SAMSUNG

USER MANUAL

Gaming Monitor

C24RG5*

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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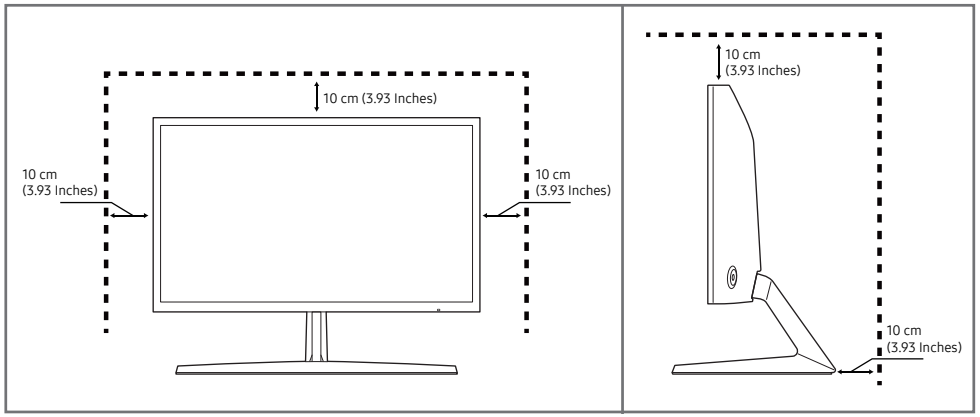
Chapter 01

Before Using the Product

Securing the Installation Space

Make sure to have enough space for ventilation when placing the product. An internal temperature rise may cause fire and damage the product. Maintain enough space around the product as shown in the diagram when installing the product.

— The exterior may differ depending on the product.



Safety Precautions

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.

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.		AC voltage: Rated voltage marked with this symbol is AC voltage.
	This symbol indicates that this product has included important literature concerning operation and maintenance.		DC voltage: Rated voltage marked with this symbol is DC voltage.
	Class II product: This symbol indicates that a safety connection to electrical earth (ground) is not required. If this symbol is not present on a product with a mains lead, the product MUST have a reliable connection to protective earth (ground).		Caution. Consult instructions for use: This symbol instructs the user to consult the user manual for further safety related information.

Cleaning

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.)

— 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 PC.

2 Disconnect the power cord from the product.

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

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

– Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the product.

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

4 Wet a soft cloth in water, wing it out well, and then use the cloth to wipe the exterior of the product clean.

5 Connect the power cord to the product when cleaning is finished.

6 Power on the product and PC.

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 10cm 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, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

Caution

- Do not drop the product while moving.
- 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.
  - Set the screen to power-saving mode or moving-picture screen saver when not 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 put AC/DC adapters together.
- Remove the plastic bag from the AC/DC adapter before you use it.
- Do not let water enter the AC/DC adapter 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 AC/DC adapter wet when you wash the floor.
- Do not put the AC/DC adapter near to any heating apparatus.
  - Otherwise, a fire may result.
- Keep the AC/DC adapter in a well-ventilated area.
- If you place the AC/DC power adapter hanging with the cord input facing upwards, water or other foreign substances could enter the Adapter and cause the Adapter to malfunction.

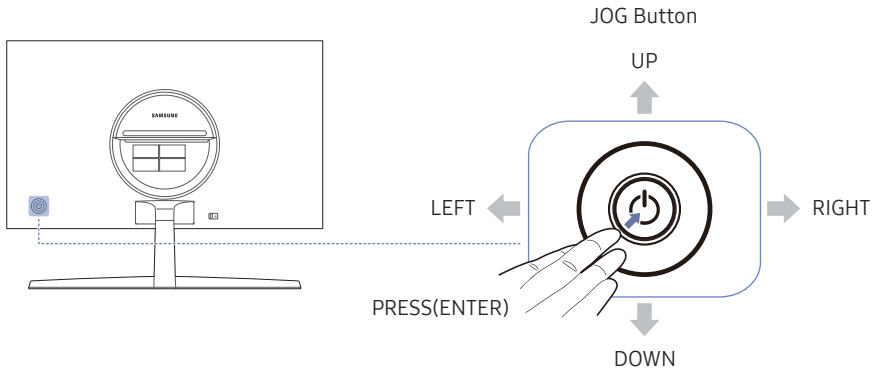
  Make sure to rest the AC/DC power adapter flat on a table or the floor.
- Do not hold the product upside-down or move it by holding the stand.
  - The product may fall and become damaged or cause an injury.
- Looking at the screen too close for an extended period of time can deteriorate your eyesight.
- 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.
  - 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.

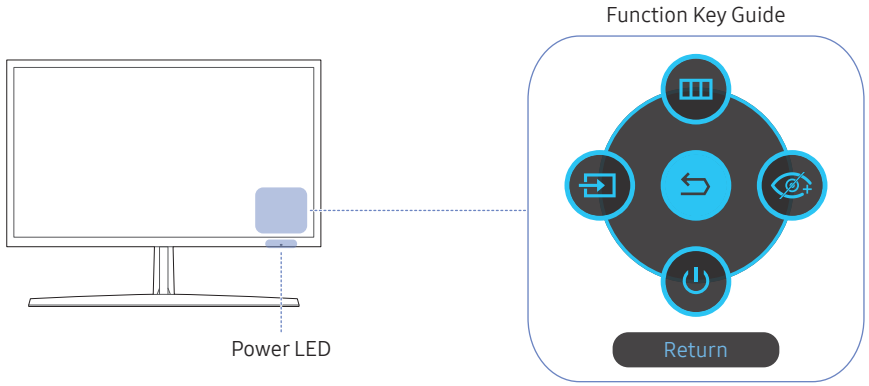
Chapter 02
Preparations

Parts

Control Panel

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

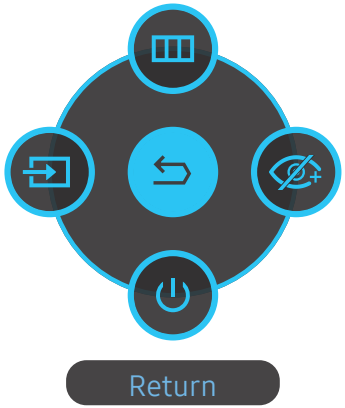




Parts	Description
JOG Button	Multi directional button that helps navigate. — The JOG button is located on the rear left side of the product. The button can be used to move up, down, left or right, or as Enter.
Power LED	This LED is power status indicator and works as • Power On (Power button): Power LED Off • Power saving mode: Power LED Blinking • Power Off (Power button): Power LED On — The Power LED operation can be swapped by changing in the menu. (System → Power LED On) Actual models because of functional variation maybe haven't this function. — The ⏻ power button is located on the left of the rear and used to turn on or off the product.
Function Key Guide	Press the JOG button when the screen is turned on. The Function Key Guide will appear. To access the onscreen menu when the guide is displayed, press the corresponding direction button again. — Function Key Guide may vary depending on the function or product model. Please refer to the actual product.

Function Key Guide

To use the Function Key Guide, press the JOG button. Then the following window appears.



UP/DOWN/LEFT/RIGHT: Move to the item you want. The description for each item will appear when the focus changes.

PRESS(ENTER): The selected item will be applied.

Parts		Description
	Menu	Selects by moving the JOG button in the Function Key Guide screen. This product shows the menu as an on-screen display.
	Source	Selects to change the input source by moving the JOG button in the Function Key Guide screen. A message will appear on the top left corner of the screen if the input source has been changed.
	Eye Saver Mode	Selects by moving the JOG button in the Function Key Guide screen. Press to enable or disable Eye Saver Mode. The items below are not available if the Eye Saver Mode function is enable. • Game → Picture Mode, Black Equalizer • Picture → Picture Mode, Brightness, Color • System → Smart ECO Saving+
	Power Off	Selects to turn the product off by moving the JOG button in the Function Key Guide screen.
	Return	Return to the previous menu by using the JOG button to select the icon when the Function Key Guide Screen is displayed.

Actual models because of functional variation, Function Key Guide options will be different.

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

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

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

JOG Button	Action
UP/DOWN	Move the option
LEFT	Exit the menu. Close Sublist without saving value. Value decreases in the slider.
RIGHT	Move to sublist. Value increases in the slider.
PRESS(ENTER)	Save the value and close Sublist.

Changing Brightness, Contrast and Sharpness settings

You can adjust Brightness, Contrast or Sharpness by moving the JOG button up or down, if no OSD menu is displayed.



- The displayed image may differ depending on the model.
- The default brightness can vary depending on the region.

Brightness

- This menu is not available when Eye Saver Mode is enabled.

Contrast

- This menu is not available when Picture Mode is set to Cinema mode.

Sharpness

- This menu is not available when Picture Mode is set to Cinema mode.

Changing the Volume setting

You can adjust Volume by moving the JOG button left or right, if no OSD menu is displayed.

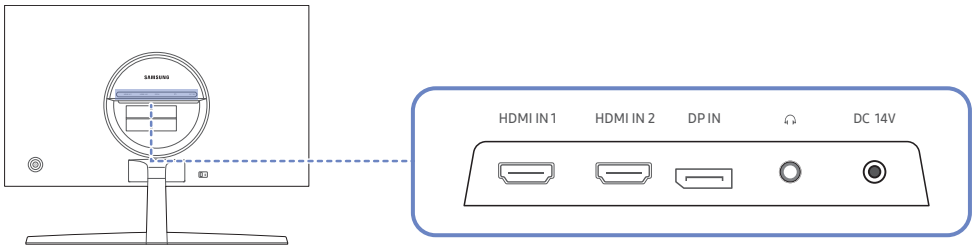


- The displayed image may differ depending on the model.
- If the audio quality of a connected input device is poor, the Auto Mute function on the product may mute the sound or cause choppy audio when applying the headphones or speakers. Set the input volume for the input device to at least 20% and control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

    The function mutes the audio to improve sound effect when there is sound noise or when the input source is weak, usually due to a problem with the volume of an input device.
- To activate the Mute function, access the Volume control screen, then use the JOG button to move the focus down.
  To deactivate the Mute function, access the Volume control screen, then increase or decrease the Volume.

Types of Ports

— 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. Refer to the actual product.



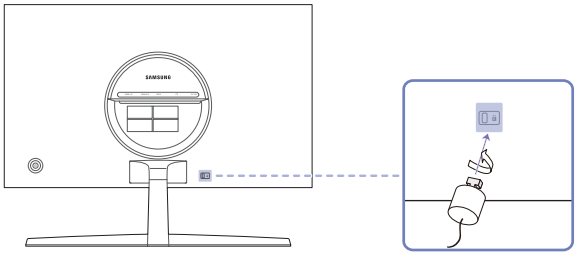
Port	Description
HDMI IN 1 HDMI IN 2	Connects to a source device using an HDMI cable or HDMI-DVI cable.
DP IN	Connects to a PC using a DP cable.
	Connect to an audio output device such as headphones. — The sound could only be heard when using the HDMI to HDMI cable or DP cable.
DC 14V	Connects to the AC/DC adapter.

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:



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.

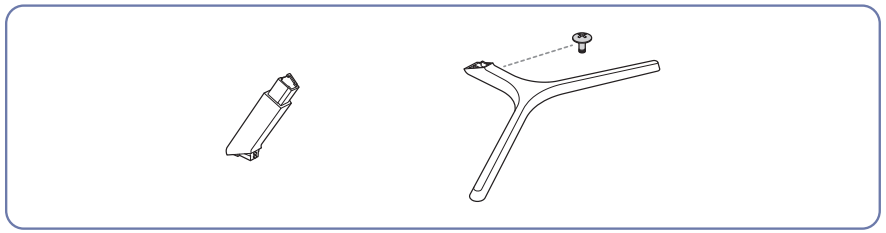
3 Insert the locking device into the anti-theft lock slot at the back of the product.

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.

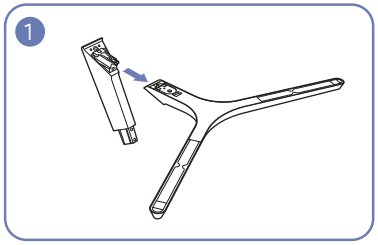
Installation

Attaching the Stand



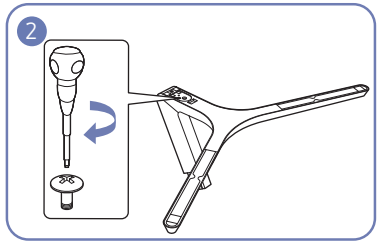
Before assembling the product, place the product down on a flat and stable surface so that the screen is facing downwards.

⚠ : The product is curved. Placing pressure on the product when on a flat surface may damage the product. When the product is on the ground facing up or down, do not put pressure on it.

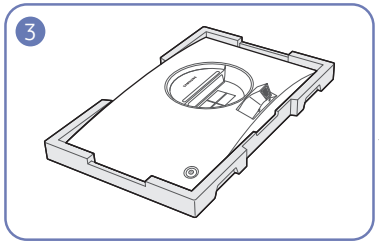


Insert the stand neck into the stand base in the direction shown in the figure.

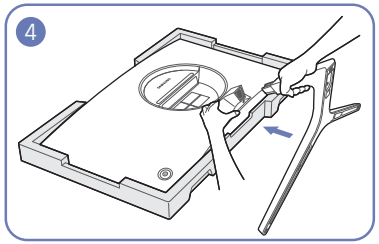
Check that the stand neck is firmly connected.



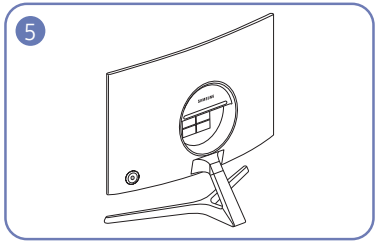
Tightly fasten the connecting screw at the bottom of the stand base.



Place the protective Styrofoam (cushion) included in the package on the floor and place the product facing down on the Styrofoam, as shown in the image. If Styrofoam is unavailable, use a thick sitting mat.



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

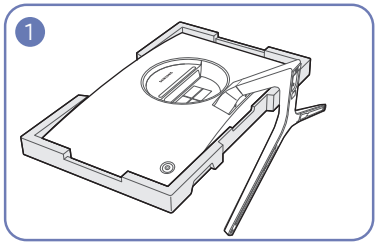


The stand is now completely assembled.

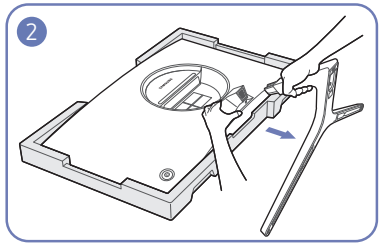
Removing the Stand

— Before removing the stand from the product, place the product on a flat and stable surface with the screen facing down.

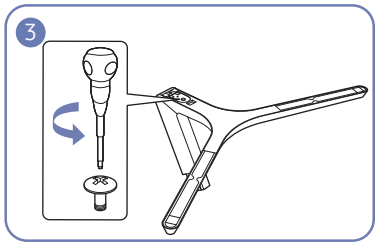
⚠ : The product is curved. Placing pressure on the product when on a flat surface may damage the product. When the product is on the ground facing up or down, do not put pressure on it.



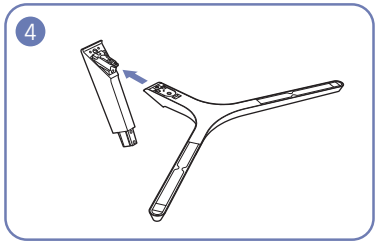
Place the protective Styrofoam (cushion) included in the package on the floor and place the product facing down on the Styrofoam, as shown in the image. If Styrofoam is unavailable, use a thick sitting mat.



While holding the product with one hand, pull the stand neck with your other hand to in detach the stand as shown in the figure.

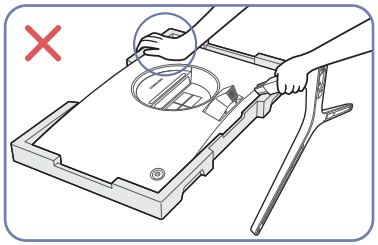


Turn the connecting screw at the bottom of the stand base to separate it.

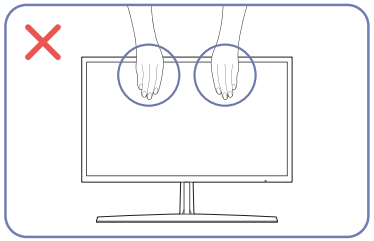


Remove the stand neck from the stand base by pulling it in the direction of the arrow as shown in the figure.

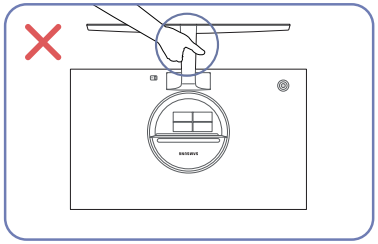
Precautions for moving the product



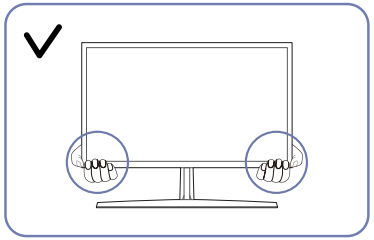
- Do not press down on the product. There is a risk of damaging the product.



- Do not directly apply pressure on the screen.
- Do not hold the screen when moving the product.



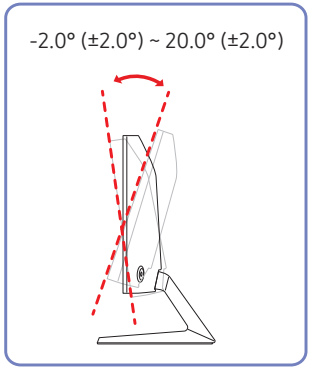
- Do not hold the product upside down only by the stand.



- Hold the lower corners or edges of the product when moving it.

Adjusting the Product Tilt

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



- The product tilt can be adjusted.
- Hold the lower part of the product and adjust the tilt carefully.

Chapter 03

Connecting and Using a Source Device

Read below before installing the product.

1 Before installing the monitor, check the shapes of both ports of the supplied signal cables and the shapes and locations of the ports on the monitor and external device.

2 Before installing the monitor, make sure you remove the power cables from both the monitor and the external device to prevent damage to the monitor due to a short circuit or over current.

3 After all signal cables have been properly connected, connect the power cables back to the monitor and the external device.

4 After installation is completed, make sure you read the user guide to acquaint yourself with the monitor functions, precautions and other information required to use the monitor properly.

Connecting and Using a PC

Select a connection method suitable for your PC.

— Connecting parts may differ in different products.

— Provided ports may vary depending on the product.

Connection Using the HDMI Cable

HDMI IN 1, HDMI IN 2



Connection Using an HDMI-DVI Cable

HDMI IN 1, HDMI IN 2



— The audio function is not supported if the source device is connected using the HDMI-DVI cable.

— The optimum resolution may not be available with an HDMI-DVI cable.

Connection Using an DP Cable



— A DP cable shorter under 1.5 m in length is recommended. Using a cable longer than 1.5 m can affect the picture quality.

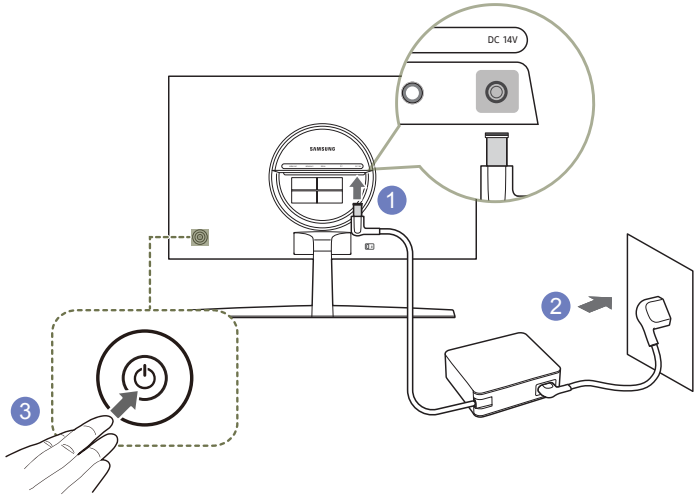
Connecting to Headphones



— Use headphones when activating sound with an HDMI-HDMI or DP cable.

— The earphone jack supports only the 3 conductor tip-ring-sleeve (TRS) type.

Connecting the Power



1 Connect the power cable to the AC/DC adapter. Then, connect the AC/DC adapter to the **DC 14V** port on the back of the product.

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

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

— The input voltage is switched automatically.

Correct posture to use the product



Use the product in the correct posture as follows:

- Straighten your back.
- 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 excercises 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 information message 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.

— If you want to set the optimum resolution for your computer. Please refer to (Q&A) → "How can I change the resolution?"

— You can adjust the refresh rate according to the screen resolution by selecting Game → Refresh Rate in the OSD menu.

— To enable the maximum refresh rate, set FreeSync to Ultimate Engine or set Refresh Rate to 144 Hz.

Chapter 04
Game

Function Key Guide → → Game
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.

Picture Mode

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

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

— This menu is not available when Dynamic Contrast is set to On.

In PC mode

- Custom: Customize the screen settings.
- FPS: Increase the brightness of darker areas of the FPS (First-Person Shooter) game screen. This mode increases visibility of your enemies during an FPS (First-Person Shooter) game.
- RTS: Increase the color temperature and contrast ratio to improve visibility of the RTS (Real-Time Strategy) screen and minimap.
- RPG: This mode is optimized for 3D graphics and instant messaging on the RPG (Role Playing Game) game screen.
- AOS: Increase the contrast ratio to obtain a picture quality optimized for the AOS (Aeon Of Strife) game screen.
- Cinema: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.

In AV mode

When the external input is connected through HDMI/DP and PC/AV Mode is set to AV, Picture Mode has four picture settings (Dynamic, Standard, Movie and Custom) that are preset at the factory. You can activate either Dynamic, Standard, Movie or Custom. You can select Custom which automatically recalls your personalized picture settings.

- Dynamic: Select this mode to view a sharper image than in Standard mode.
- Standard: Select this mode when the surroundings are bright.
- Movie: Select this mode when the surroundings are dark. This will save power and reduce eye fatigue.
- Custom: Select this mode when you want to adjust the image according to your preferences.

Refresh Rate

Change the screen refresh rate. A higher refresh rate can reduce eye strain.

- 60 Hz / 100 Hz / 120 Hz / 144 Hz

— This menu is not available when FreeSync is set to Standard Engine or Ultimate Engine mode.

— Changing the Refresh Rate may cause screen flickering, depending on the PC's graphics card.

— The function is available in a PC equipped with the graphics card that can change the refresh rate.
It is unavailable in the devices (e.g. AV devices) with fixed refresh rates. If the function is applied, the screen may have malfunction.

Black Equalizer

Adjust the brightness of the dark areas.

As the value gets closer to 1, the darker areas of the screen become brighter, making it easier to find enemies when playing a game. To find enemies more easily during a game, use a lower value.

As the value gets closer to 20, the darker areas of the screen become darker and the contrast increases.

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

— This menu is not available when Picture Mode is set to Cinema mode.

Response Time

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.

FreeSync

FreeSync technology is solution that eliminates screen tearing without all the usual lag and latency.

This feature will eliminate screen tearing and lag during game play. Improve your gaming experience.

The displayed FreeSync menu items on the product may vary, depending on the product model and compatibility with the AMD graphics card.

- Off: Disable FreeSync.
- Standard Engine: Enable the basic FreeSync functions of the AMD graphics card.
- Ultimate Engine: Enable the FreeSync feature with a higher screen frame rate. Screen tearing (abnormal sync between the screen and content) is reduced in this mode. Note, however, that intermittent screen flickering may occur during gameplay.

If you use the FreeSync function while playing a game, the following symptoms may occur:

- The screen may flicker depending on the type of graphics card, the game option settings, or the video being played. Try the following actions: decrease the game setting values, change the current FreeSync mode to Standard Engine, or visit the AMD website to check your graphics driver's version and update it with the latest one.
- When using the FreeSync function, the screen may flicker due to the fluctuation of output frequency from the graphics card.
- The response rate during the game may fluctuate depending on the resolution. A higher resolution generally decreases the response rate.
- The sound quality of the product may be degraded.

— If you encounter any issues when using the function, contact the Samsung Service Center.

— When the resolution is changed while setting FreeSync to Standard Engine or Ultimate Engine, the screen tearing can happen intermittently. Set FreeSync to Off and change the resolution.

— The function is unavailable in the devices (e.g. AV devices) that have no AMD graphics card. If the function is applied, the screen may have malfunction.

— Apply the optimum resolution (1920 x 1080) when using FreeSync.

— Use the HDMI/DisplayPort cable provided by the manufacturer when using FreeSync.

The models in the Graphics Cards list supports FreeSync

FreeSync can only be used with specific AMD graphics card models. Refer to the following list for supported graphics cards:

Make sure to install the latest official graphics drivers from AMD that support FreeSync.

— For additional AMD graphics card models that support the FreeSync feature, visit the official AMD website.

— Select FreeSync Off if you are using a graphics card from a different manufacturer.

— When applying the FreeSync function via the HDMI cable, it may fail to work due to the bandwidth limitation of certain AMD graphics card.

- Radeon™ RX Vega series
- Radeon™ RX 500 series
- Radeon™ RX 400 series
- Radeon™ R9/R7 300 series (excluding R9 370/X, R7 370/X, R7 265)
- Radeon™ Pro Duo (2016 edition)
- Radeon™ R9 Nano series
- Radeon™ R9 Fury series
- Radeon™ R9/R7 200 series (excluding R9 270/X, R9 280/X)

Low Input Lag

Minimize input lag for fast reactions by reducing the video processing time.

— This menu is not available when FreeSync is enabled.

— This menu is not available when Refresh Rate is set to 60Hz.

— If the refresh rate of the PC is different from the setting for Refresh Rate on the product, the function may not be supported.

Screen Size

Select the best screen size and ratio.

— This menu is not available when FreeSync is enabled.

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.
- 17" (4:3): Use a 4:3 aspect ratio on a 17-inch screen. Pictures with a different aspect ratio will not be displayed.
- 19" (4:3): Use a 4:3 aspect ratio on a 19-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 19" Wide (16:10): Use a 16:10 aspect ratio on a 19-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 21.5" Wide (16:9): Use a 16:9 aspect ratio on a 21.5-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 22" Wide (16:10): Use a 16:10 aspect ratio on a 22-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 23" Wide (16:9): Use a 16:9 aspect ratio on a 23-inch wide screen. Pictures with a different aspect ratio will not be displayed.

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.
- 17" (4:3): Use a 4:3 aspect ratio on a 17-inch screen. Pictures with a different aspect ratio will not be displayed.
- 19" (4:3): Use a 4:3 aspect ratio on a 19-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 19" Wide (16:10): Use a 16:10 aspect ratio on a 19-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 21.5" Wide (16:9): Use a 16:9 aspect ratio on a 21.5-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 22" Wide (16:10): Use a 16:10 aspect ratio on a 22-inch wide screen. Pictures with a different aspect ratio will not be displayed.
- 23" Wide (16:9): Use a 16:9 aspect ratio on a 23-inch wide screen. Pictures with a different aspect ratio will not be displayed.

— 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.

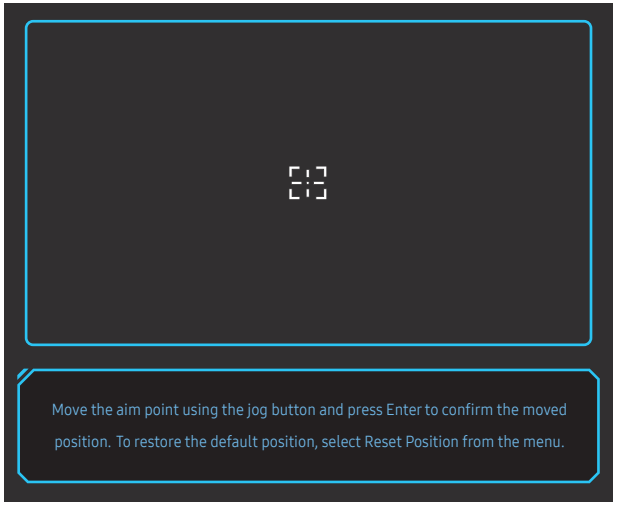
  — The input source is 480p, 576p, 720p, or 1080p and product can display normally (Not every model can support all of these signals.).

  — This can only be set when the external input is connected through HDMI/DP and PC/AV Mode is set to AV.

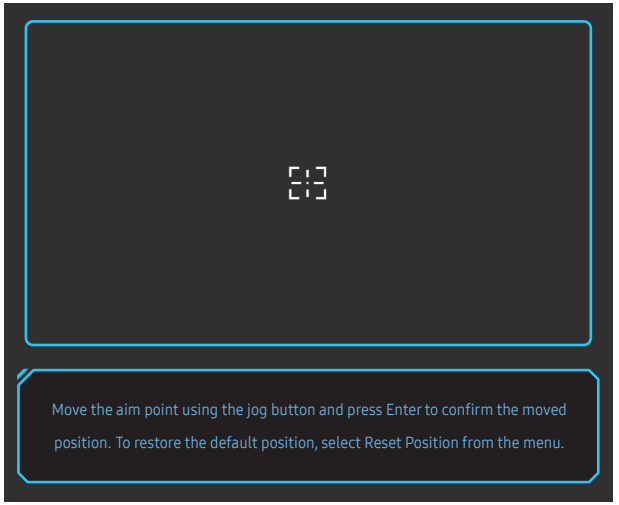
  — This option is available when FreeSync is set to Off.

Virtual Aim Point

- Off: Virtual Aim Point is not available while Off is selected.
- / / / / / : Select the preferred aim point style.
- Position Reset: Restore the aim point position to the default.

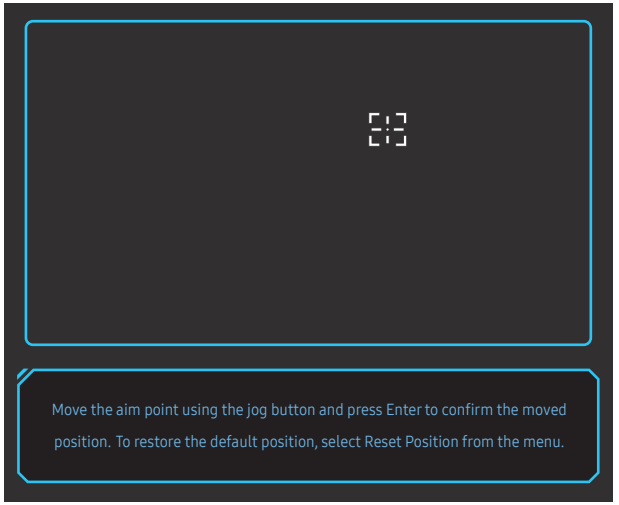


1 The aim point is displayed in the middle of the screen. Position adjustment is only possible within the displayed rectangular area.



2 The aim point is adjusted by 1 pixel per single move of the JOG button.

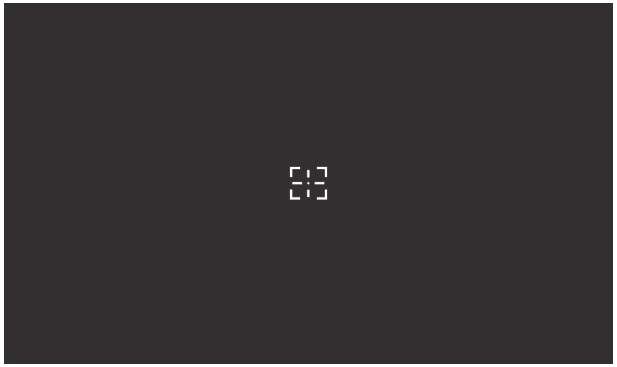
- The aim point no longer moves after having reached the displayed rectangular area.
- You can move continuously by holding down the JOG button.



3 After configuring settings is completed, press the Enter key of the JOG button. The aim point is fixed to the specified position and the settings screen disappears.



4 Position is resetted to center when select → Game → Virtual Aim Point → Position Reset.



Chapter 05
Picture

Function Key Guide → → Picture
Configure the screen settings such as brightness. A detailed description of each function is provided.

— 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.

Picture Mode

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

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

— This menu is not available when Dynamic Contrast is set to On.

In PC mode

- Custom: Customize the screen settings.
- FPS: Increase the brightness of darker areas of the FPS (First-Person Shooter) game screen. This mode increases visibility of your enemies during a FPS (First-Person Shooter) game.
- RTS: Increase the color temperature and contrast ratio to improve visibility of the RTS (Real-Time Strategy) screen and minimap.
- RPG: This mode is optimized for 3D graphics and instant messaging on the RPG (Role Playing Game) game screen.
- AOS: Increase the contrast ratio to obtain a picture quality optimized for the AOS (Aeon Of Strife) game screen.
- Cinema: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.

In AV mode

When the external input is connected through HDMI/DP and PC/AV Mode is set to AV, Picture Mode has four picture settings (Dynamic, Standard, Movie and Custom) that are preset at the factory. You can activate either Dynamic, Standard, Movie or Custom. You can select Custom which automatically recalls your personalized picture settings.

- Dynamic: Select this mode to view a sharper image than in Standard mode.
- Standard: Select this mode when the surroundings are bright.
- Movie: Select this mode when the surroundings are dark. This will save power and reduce eye fatigue.
- Custom: Select this mode when you want to adjust the image according to your preferences.

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 Eye Saver Mode is enabled.

— This menu is not available when Dynamic Contrast is set to On.

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 Picture Mode is set to Cinema mode.

— This menu is not available when Dynamic Contrast is set to On.

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 Picture Mode is set to Cinema mode.

— This menu is not available when Dynamic Contrast is set to On.

Color

Adjust the tint of the screen.

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

— This menu is not available when Picture Mode is set to Cinema mode.

- Color Tone: Select a color tone that best suits your viewing needs.
  - 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.

  — When the external input is connected through HDMI/DP and PC/AV Mode is set to AV, Color Tone has four color temperature settings (Cool, Normal, Warm and Custom).
- Red: Adjust the red saturation level. Values closer to 100 mean greater intensity for the color.
- Green: Adjust the green saturation level. Values closer to 100 mean greater intensity for the color.
- Blue: Adjust the blue saturation level. Values closer to 100 mean greater intensity for the color.
- Gamma: Adjust the middle level of luminance.
  - Mode1 / Mode2 / Mode3

HDMI Black Level

If a DVD player or set-top box is connected to the product via HDMI, image quality degradation (contrast/color degradation, black level, etc.) may occur, depending on the connected source device.

In such case, HDMI Black Level can be used to adjust the image quality.

— This function is only available in HDMI1, HDMI2 mode.

- Normal: Select this mode when there is no contrast ratio degradation.
- Low: Select this mode to reduce the black level and increase the white level when there is a contrast ratio degradation.

— HDMI Black Level may not be compatible with some source devices.

— The HDMI Black Level feature is only activated at a certain AV resolution, such as 720P @ 60Hz and 1080P @ 60Hz.

Eye Saver Mode

Set to an optimum picture quality suitable for eye relaxation.

Screen Adjustment

— This option is only available when PC/AV Mode is set to AV.

— This menu is only available when Screen 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 product can display normally, select Screen Fit to adjust horizontal position and vertical position in 0-6 levels.

Configuring H-Position & V-Position

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

V-Position: Move the screen up or down.

Chapter 06

OnScreen Display

Function Key Guide → → OnScreen Display
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.

Display Time

The OSD menu will automatically disappear if the menu is not used for a specified period of time.

Display Time is a function to specify the time which you want the OSD menu to disappear.

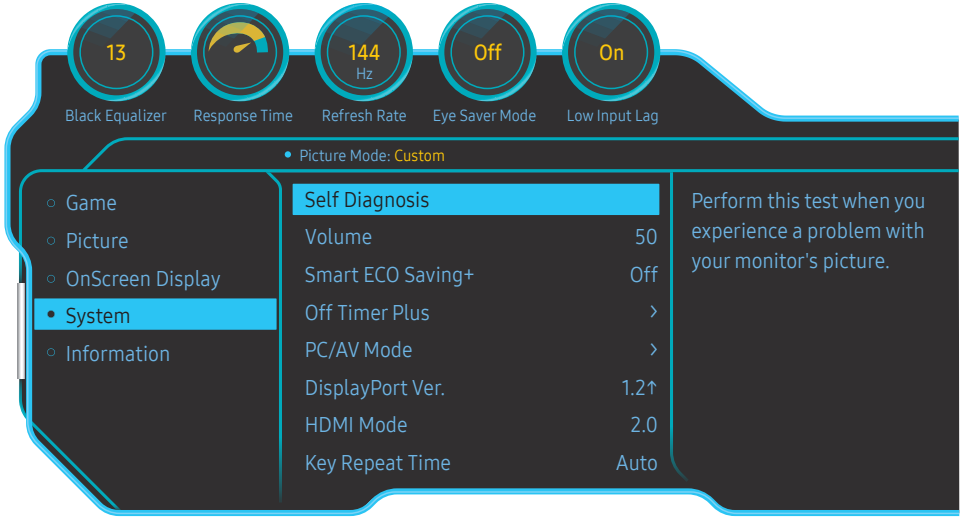
Chapter 07
System

Function Key Guide → → System
A detailed description of each function is provided. Refer to your product for details.

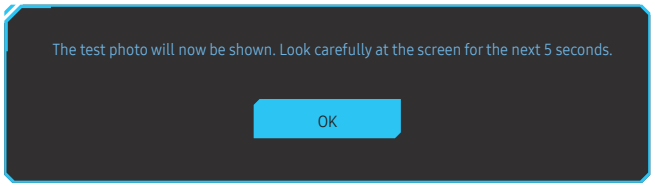
— The functions available may vary depending on the product model. The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

Self Diagnosis

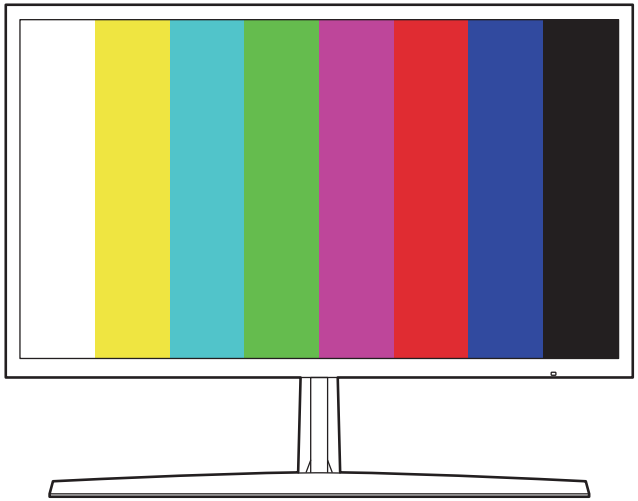
1 Use the function key and go to → System → Self Diagnosis.



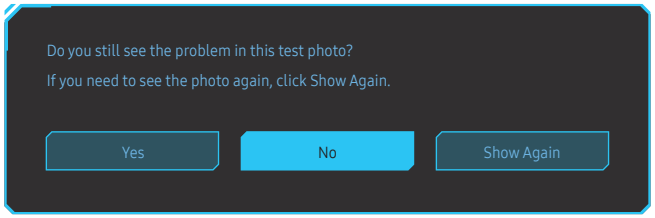
2 Select OK when the following screen is prompted.



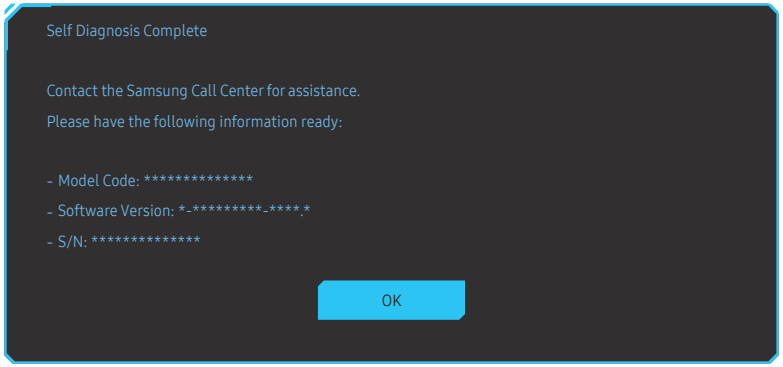
- Review the test screen.



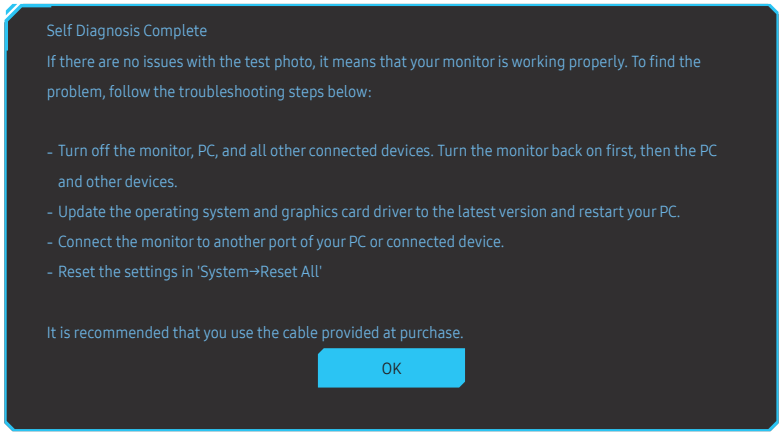
3 Base on the test result, select Yes / No / Show Again.



- You will see the following screen when you select Yes.



- You will see the following screen when you select No.



Volume

Adjust the Volume controlling the JOG button LEFT/RIGHT.

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

Dynamic Contrast

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

- Off / On

— This function may not be supported depending on the model or geographical area.

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

Smart ECO Saving+

The Smart ECO Saving+ function reduces power consumption by controlling the electric current used by the product panel.

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

- Off: Deactivate the Smart ECO Saving+ function.
- On: The power consumption will be adjusted to save energy automatically. (The reduction of power consumption depends on the customer screen brightness condition.)

Off Timer Plus

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 → System → Off Timer Plus and set Off Timer to Off.

Configuring Eco Timer

Eco Timer: Turn on Eco Timer mode.

Eco Off After: The Eco Off After 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.

PC/AV Mode

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.

— Monitors with a display area of 16:9 or 16:10 are only supported.

— If the product is in HDMI1, HDMI2, DisplayPort mode and the screen says Check the cable connection and the settings of the source device. press the JOG button to display the function-button screen and then select → System → PC/AV Mode → HDMI1, HDMI2, DisplayPort → PC or AV.

DisplayPort Ver.

Select your Displayport.

— Incorrect settings may cause the screen to go blank. If this occurs, check the device specifications.

— If the product (when set to HDMI1, HDMI2 or DisplayPort) is displaying the message Check the cable connection and the settings of the source device. press the JOG button to display the function-button screen and then select → System → DisplayPort Ver. → 1.1 or 1.2↑.

— If setting the DisplayPort Ver. to 1.1, for the bandwidth limitation of the DisplayPort 1.1 protocol, the actual maximum output refreshing rate of the graphics cards cannot achieve the level of 100 Hz/120 Hz/144 Hz.

HDMI Mode

Select the HDMI mode to use.

— The supportable device and resolution may differ depending on its version.

— When the version is changed, the screen may blink.

— If you set the HDMI Mode to 1.4, some high resolutions may not be supported because of bandwidth limitation of the HDMI 1.4 protocol.

— When the setting is not appropriate, a blank screen may appear. In this case, check the specifications of the device.

Source Detection

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

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.

Power LED On

Configure the settings to enable or disable the power LED located at the lower part of the product.

- Working: The power LED is on when the product is turned on.
- Stand-by: The power LED is on when the product is turned off.

Reset All

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

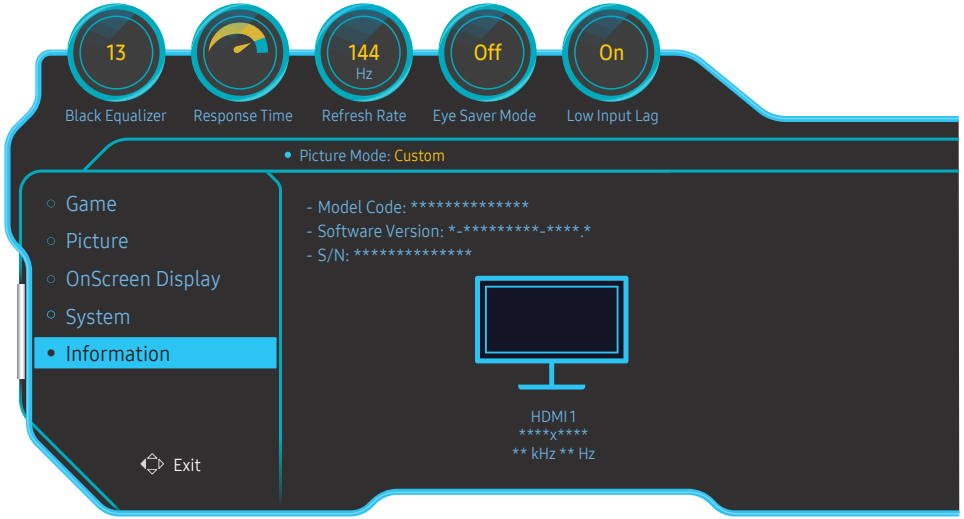
Chapter 08
Information

Function Key Guide → ⊞ → Information
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.

Information

View the current input source mode, frequency and resolution that are in use and the current product version.



— The displayed image may differ depending on the model.

Chapter 09

Installing the Software

Easy Setting Box



Easy Setting Box enables users to use the product by partitioning multiple sections.

To install the latest version of **Easy Setting Box**, download it from the Samsung Electronics website at http://www.samsung.com.

— The software may not work properly if you do not restart the PC after the installation.

— The **Easy Setting Box** icon may not appear depending on the PC system and the product specifications.

— If the shortcut icon does not appear, press the F5 key.

Restrictions and Problems with the Installation

The **Easy Setting Box** installation may be affected by the Graphics Card, Motherboard and the Networking Environment.

System Requirements

OS	Hardware
• Windows 7 32Bit/64Bit • Windows 8 32Bit/64Bit • Windows 8.1 32Bit/64Bit • Windows 10 32Bit/64Bit	• At least 32MB of memory • At least 60MB of free space on the hard disk drive

Chapter 10

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.

Monitor diagnosis (Screen issue)

If a problem occurs with the monitor screen, run Self Diagnosis to check that the monitor is working properly.

Checking the Resolution and Frequency

If a resolution that is not supported (see the Standard Signal Mode Table) is selected, the Not Optimum Mode message may appear for a short time or the screen may not be displayed properly.

— The displayed resolution may vary, depending on the PC 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.

Blank spaces are found on all four sides of the screen when an HDMI or HDMI-DVI cable is connected to the product and PC.

The blank spaces found on the screen have nothing to do with the product.

Blank spaces on the screen are caused by the PC or graphics card. To resolve the problem, adjust the screen size in the HDMI or DVI settings for the graphics card.

If the graphics card settings menu does not have an option to adjust the screen size, update the graphics card driver to the latest version.

(Please contact the graphics card or PC manufacturer for further details about how to adjust the screen settings.)

Screen issue

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

Check that the power cable is connected properly.

If a problem occurs with the monitor screen, run Self Diagnosis to check that the monitor is working properly.

The message Check the cable connection and the settings of the source device. appears.

Check that the cable is properly connected to the product.

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

If the monitor is in HDMI1, HDMI2 or DisplayPort mode, press the JOG button to display the function-button screen and select the icon.

Select PC or AV as shown on the menu screen.

Not Optimum Mode is displayed.

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

Change the maximum resolution and frequency to suit the product performance, referring to Standard Signal Mode Table (P.40).

The images on the screen look distorted.

Check the cable connection to the product.

The screen is not clear. The screen is blurry.

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.40) in this manual and the Information menu on the product.

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

Adjust Brightness and Contrast.

Screen color is inconsistent.

Change the Color settings.

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

Change the Color settings.

White does not really look white.

Change the Color settings.

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

The product is operating in power-saving mode.

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

Text is blurry.

If using a Windows OS (e.g. Windows 7, Windows 8, Windows 8.1 or Windows 10): Go to **Control Panel** → **Fonts** → **Adjust ClearType text** and change **Turn on ClearType**.

Video playback is choppy.

Playback of high-definition large video files can be choppy. This may be because the video player is not optimized for the PC resource.

Try playing the file on another video player.

Sound issue

There is no sound.

Re-check the condition of the connected audio cable and/or adjust the volume.

Check the volume.

Check whether audio is set to mute.

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.

Video is available but there is no sound.

Sound cannot be heard if an HDMI-DVI cable is used to connect the input device.

Connect the device using an HDMI cable or a DP cable.

Source device issue

A beeping sound is heard when my PC is booting.

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

Q & A

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

How can I change the frequency?

Set the frequency on your graphics card.

- Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Screen 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 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Adjust 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 7: Go to **Control Panel** → **Appearance and Personalization** → **Personalization** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC.
- Windows 8(Windows 8.1): Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC.
- Windows 10: Go to **Settings** → **Personalization** → **Lock screen** → **Screen timeout settings** → **Power & sleep** or BIOS SETUP on the PC.

Chapter 11
Specifications

General

Model Name	C24RG5*
Size	24 Class (23.5 Inches / 59.8 cm)
Display area	521.3952 mm (H) x 293.2848 mm (V) 20.5 Inches (H) x 11.5 Inches (V)
Pixel Pitch	0.27156 mm (H) x 0.27156 mm (V) 0.010691 Inches (H) x 0.010691 Inches (V)
Maximum Pixel Clock	350 MHz
Power Supply	AC100-240V~ 50/60Hz Based on the AC voltage of the adapter. For the DC voltage of the product, refer to the product label.
Signal connectors	HDMI, DisplayPort
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 product can be installed and used with any Plug-and-Play compatible systems. Two-way data exchange between the product and PC system optimizes the product settings. Product 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.

Standard Signal Mode Table

Synchronization	Horizontal Frequency	30 – 168 kHz
	Vertical Frequency	48 – 144 Hz
Resolution	Optimum resolution	1920 x 1080 @ 144 Hz
	Maximum resolution	1920 x 1080 @ 144 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	-/-
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, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900 RB	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	+/+

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
CEA, 1920 x 1080	112.500	100.000	297.000	+/+
CEA, 1920 x 1080	135.000	120.000	297.000	+/+
CEA, 1920 x 1080 RB	166.587	143.981	346.500	+/+

— 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.

— 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.

Chapter 12
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 is requested to give 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 the customer requests instructions on how to use another company's product.
- If customer requests instructions on how to use the network or another company's program.
- If customer requests software installation and setup for the product.
- If a service technician removes/cleans dusts or foreign materials inside of the product.
- If customer requests an installation additionally after purchasing a product through home-shopping or online.

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

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

Others

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

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