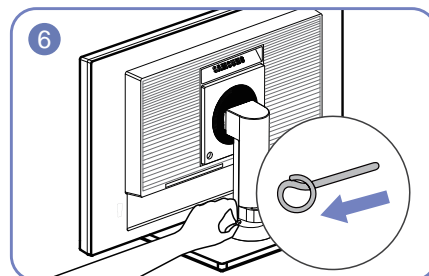
Insert the stand base into the stand in the direction of the arrow.



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.

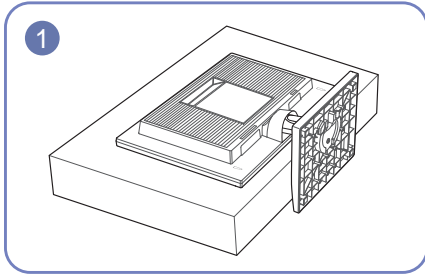


- **Caution**

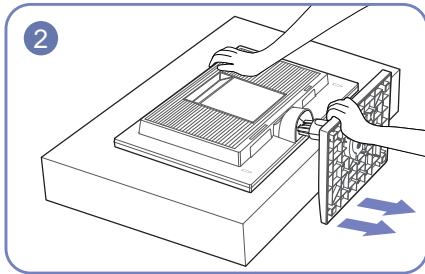
Do not hold the product upside down only by the stand.

Removing the Stand (SE200 Series)

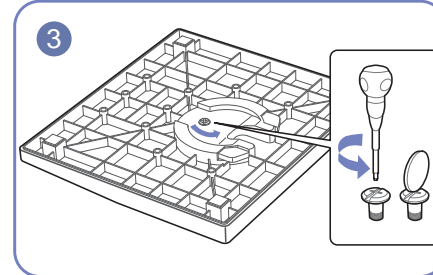
- Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.
- The exterior may differ depending on the product.



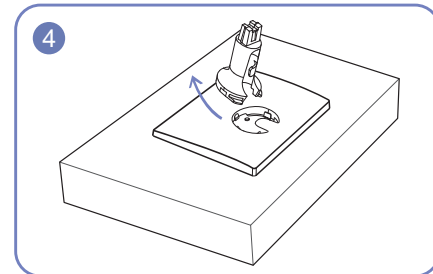
Place a soft cloth over the table to protect the product and place the product onto the cloth so that the front of the product faces downwards.



While holding the stand neck with one hand, pound the other fist down onto the top of the stand base in the direction of the arrow to detach the stand base.



Turn the connecting screw at the bottom of the stand base to separate it.



Remove the stand neck from the stand base by pulling it in the direction of the arrow as shown in the figure.

Chapter 03

Connecting and Using a Source Device

Read below before installing the monitor.

- 1 Check the shapes of both ends of the cables that came with the monitor, and check the shapes and positions of the matching ports on the monitor and external devices.
- 2 Before connecting signal cables, disconnect the power cables for the monitor and external devices from the power outlet to prevent device damage from a short circuit or overcurrent.
- 3 After connecting all signal cables, connect the power cables for the monitor and external devices to the power outlet.
- 4 Read the user manual to familiarize yourself with the monitor functions, precautions, and proper use, before using the installed monitor.

Connecting and Using a PC

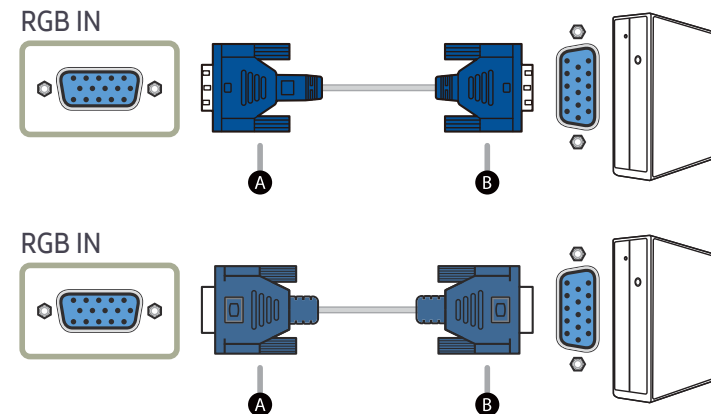
Select a connection method suitable for your PC.

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

Connection Using the D-SUB Cable (Analog Type)




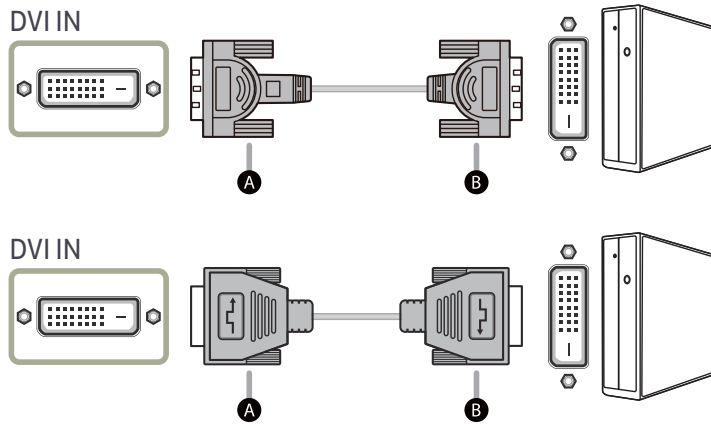
Check to make sure that the power cables for the monitor and external devices, such as computers and set-top boxes, are not connected to the power outlet.



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

Connection Using the DVI Cable


 Check to make sure that the power cables for the monitor and external devices, such as computers and set-top boxes, are not connected to the power outlet.

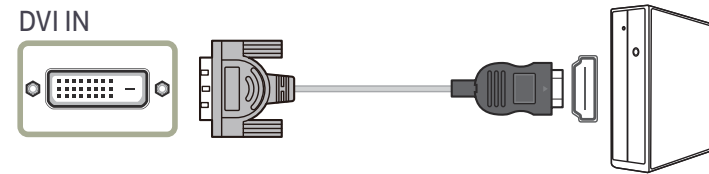


— Connect **A** to the DVI IN port on the product, then connect **B** to the DVI port on the computer.

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


Connection Using the DVI-HDMI Cable

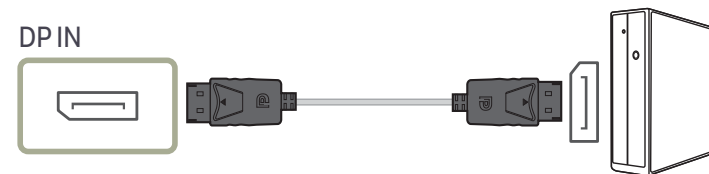
 Check to make sure that the power cables for the monitor and external devices, such as computers and set-top boxes, are not connected to the power outlet.



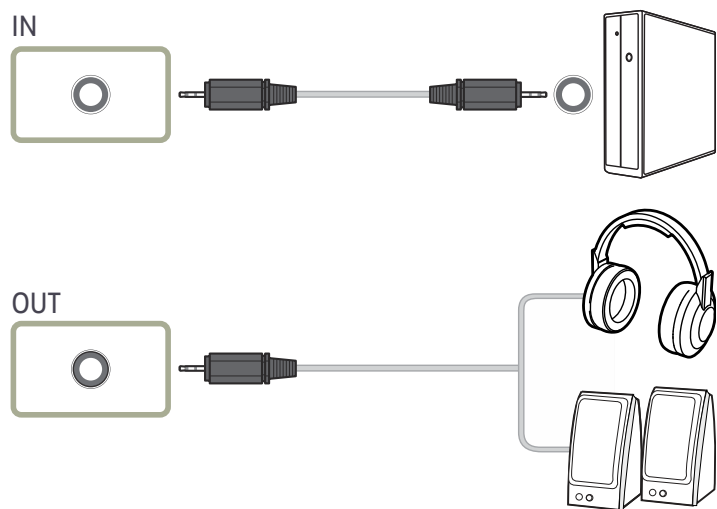
— The DVI IN terminal is supplied for the digital (DVI)-dedicated models only.

Connection Using the DP Cable (S**E450D*)

 Check to make sure that the power cables for the monitor and external devices, such as computers and set-top boxes, are not connected to the power outlet.

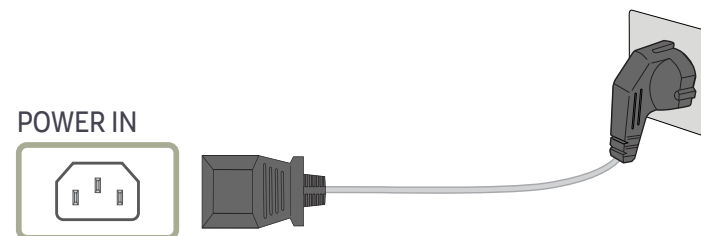


Connecting to Headphones or Speakers (S**E450M*)



— Applicable to the models that have speakers only.

Connecting the Power



To use the product, connect the power cable to a power outlet and the POWER IN port on the product.

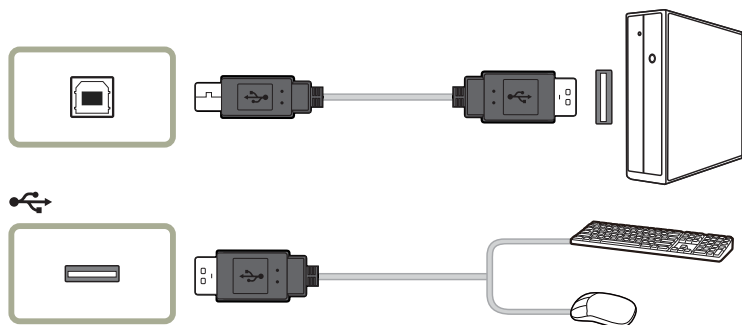
— The input voltage is switched automatically.

Connecting a USB device (S**E450D*)

- 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 USB port on the monitor. You do not need to connect it to the computer.
For an external mass-storage HDD requiring external power supply, be sure to connect it to a power source.

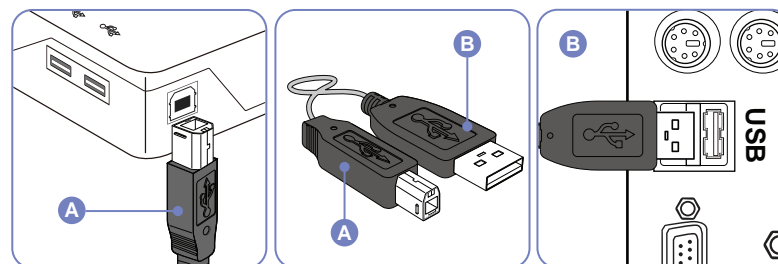
The USB port of the monitor supports High-Speed Certified USB 2.0.

	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 USB port of the monitor and the USB port of the computer with the USB cable.

- To use USB 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 USB port and your computer's USB port.



2 Use the USB cable to connect a USB device to the USB 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 USB 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.

Correct posture to use the product



Use the product in the correct posture as follows:

- Straighten your back.
- Allow a distance of 45 to 50cm 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.
- Do the Eye exercises or blink frequently, then eye fatigue will be relieved.

Driver Installation

- You can set the optimum resolution and frequency for this product by installing the corresponding drivers.
- To install the latest version of the product driver, download it from the Samsung Electronics website at <http://www.samsung.com>.

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.

- 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.

Chapter 04

Screen Setup

Configure the screen settings such as brightness.

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

- The functions available may vary depending on the product model. The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

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 **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

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 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

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

A higher value will make the outline of objects clearer.

- This option is not available when **SAMSUNG MAGiC Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **SAMSUNG MAGiC Upscale** is in **Mode1** or **Mode2** mode.
- This menu is not available when **Game Mode** is enabled.

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.

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.
- 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**.

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 enabled.
- 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.

You can customize the brightness to suit your preferences.

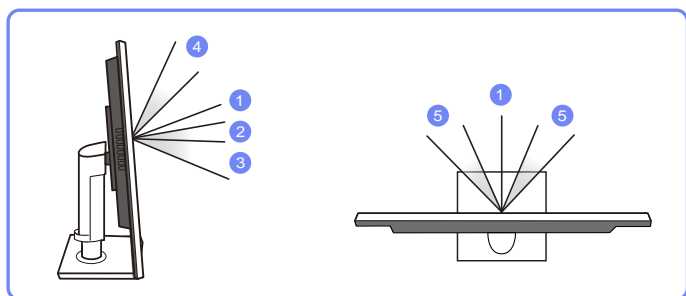
- **Custom:** Customize the contrast and brightness as required.
- **Web mode:** Obtain the best screen for editing documents and browsing the Internet without the issue of narrow viewing angles. (S19E200NY, S22E200NY)
- **Standard:** Obtain a picture quality suitable for editing documents or using Internet.
- **Cinema:** Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
- **Dynamic Contrast:** Obtain balanced brightness through automatic contrast adjustment.

SAMSUNG MAGIC Angle (Except S19E200NY / S22E200NY / S24E650BW)

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 set to **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** or **Eye Saver Mode** is enabled.

You can customize the angle to suit your preferences.



- **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.

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 set to **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- **Off / Mode1 / Mode2**
 - Comparing with **Mode1**, **Mode2** has a stronger effect.

Image Size (Except S19E200BR / S19E450BR / S19E450MR)

Change the picture size.

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.

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.
- **Wide:** Display the picture in full screen regardless of the aspect ratio of the input source. (S19E200NW, S19E200BW, S22E200BW, S19E450BW, S19E450MW, S22E450BW, S22E450MW, S22E450DW)

- The function may not be supported depending on the ports provided with the product.
- Changing the screen size is available when the following conditions are satisfied.
 - A digital output device is connected using the DVI/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/DP and **PC/AV Mode** is set to **AV**.

Response Time (S24E650BW)

Accelerate the panel response rate to make video appear more vivid and natural.

- It is best to set **Response Time** to **Standard** or **Faster** when you are not viewing a movie.

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 only.
- 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.

Coarse

Adjust the screen frequency.

- This menu is available in **Analog** mode only.

Fine

Fine-adjust the screen to obtain a vivid picture.

- This menu is available in **Analog** mode only.

Chapter 05

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 MAGICBright** is in **Cinema** or **Web mode**, **Dynamic Contrast** mode. This menu is not available when **Game Mode** or **Eye Saver Mode** is enabled.

— The functions available may vary depending on the product model. The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Red

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

A higher value will increase the intensity of the color.

Green

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

A higher value will increase the intensity of the color.

Blue

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

A higher value will increase the intensity of the color.

Color Tone

Adjust the general color tone of the picture.

— This menu is not available when SAMSUNG **MAGICAngle** is enabled.

- **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.

Gamma

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

— This menu is not available when SAMSUNG **MAGICAngle** is enabled.

- **Mode1 / Mode2 / Mode3**

Chapter 06

Resizing or Relocating the Screen

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

- The functions available may vary depending on the product model. The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

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.

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.

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.

Transparency

Set the transparency for the menu windows.

Chapter 07

Setup and Reset

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

— The functions available may vary depending on the product model. The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Reset All

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

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.

— **Dynamic Contrast** mode is not available when **Smart Eco Saving** is enabled.

- **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.)

Off Timer (S19E200NW / S19E200NY / S22E200N / S22E200NY)

Configuring Off Timer

Off Timer: Turn on **Off Timer** mode.

Turn Off After: 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** and set **Off Timer** to **Off**.

Off Timer Plus (Except S19E200NW / S19E200NY / S22E200N / S22E200NY)

Configuring Off Timer

Off Timer: Turn on **Off Timer** mode.

Turn Off After: 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**.

Configuring Eco Timer

Eco Timer: Turn on **Eco Timer** mode.

Eco Off After: 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**.
- This menu is not available for S19E200NY, S19E200NW, S22E200NY and S22E200N models.

PC/AV Mode (Except S19E200NW / S19E200NY / S22E200N / S22E200NY)

Set **PC/AV Mode** to **AV**. The picture size will be enlarged.

This option is useful when you view a movie.

- Set to **PC** when connected to a PC.
- Set to **AV** when connected to an AV device.
- 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/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**.

Key Repeat Time

Control the response rate of a button when the button is pressed.

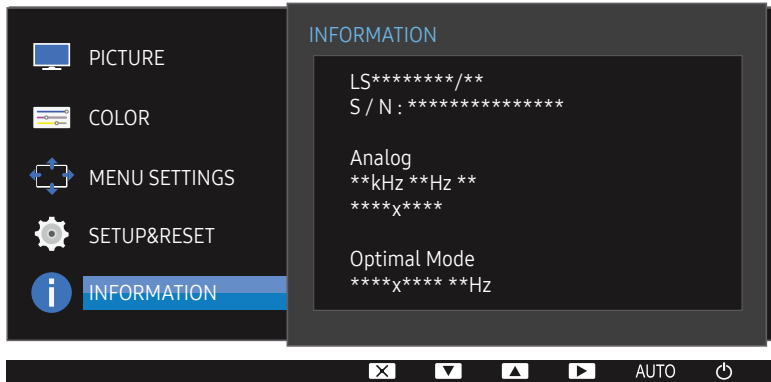
Acceleration, **1 sec**, or **2 sec** can be selected. If **No Repeat** is selected, a command responds only once when a button is pressed.

Source Detection (Except S19E200NW / S19E200NY / S22E200N / S22E200NY)

Select either **Auto** or **Manual** as the method to recognize input signal.

INFORMATION

View the current input source, frequency and resolution.



— The displayed image may differ depending on the model.

Chapter 08

Installing the Software

MultiScreen



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

- 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

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
- Windows 10 32Bit

Hardware

- At least 32MB of memory
- At least 60MB of free space on the hard disk drive

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

Chapter 09

Troubleshooting Guide

Requirements Before Contacting Samsung Customer Service Center

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

Testing the Product

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

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

- 1 Power off both the PC and product.
- 2 Disconnect the cables from the product.
- 3 Power on the product.
- 4 If the message **Check Signal Cable** appears, the product is working normally.

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

Checking the Resolution and Frequency

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

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

Check the following.

Installation issue (PC mode)

The screen keeps switching on and off.

Check the cable connection between the product and PC, and ensure the connectors are locked.

Screen issue

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

Check that the power cable is connected properly.

The message **Check Signal Cable appears.**

Check that the cable is properly connected to the product.

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

Not Optimum Mode is displayed.

This message appears when the signal from the graphics card exceeds the maximum resolution or frequency for the product.

Change the maximum resolution and frequency to suit the product performance, referring to [Standard Signal Mode Table \(P.42\)](#).

The images on the screen look distorted.

Check the cable connection to the product.

The screen is not clear. The screen is blurry.

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

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

Set the resolution and frequency to the recommended level.

The screen appears unstable and shaky. There are shadows or ghost images left on the screen.

Check that the resolution and frequency for the PC are within the range of resolution and frequency compatible with the product. Next, if required, change the settings, referring to Standard Signal Mode Table (P.42) in this manual and the **INFORMATION** menu on the product.

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

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

Screen color is inconsistent.

Change the **COLOR** settings.

The colors on the screen have a shadow and are distorted.

Change the **COLOR** settings.

White does not really look white.

Change the **COLOR** settings.

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

The product is operating in power-saving mode.

Press any key on the keyboard or move the mouse to return to normal operating mode.

Sound issue

There is no sound.

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

Check the volume.

The volume is too low.

Adjust the volume.

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

Source device issue

A beeping sound is heard when my PC is booting.

If a beeping sound is heard when your PC is booting, have your PC serviced.

— 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.

Q & A

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

How can I change the frequency?

Set the frequency on your graphics card.

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

How can I change the resolution?

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

How do I set power-saving mode?

- Windows XP: Set power-saving mode in Control Panel → Appearance and Themes → Display → Screen Saver Settings → Power options or BIOS SETUP on the PC.
 - Windows ME/2000: Set power-saving mode in Control Panel → Display → Screen Saver Settings → Power options or BIOS SETUP on the PC.
 - Windows Vista: Set power-saving mode in Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.
 - Windows 7: Set power-saving mode in Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.
 - Windows 8(Windows 8.1): Set power-saving mode in Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings → Power options or BIOS SETUP on the PC.
 - Windows 10: Set power-saving mode in Settings → Personalization → Lock screen → Screen timeout settings → Power & sleep or BIOS SETUP on the PC.
-

Chapter 10

Specifications

General

Model Name	S19E200NY	S19E200NW / S19E200BW / S19E450BW / S19E450MW	S19E200BR / S19E450BR / S19E450MR	S22E200NY / S22E200B / S22E200N / S22E450B / S22E450M / S22E450D
Size	19 CLASS (18.5 inches / 47.0 cm)	19 CLASS (19.0 inches / 48.1 cm)	19 CLASS (19.0 inches / 48.2 cm)	22 CLASS (21.5 inches / 54.6 cm)
Display area	409.8 mm (H) x 230.4 mm (V) 16.1 Inches (H) x 9.1 Inches (V)	408.24 mm (H) x 255.15 mm (V) 16.1 Inches (H) x 10.0 Inches (V)	376.32 mm (H) x 301.06 mm (V) 14.8 Inches (H) x 11.9 Inches (V)	476.64 mm (H) x 268.11 mm (V) 18.8 Inches (H) x 10.6 Inches (V)
Pixel Pitch	0.300 mm (H) x 0.300 mm (V) 0.011811 Inches (H) x 0.011811 Inches (V)	0.2835 mm (H) x 0.2835 mm (V) 0.011161 Inches (H) x 0.011161 Inches (V)	0.294 mm (H) x 0.294 mm (V) 0.011575 Inches (H) x 0.011575 Inches (V)	0.24825 mm (H) x 0.24825 mm (V) 0.009774 Inches (H) x 0.009774 Inches (V)
Model Name	S22E200BW / S22E450BW / S22E450MW / S22E450DW	S23E200B / S23E450B	S24E200BL / S24E450BL / S24E450DL	S24E450B / S24E450M / S24E450D
Size	22 CLASS (22.0 inches / 55.8 cm)	23 CLASS (23.0 inches / 58.4 cm)	24 CLASS (23.6 inches / 59.8 cm)	24 CLASS (24.0 inches / 60.9 cm)
Display area	473.76 mm (H) x 296.1 mm (V) 18.7 Inches (H) x 11.7 Inches (V)	509.76 mm (H) x 286.74 mm (V) 20.1 Inches (H) x 11.3 Inches (V)	521.28 mm (H) x 293.22 mm (V) 20.5 Inches (H) x 11.5 Inches (V)	531.36 mm (H) x 298.89 mm (V) 20.9 Inches (H) x 11.8 Inches (V)
Pixel Pitch	0.282 mm (H) x 0.282 mm (V) 0.011102 Inches (H) x 0.011102 Inches (V)	0.2655 mm (H) x 0.2655 mm (V) 0.010453 Inches (H) x 0.010453 Inches (V)	0.2715 mm (H) x 0.2715 mm (V) 0.010689 Inches (H) x 0.010689 Inches (V)	0.27675 mm (H) x 0.27675 mm (V) 0.010896 Inches (H) x 0.010896 Inches (V)

Model Name	S24E650BW	S27E450B / S27E450D
Size	24 CLASS (24.0 inches / 61.1 cm)	27 CLASS (27.0 inches / 68.5 cm)
Display area	518.4 mm (H) x 324.0 mm (V) 20.4 Inches (H) x 12.8 Inches (V)	597.6 mm (H) x 336.15 mm (V) 23.5 Inches (H) x 13.2 Inches (V)
Pixel Pitch	0.270 mm (H) x 0.270 mm (V) 0.01063 Inches (H) x 0.01063 Inches (V)	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.	
Environmental conditions	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.

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

(USA only)

Dispose unwanted electronics through an approved recycler.

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

www.samsung.com/recyclingdirect or call, (877) 278 - 0799

Standard Signal Mode Table

Model Name	Synchronization		Resolution		
	Horizontal Frequency	Vertical Frequency	Optimum Resolution	Maximum Resolution	
S19E200NY	30 – 81 kHz	56 – 75 Hz	1366 x 768 @ 60 Hz	1366 x 768 @ 60 Hz	
S19E200NW / S19E200BW / S19E450BW / S19E450MW			1440 x 900 @ 60 Hz	1440 x 900 @ 75 Hz	
S19E200BR / S19E450BR / S19E450MR			1280 x 1024 @ 60 Hz	1280 x 1024 @ 75 Hz	
S22E200BW / S22E450BW / S22E450MW / S22E450DW			1680 x 1050 @ 60 Hz	1680 x 1050 @ 60 Hz	
S22E200B / S23E200B / S24E200BL / S22E200NY / S22E200N / S22E450B / S22E450M / S22E450D / S23E450B / S24E450BL / S24E450DL			1920 x 1080 @ 60 Hz	1920 x 1080 @ 60 Hz	
S24E650BW			56 – 60 Hz	1920 x 1200 @ 60 Hz	1920 x 1200 @ 60 Hz
S24E450B / S24E450M / S24E450D / S27E450B / S27E450D			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.

S19E200NY

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	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1366 x 768	47.712	59.790	85.500	+/+

S19E200NW / S19E200BW / S19E450BW / S19E450MW

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	-/-
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, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1440 x 900	70.635	74.984	136.750	-/+

S19E200BR / S19E450BR / S19E450MR

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	-/-
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 960	60.000	60.000	108.000	+/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+

S22E200NY / S22E200N / S22E200B / S23E200B / S24E200BL / S22E450B / S22E450M / S22E450D / S23E450B / S24E450BL / S24E450DL / S24E450B / S24E450M / S24E450D / S27E450B / S27E450D

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	-/-
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	+/+

S22E200BW / S22E450BW / S22E450MW / S22E450DW

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	-/-
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	-/+

S24E650BW

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
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, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+
VESA, 1920 x 1200	74.038	59.950	154.000	+/-

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.

This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Using a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for your product.

Check the frequency when you exchange a CDT 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.

Chapter 11

Appendix

Responsibility for the Pay Service (Cost to Customers)

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

Not a product defect

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

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

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

- External impact or drop.
- Use of supplies or separately sold product unspecified by Samsung.
- Repair from a person besides an engineer of outsourcing service company or partner of Samsung Electronics Co., Ltd.
- Remodeling or repairing the product by customer.
- Using it with incorrect voltage or non-authorized electrical connections.
- Not following the "cautions" in User Manual.

Others

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

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

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.