UHD Monitor
User Manual

U32D970

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.

Table of contents

Table of contents

Table of contents

Specifications

Appendix

Chapter 01

Before Using the Product

Copyright

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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.

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.
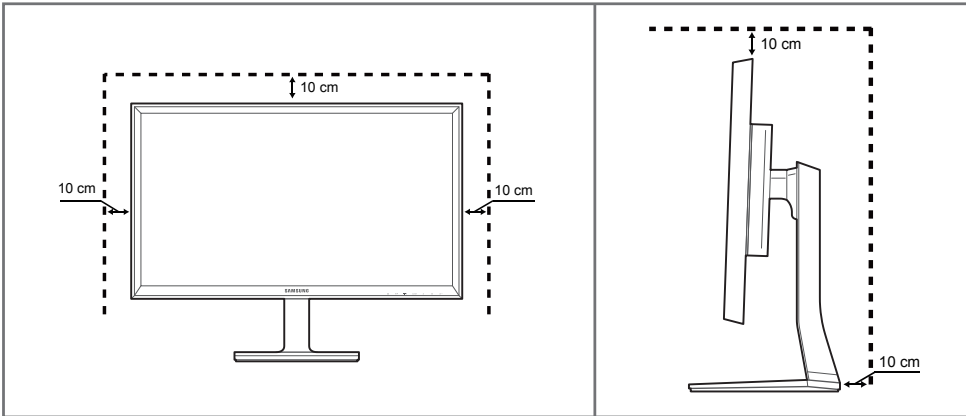
Precautions for storage

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.

Activities marked by this symbol are prohibited.

Instructions marked by this symbol must be followed.

Cleaning

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

— Take the following steps when cleaning.

— The following images are for reference only. Real-life situations may differ from what is shown in the images.
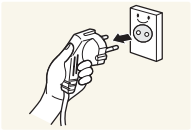
1 Power off the product and computer.

2 Disconnect the power cord from the product.

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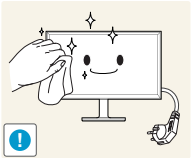
3 Wipe the monitor with a clean, soft and dry cloth.

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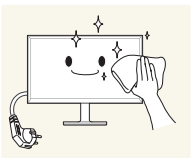
4 Wet a soft and dry cloth in water and wring thoroughly to clean the exterior of the product.
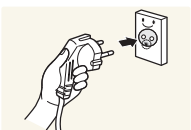
5 Connect the power cord to the product when cleaning is finished.

6 Power on the product and computer.

Electricity and Safety

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

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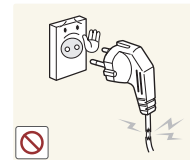
Do not use a damaged power cord or plug, or a loose power socket.

- An electric shock or fire may result.
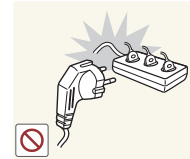
Do not use multiple products with a single power socket.

- Overheated power sockets may cause a fire.

Do not touch the power plug with wet hands. Otherwise, an electric shock may result.
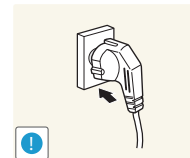
Insert the power plug all the way in so it is not loose.

- An unsecure connection may cause a fire.
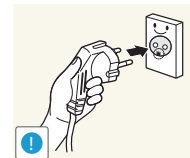
Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.

7
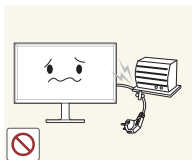
Do not bend or pull the power cord with force. Be careful not to leave the power cord under a heavy object.

- Damage to the cord may result in a fire or electric shock.

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

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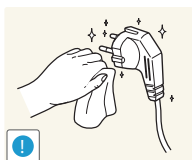
Clean any dust around the pins of the power plug or the power socket with a dry cloth.

- A fire may result.
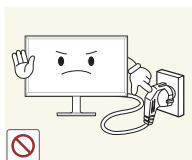
Do not disconnect the power cord while the product is being used.

- The product may become damaged by an electric shock.
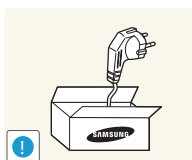
Only use the power cord provided with your product by Samsung. Do not use the power cord with other products.

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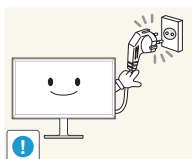
Keep the power socket where the power cord is connected unobstructed.

- The power cord must be disconnected to cut off power to the product when an issue occurs.
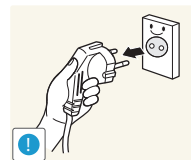
Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

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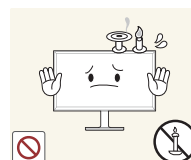
DO NOT PLACE CANDLES, INSECT REPELLANTS OR CIGARETTES ON TOP OF THE PRODUCT. DO NOT INSTALL THE PRODUCT NEAR HEAT SOURCES.

- A fire may result.

Do not install the product in poorly ventilated spaces such as a bookcase or closet.

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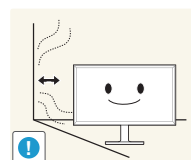
Install the product at least 10cm away from the wall to allow ventilation.

- An increased internal temperature may cause a fire.
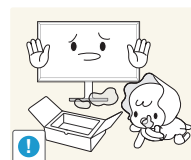
Keep the plastic packaging out of the reach of children.

- Children may suffocate.

8

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

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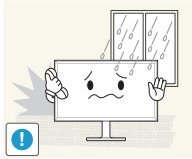
Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

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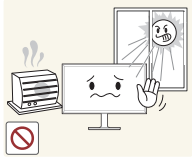
Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

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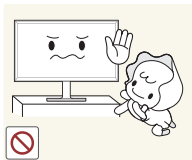
Do not install the product within the reach of young children.

- The product may fall and injure children.

Edible oil, such as soybean oil, can damage or deform the product. Do not install the product in a kitchen or near a kitchen counter.

Caution
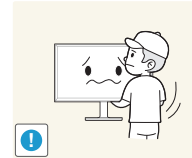
Do not drop the product while moving.

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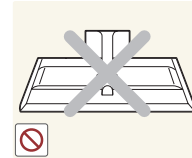
Do not set down the product on its front.

- The screen may become damaged.
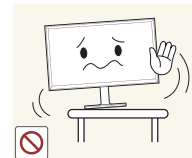
When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and become damaged and/or cause an injury.
- Install the product only on cabinets or shelves of the right size.
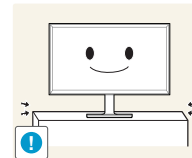
Set down the product gently.

- Product failure or personal injury may result.

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

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

Operation
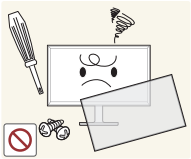
There is a high voltage inside the product. Never disassemble, repair or modify the product yourself.

- A fire or electric shock may result.

- Contact Samsung Customer Service Center for repairs.
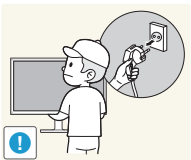
Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

- Damage to the cord may result in a fire or electric shock.
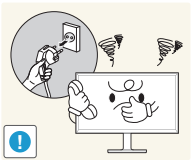
If the product generates abnormal sounds, a burning smell or smoke, disconnect the power cord immediately and contact Samsung Customer Service Center.

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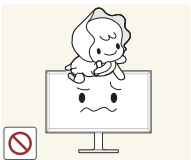
Do not let children hang from the product or climb on top of it.

- Children may become injured or seriously harmed.

If the product is dropped or the outer case is damaged, turn off the power switch and disconnect the power cord. Then contact Samsung Customer Service 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.
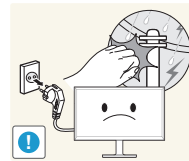
During a lightning or thunderstorm, power off the product and remove the power cable.

- A fire or electric shock may result.

Do not drop objects on the product or apply impact.

- A fire or electric shock may result.
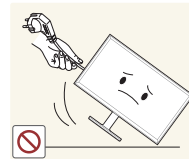
Do not move the product by pulling the power cord or any cable.

- Product failure, an electric shock or fire may result from a damaged cable.
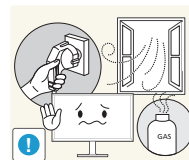
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.
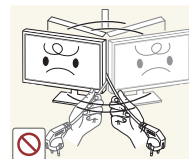
Do not lift or move the product by pulling the power cord or any cable.

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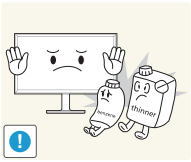
Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.

Ensure the vents are not blocked by tablecloths or curtains.

- An increased internal temperature may cause a fire.
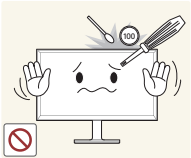
Do not insert metallic objects (chopsticks, coins, hairpins, etc) or objects that burn easily (paper, matches, etc) into the product (via the vent or input/output ports, etc).

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

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

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

- 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.

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

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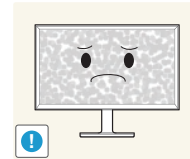
Leaving the screen fixed on a stationary image for an extended period of time may cause afterimage burn-in or defective pixels.

- Activate power-saving mode or a moving-picture screen saver if you will not be using the product for an extended period of time.
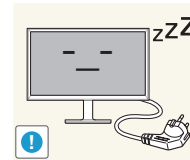
Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

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

Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.
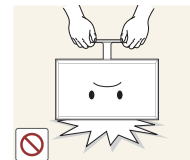
Do not hold the product upside-down or move it by holding the stand.

- The product may fall and become damaged or cause an injury.
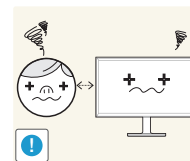
Looking at the screen too close for an extended period of time can deteriorate your eyesight.

Do not use humidifiers or stoves around the product.

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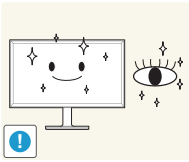
Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.

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

Store small accessories out of the reach of children.
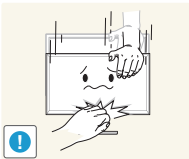
Exercise caution when adjusting the product angle or stand height.

- Your hand or finger may get stuck and injured.
- Tilting the product at an excessive angle may cause the product to fall and an injury may result.
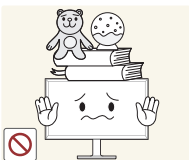
Do not place heavy objects on the product.

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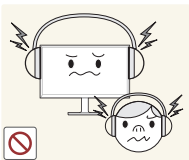
When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.

Correct posture to use the product

50cm

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.

Chapter 02
Preparations

Checking the Components

- – Contact the vendor where you purchased the product if any components are missing.

- – The appearance of the components and items sold separately may differ from the image shown.

- – Recommend to use the HDMI cable and DP cable which is provided by the supplier.

- – The optimal resolution may not be available when using a non-high speed HDMI or HDMI-DVI cable.

- – To display the screen using a supported resolution, use the cables that came with the product. You can also use DP or HDMI cables that support UHD.

- – The Mini DP to DP gender changer may not be provided, depending on the model.

Components

― Components may vary depending on the country.
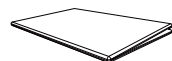
Quick Setup Guide	Warranty card (Not available in some locations)	Regulatory guide	Natural Color Expert Data Sheet
User manual	DP cable (P.35)	Mini DP to DP gender (Optional)	HDMI cable (P.35)
USB 3.0 cable (P.38)	Power cable (P.36)	Wall-mount bracket	Cleaning cloth (Optional)
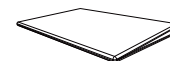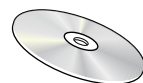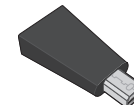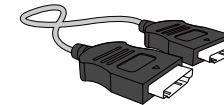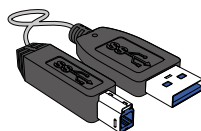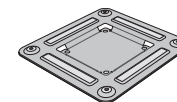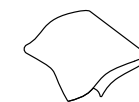
Parts

Front Buttons

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

Function Key Guide

Icons	Description
⊞	Open or close the onscreen display (OSD) menu, or return to the parent menu. When the initial screen is displayed, press any button on the front of the product to display the Function Key Guide. With the Guide displayed, press ⊞ to display the on-screen display menu.
◁))	When the Function Key Guide is displayed, press ◁)) to set the **Volume**. — The **Volume** can be adjusted if the input source is **DisplayPort1**, **DisplayPort2** or **HDMI**.
● / ●	Move to the upper or lower menu or adjust the value for an option on the OSD menu.
☼	When the Function Key Guide is displayed, press ☼ to adjust the **Brightness** and **Contrast**.
▱/⤵	Confirm a menu selection. Pressing the ▱/⤵ button when the OSD menu is not displayed will change the input source (**DVI**, **HDMI**, **DisplayPort1**, **DisplayPort2**). When **PIP/PBP** is set to **On** and the Function Key Guide is displayed, press ▱/⤵ to set the **Source** for **PIP/PBP**. — 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.
⋮⋮	When the Function Key Guide is displayed, press ⋮⋮ to configure **Color Mode** settings. — For details on how to configure **Color Mode** settings, refer to "**Color Mode**(P.41)".
▯▯	When the Function Key Guide is displayed, press ▯▯ to configure **PIP/PBP** settings. — For details on how to configure **PIP/PBP** settings, refer to "**PIP/PBP**(P.55)".

14

Icons	Description
⏻	Turn the screen on or off. The power indicator will be lit when the product is operating normally. ― For details on the power-saving function, refer to "PowerSaver(P.90)" in the product specifications. ― To reduce power consumption, it is best to remove the power cable when not using the product for an extended period of time.
Function Key Guide	When a control button on the product is pressed, the Function Key Guide will be displayed before the onscreen menu opens. (The guide shows the function of the button pressed.) To access the onscreen menu when the guide is displayed, press the corresponding button again. The Function Key Guide may vary depending on the function or product model. Refer to the actual product.

Reverse Side

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

—To maximize the picture quality, a graphics card that supports the UHD (3840x2160) resolution is recommended.

POWER IN

DVI IN   HDMI IN   DP IN 1   DP IN 2   AUDIO OUT   SS⇄(PC IN)   SS⇄ 3   SS⇄ 4

Port	Description
POWER IN	Connect the power cord for your monitor to the **POWER IN** port on the back of the product.
DVI IN	Connects to a source device via a DVI cable. —UHD resolution (3840x2160 @ 30Hz) is available if a dual-link DVI cable is connected.
HDMI IN	Connects to a source device using an HDMI cable or HDMI-DVI cable. —When an HDMI cable is connected, the product can display UHD resolution (3840x2160 @ 30Hz). —The product does not support UHD resolution when an HDMI-DVI cable is connected.
DP IN 1 DP IN 2	Connects to a PC using a DP cable. —When a DP cable is connected, the product can display UHD resolution (3840x2160 @ 60Hz).
AUDIO OUT	Connect to an audio output device such as headphones.
SS⇄(PC IN)	Connects to a PC using a USB cable. —This port can only connect to a PC.
SS⇄ 1 SS⇄ 2 SS⇄ 3 SS⇄ 4	Connect to a USB device. Compatible with a USB cable version 3.0 or lower. —Source devices can be charged using these USB ports. —To use the **USB Super Charging** feature, go to **Settings** → **USB Super Charging** and set the USB port that will be used for fast charging to **On**. The USB data transfer feature is not available when the **USB Super Charging** feature is set to **On**. —High-speed charging is possible using the SS⇄ 1 and SS⇄ 2 ports only. These ports charge devices faster than typical USB ports. The speed depends on the connected devices.

Installation

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

Caution
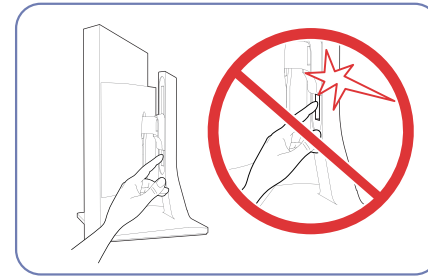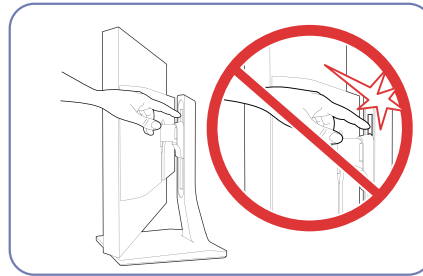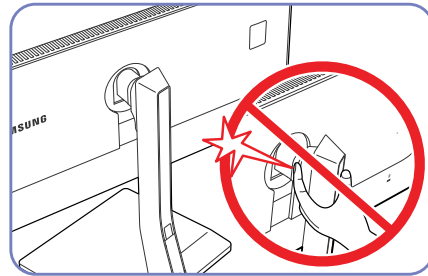
Take extra care to ensure your hand does not get stuck in the rotating area or the height adjustment area. This could injure your hand.
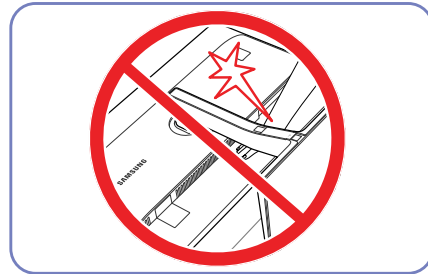
Do not put the hand below the stand body.
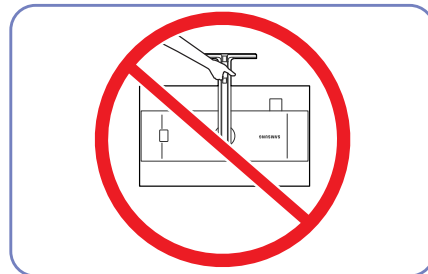
Do not hold the product upside down only by the stand.

Installing a Wall-mount Kit or Desktop Stand

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

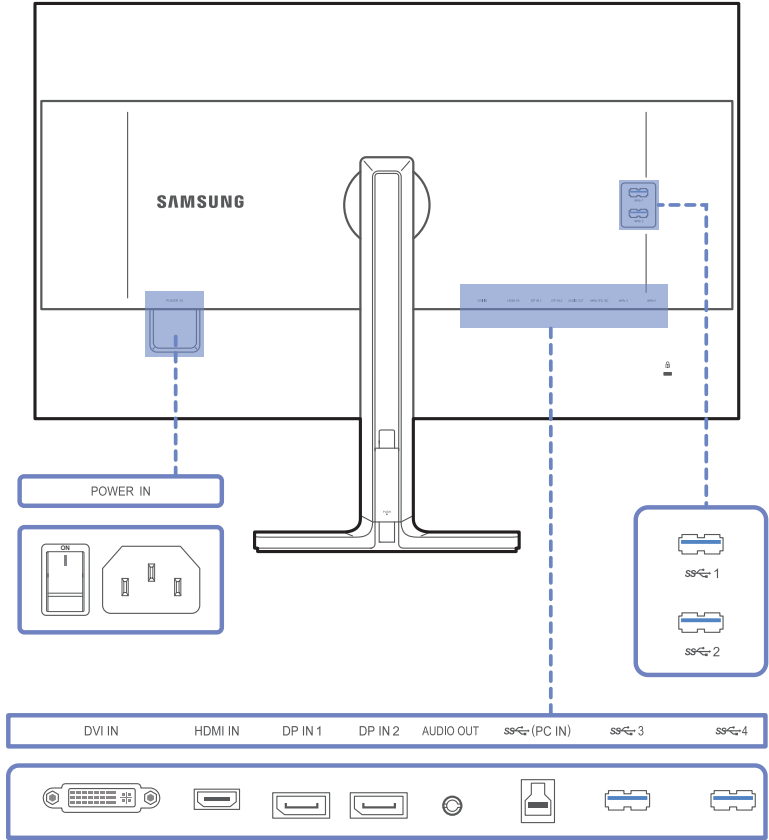### Before Installation

― Power the product off and remove the power cable from the power socket.
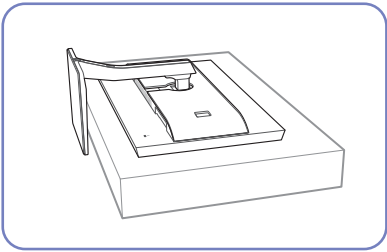
Place a protective cloth or cushion on a flat surface. Next, place the product with the face down on top of the cloth or cushion.
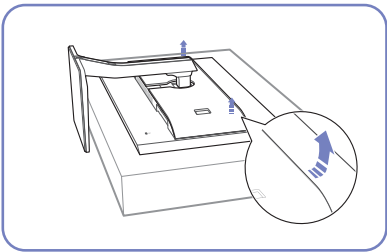
Lift and detach the rear cover of the product in the arrow direction.
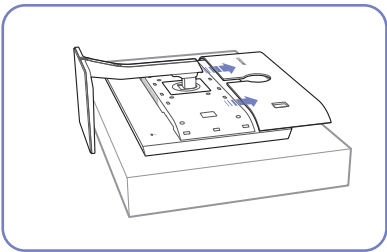
Detach the cover from the back of the product in the direction indicated by the arrows.
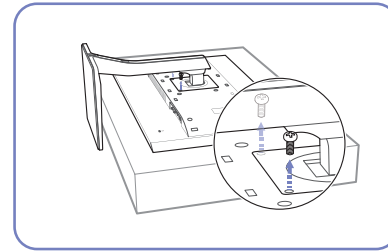
Unfasten the screw from the back of the product.
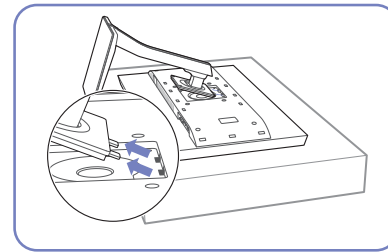
Lift and detach the stand.

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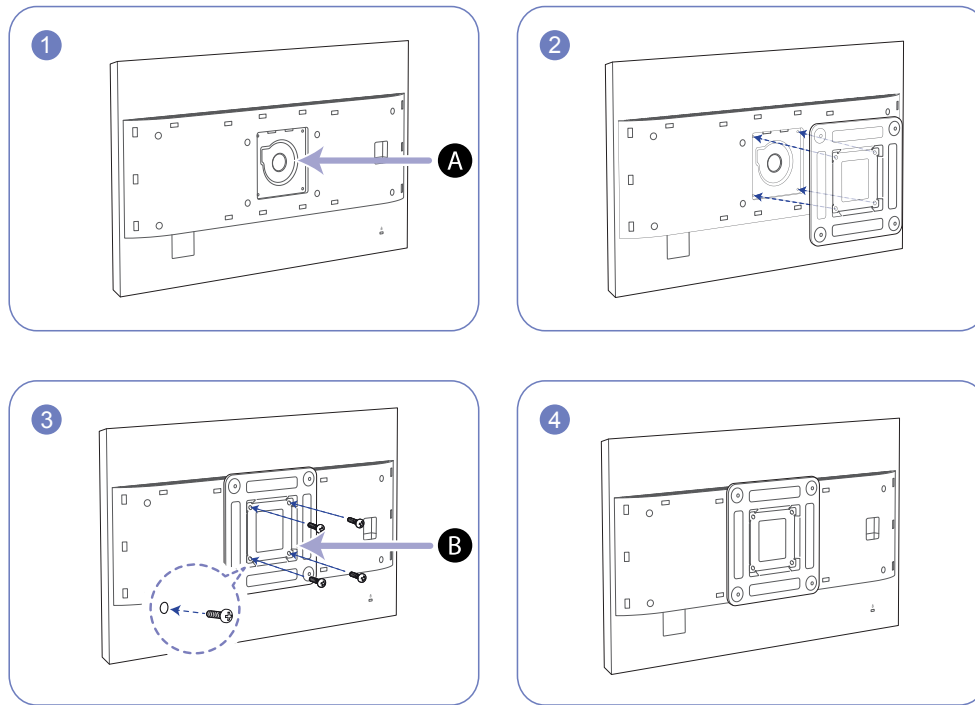
A - Attach the wall-mount kit or desktop stand here

B - Wall-mount bracket

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.

― Using a screw longer than the standard length can damage the internal components of the product.

― The length of screws required for a wall mount that does not comply with the VESA standards may vary depending on the specifications.

― Do not use screws that do not comply with the VESA standards. Do not attach the wall-mount kit or desktop stand using excessive force. The product may get damaged or fall and cause personal injury. Samsung shall not be held liable for any damage or injury caused by using improper screws or attaching the wall-mount kit or desktop stand using excessive force.

― Samsung shall not be held liable for any product damage or personal injury caused by using a wallmount kit other than the one specified or from an attempt to install the wall-mount kit on your own.

― To mount the product on a wall, ensure you purchase a wall-mount kit that can be installed 10 cm or farther away from the wall.

― Be sure to use a wall-mount kit that complies with the standards.

― To install the product on a wall using the wall-mount kit, remove the stand.

Adjusting the Product Tilt and Height

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

$-30°(+0, -2°) \sim 30°(+2°, 0)$

$-1.5°(-1.5°, +1.5°) \sim 91.5°(-1.5°, +1.5°)$

$130\ mm \pm 2.0\ mm$

$-5°(\pm 2.0°) \sim 20°(\pm 2.0°)$
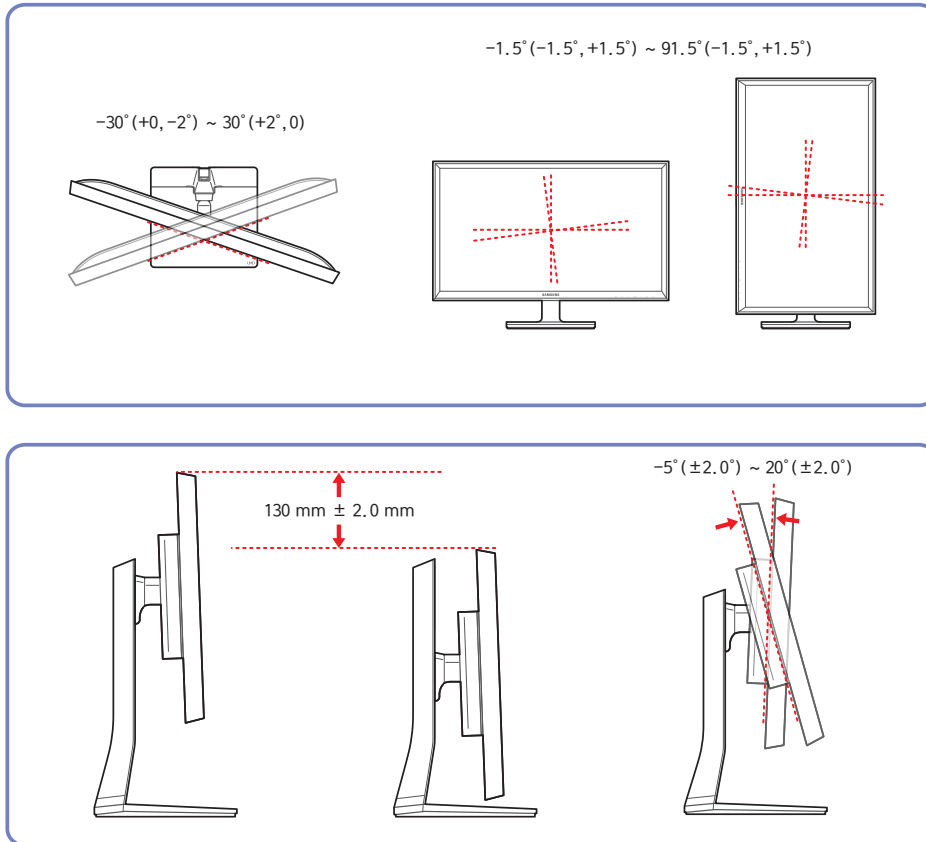
- The monitor tilt and height can be adjusted.

- To avoid damage to the product when adjusting the tilt, push or pull the top area of the product at the center while holding the top of the stand.

Rotating the Monitor Screen

You can rotate your monitor as shown below.

① ② ③ ④ ⑤ ⑥
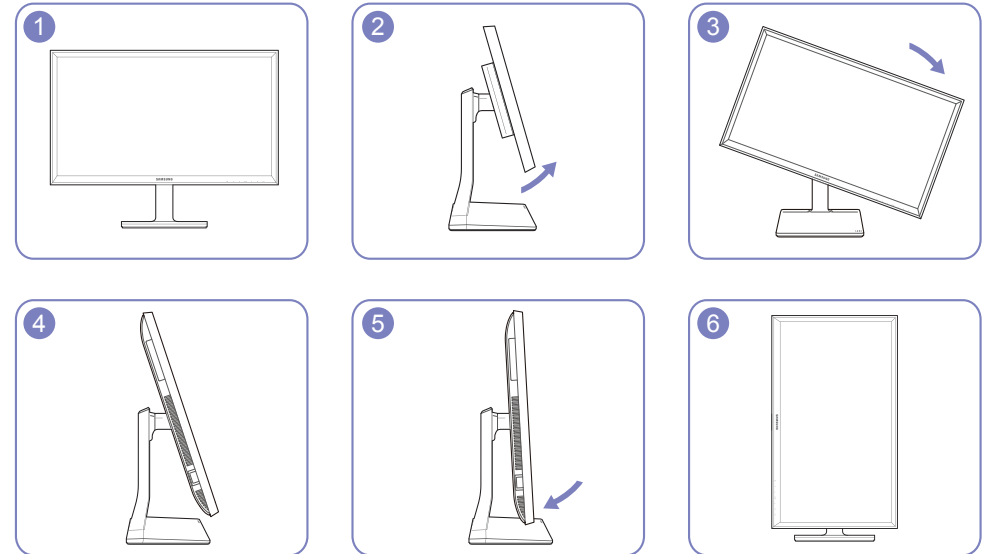
― Adjust the screen following the arrow direction.

― Rotate the screen in clockwise direction till it becomes completely vertical to the desktop.

― Rotating the screen counterclockwise can damage the product. Rotating the screen when the product is upright or when the height is not at the maximum can also damage the product.

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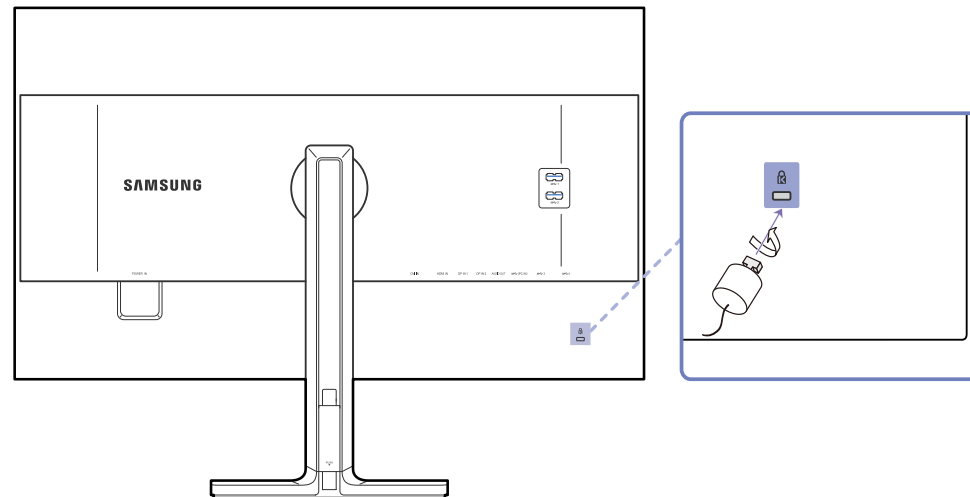
1   Fix the cable of your anti-theft locking device to a heavy object such as a desk.

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.

MagicRotation Auto

The **MagicRotation Auto** function detects the rotation of monitors that are fitted with a rotation sensor and rotates the Windows screen accordingly.

Software Installation

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

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

― After installation, the application menu language will be displayed in the language of the operating system. (This complies with the basic policies of Windows.)

Caution

1 Compatible only with Windows 7 (32 bit or 64 bit) and Windows 8 (32 bit or 64 bit), Windows 8.1 (32 bit or 64 bit).

2 Compatible with a graphics card that complies with the DDC/CI and MS API standards

With a graphics card that does not comply with the aforementioned standards, the **MagicRotation Auto** function may not be available.

3 To maximize the performance of the function, update the graphics card driver to the latest version.

4 Fourteen languages are available as installation languages.

English, Français, Deutsch, Magyar, Italiano, Polski, Português
Русский, Español, Svenska, Türkçe, 日本語, 汉语, 한국어

5 If the orientation is set to a mode other than "Landscape" in the screen resolution menu on Windows 7, the "MagicRotation Auto" function may not work properly.

6 The OSD menu will be displayed if the monitor is rotated. When the monitor is rotated, the screen reconfiguration process may be displayed or screen burn-in may appear, depending on the graphics card. This is performed by the Windows operating system and has nothing to do with the product.

7 If you do not want the screen to rotate automatically when the monitor is rotated, press the Windows and L keys at the same time to lock the Windows operating system. If the operating system cannot be locked, it is due to the constraints of Windows API and has nothing to do with the product.

Rotating the monitor

When rotating the monitor, the rotation angle is displayed on the monitor screen.

0°   **90°**
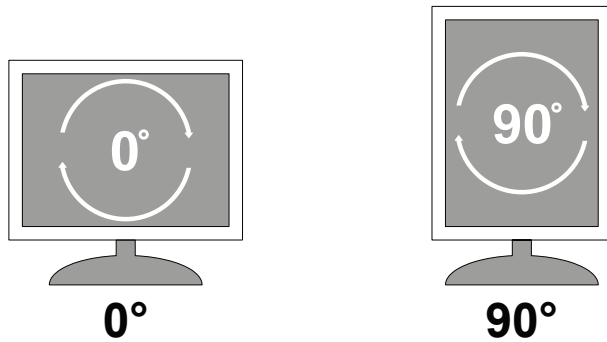
The on-screen display (OSD) menu items will automatically rotate when the screen rotates.
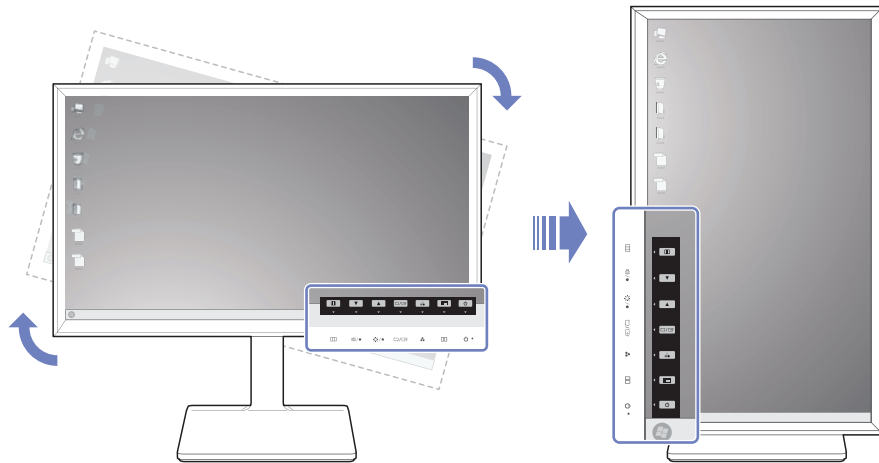
Caution

1 If the **MagicRotation Auto** software is not installed on the monitor, contents on the screen cannot be rotated. The OSD can still rotate by 90° and display properly.

2 Once rotated, the OSD may appear in a different view mode from the mode before it was rotated.

Chapter 03
Using NCE(Natural Color Expert)

Configure the screen settings such as brightness and color tone.

What is Monitor Calibration?

Most of digital images are managed onscreen. That is why a monitor is very important for photographers and designers.

The process to calibrate a monitor in order to display proper colors is called monitor calibration.

This product went through a calibration process using color measurement equipment in the factory before shipment.

To obtain the optimum picture quality after calibration, select **Custom** or **Calibration 1**, **Calibration 2**, **Calibration 3** mode on the monitor.

Supported calibrators

	I1 Pro	i1Display Pro	ColorMunki Design ColorMunki Photo	CA-210 / CA-310	Spyder 4
Manufacturer	xrite	xrite	xrite	KONICA MINOLTA	datacolor
Supported operating systems (Windows)	Windows Vista 32 & 64 Windows 7 32 & 64 Windows 8 32 & 64 Windows 8.1 32 & 64	Windows Vista 32 & 64 Windows 7 32 & 64 Windows 8 32 & 64 Windows 8.1 32 & 64	Windows Vista 32 & 64 Windows 7 32 & 64 Windows 8 32 & 64 Windows 8.1 32 & 64	Windows Vista 32 & 64 Windows 7 32 & 64 Windows 8 32 & 64 Windows 8.1 32 & 64	Windows Vista 32 & 64 Windows 7 32 & 64 Windows 8 32 & 64 Windows 8.1 32 & 64
Supported operating systems (Mac)	Mac OS X 10.6 Snow Leopard Mac OS X 10.7 Lion Mac OS X 10.8 Mountain Lion Mac OS X 10.9 Mavericks	Mac OS X 10.6 Snow Leopard Mac OS X 10.7 Lion Mac OS X 10.8 Mountain Lion Mac OS X 10.9 Mavericks	Mac OS X 10.6 Snow Leopard Mac OS X 10.7 Lion Mac OS X 10.8 Mountain Lion Mac OS X 10.9 Mavericks		Mac OS X 10.6 Snow Leopard Mac OS X 10.7 Lion Mac OS X 10.8 Mountain Lion Mac OS X 10.9 Mavericks

What is NCE (Natural Color Expert)?

The Natural Color Expert (hereinafter "NCE") program was developed by Samsung Electronics to display optimized colors customized by users.

― This product supports the monitor calibration feature through the internal NCE function and the provided NCE program. (a calibrator can be purchased separately).

― The default calibration settings measured at the factory can be restored after the product is calibrated using the NCE software.

― Note that the default calibration settings measured at the factory may vary depending on the panel characteristics. Panel characteristics can change according to operating time.

NCE Program Installation/Uninstallation

Installation

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

2 Click the **Natural Color Expert V4** installation program.

― If the software installation screen does not pop up on the main screen, go to CD-ROM → **AutoPlay** → **Manual** → **NCE** folder. Next, install using the **Natural Color Expert v4** execution file.

3 If the **Natural Color Expert V4 InstallShield Wizard** screen appears, click **Next** and **Install** in sequence.

4 Installation progress will be displayed.

5 Click **Finish** in the displayed **InstallShield Wizard Complete** screen.

6 The **Natural Color Expert V4** shortcut icon will be created on the desktop after installation.

― The **Natural Color Expert V4** execution icon may not be displayed depending on the PC system or product specifications.

― Press the F5 key (**Refresh**) if the execution icon does not appear.

Uninstallation

1 Go to **Settings** → **Control Panel** on the Start menu and double-click **Add or Remove Programs**.

2 Select **Natural Color Expert V4** from the list and click **Change/Remove**.

― **Natural Color Expert V4** installation can be affected by the graphics card, mother board and network conditions.

Starting NCE (Natural Color Expert)

Connecting the Calibrator

1 Connect the PC IN port on the product to a USB port on the PC using the USB cable.

2 Connect the calibrator to a USB port on the product.

― Install the driver (which is usually provided with a calibration program) provided by the calibrator manufacturer first before connecting the calibrator.
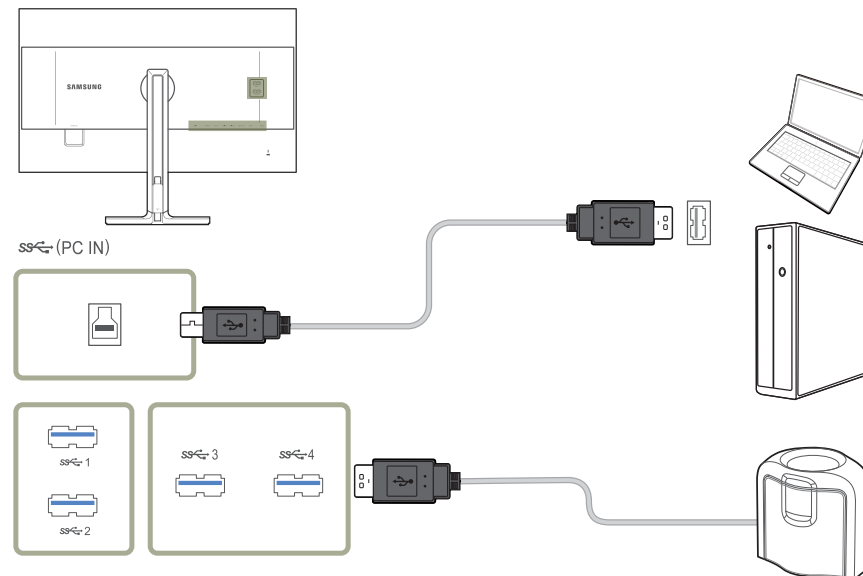
3 The connected calibrator will automatically appear in the **Select a Calibrator** screen.

― If more than one calibrator is connected, select the desired calibrator in the **Select a Calibrator** screen. Next, click **Next**.

Features of the NCE Program

Layout and Menu Items on the NCE Home Screen

Select **Profile List** to view information on each profile. Select the **Start** button to perform calibration.
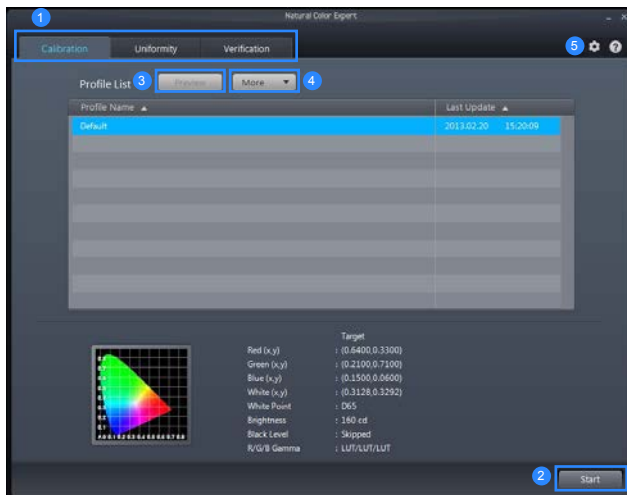
1	Select a tab to perform the desired functions.

| 2 | If the **Profile List** does not contain a profile, select **Default** and then start calibration. |
| | If the **Profile List** contains profiles, select a profile to edit or calibrate the profile. |

| 3 | Select a profile to preview the screen. Ensure the **Profile List** contains profiles. |

4	Select **More** to edit a profile as follows.
	• **Rename**: Change a profile name.
	• **Delete**: Delete the selected profile.
	• **Delete All**: Delete all profiles on the list of profiles.
	• **Export**: Save the selected profile to another path.
	• **Import**: Import a profile from another path.

| 5 | Configure the system settings. |

27

Layout and Menu Items on the Uniformity Screen

Perform calibration for **Uniformity** to optimize the display uniformity of the monitor.

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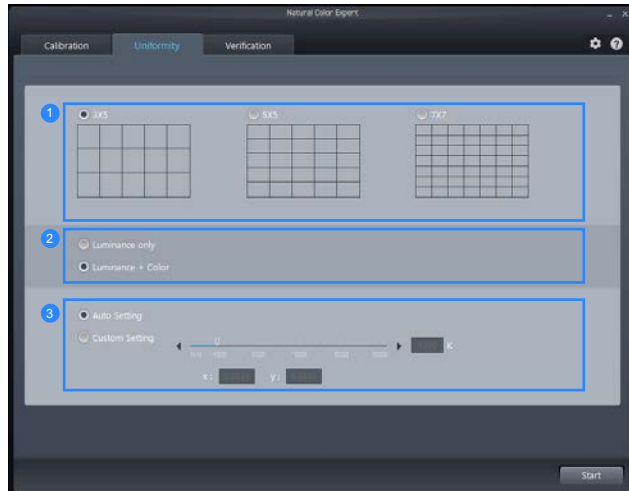
①   Specify the number of blocks displayed per screen during **Uniformity** calibration.

A greater number of blocks will increase the precision of uniformity calibration.

---

②   Select **Luminance only** to perform calibration only for the brightness. Select **Luminance and Color** to perform calibration for both the brightness and colors.

If both **Luminance and Color** are enabled, the color temperature uniformity will also increase after calibration.

---

③   Specify the color temperature when performing calibration. To obtain a more accurate color temperature, it is recommended to perform **Uniformity** calibration before color calibration.

Overview and Functions of the Verification Screen

This screen allows you to verify the difference between the current monitor picture quality and the target value. (for calibration mode only)

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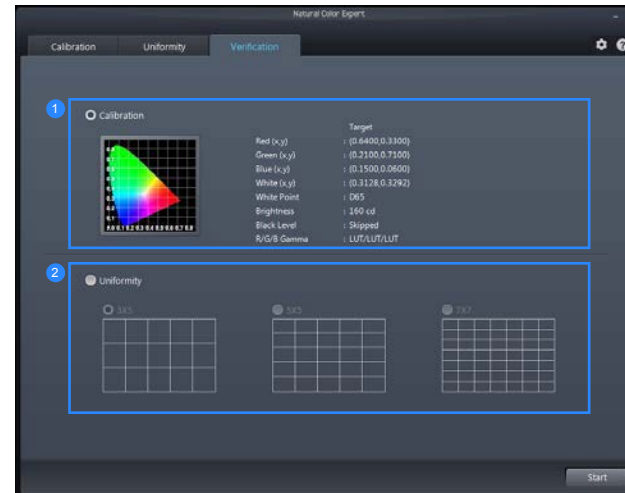
①   Perform color verification for the currently displayed screen compared with profiles (for calibration mode only).

---

②   Perform **Uniformity** verification for the currently displayed screen (for calibration mode only).

Starting Calibration

If the **Profile List** does not contain a profile, select **Default** and then start calibration.

If the **Profile List** contains profiles, select a profile to edit or calibrate the profile.

Go to "Home screen – System settings – **Profile Mode**."

Basic mode

1   Select **Default** or a profile from the **Profile List**. Next, select the **Start** button.
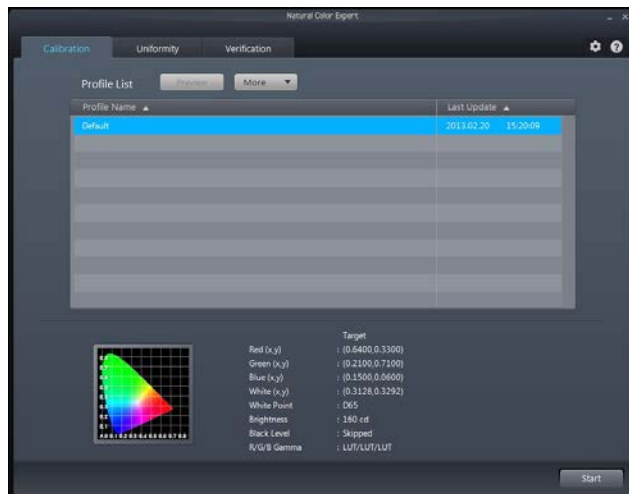
2   Specify the color gamut.
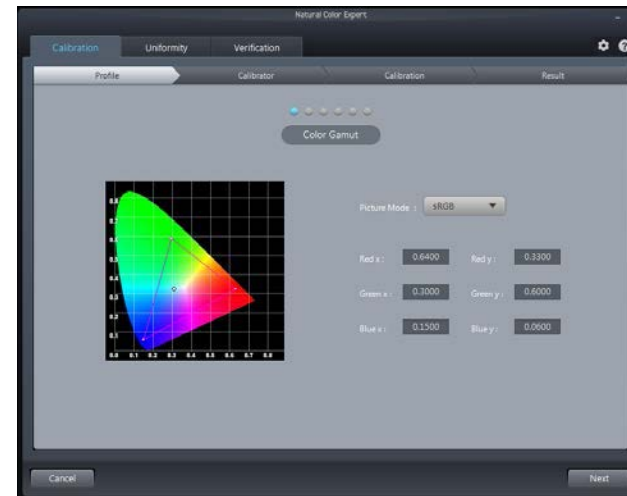
3   Configure the **Brightness**. The brightness level after calibration may depend on the color temperature.
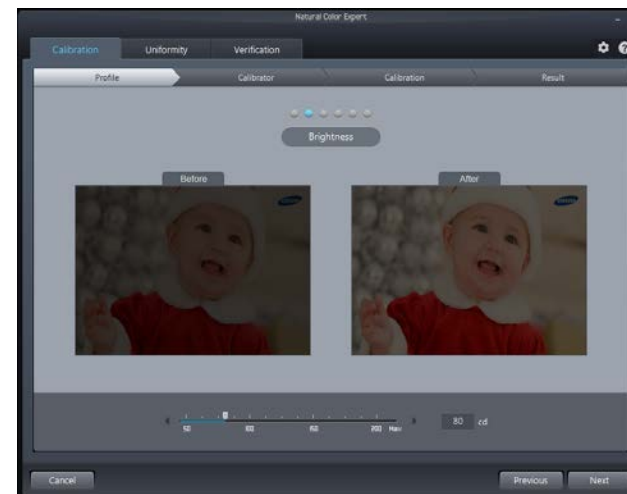
4   Configure the **Black Level** setting. If you do not adjust the black level setting by moving the slider button, the minimum brightness will automatically be applied.

5   Configure the color temperature for **White Point** (range: 4000K – 10000K). To select a standard brightness, click the **Standard** button.

6   Configure the **R/G/B Gamma** settings. If you configure LUT, the gamma curve of sRGB will be applied.

 • If **Linear Gray** is selected, **DeltaE** (color difference) for the gray scale changes to less than 1 after calibration.

 • If **Deep Black** is selected, the black luminance becomes darker than **Linear Gray** after calibration. The minimum brightness varies depending on the "**Black Level**" settings.

7 Start calibration.

- Select the connected calibrator, then click **Next**.
- Attach the calibrator to the indicated spot on the screen, then click **Next**.

― Set the screensaver time to at least 30 minutes before starting measurement.

― The calibration process will be performed in full screen. To cancel a calibration that is in progress, press the **ESC** key.

8 After calibration, you can compare the screens before and after the calibration using the **After** / **Before** buttons.

Click **Save** to save the calibration results to **Calibration** on the monitor.

Advanced

1 Settings required to calibrate can be configured from a single page.
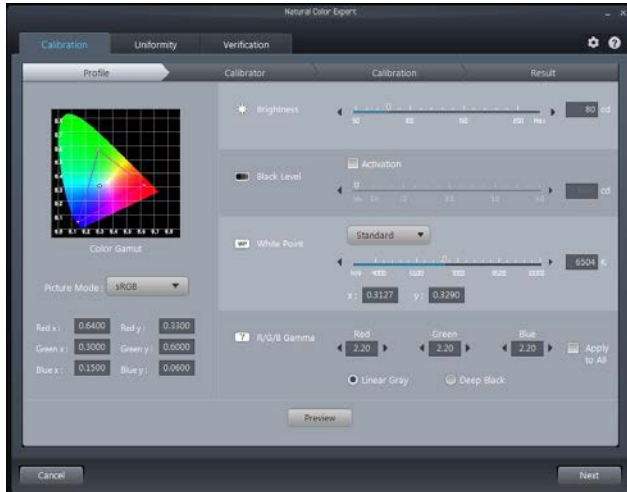
2 Start calibration.

- Select the connected calibrator, then click **Next**.
- Attach the calibrator to the indicated spot on the screen, then click **Next**.

— Set the screensaver time to at least 30 minutes before starting measurement.

— The calibration process will be performed in full screen. To cancel a calibration that is in progress, press the **ESC** key.

3 After calibration, you can compare the screens before and after the calibration using the **After** /
Before buttons.

Click **Save** to save the calibration results to **Calibration** on the monitor.

Before Connecting

Check the following before you connect this product with other devices.

Pre-connection Checkpoints

―Before connecting a source device, read the user manual provided with it.
The number and locations of ports on source devices may differ from device to device.

―Do not connect the power cable until all connections are completed.
Connecting the power cable during connection may damage the product.

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

―To maximize the picture quality, a graphics card that supports the UHD (3840x2160) resolution is recommended.

Connecting and Using a PC

Select a connection method suitable for your PC.

―Connecting parts may differ in different products.

Connection using a Dual-link DVI cable

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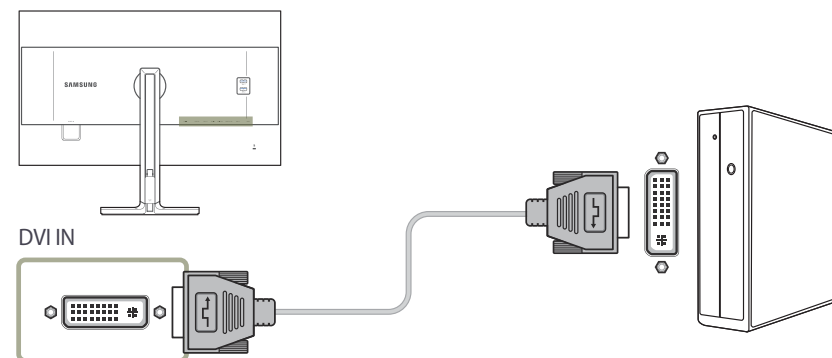
DVI IN

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

2 Press ⬓/⬒ to change the input source to **DVI**.

―Audio is not available if the PC and product are connected via the DVI port.

―UHD resolution (3840x2160 @ 30Hz) is available if a dual-link DVI cable is connected.

Connection Using the HDMI Cable

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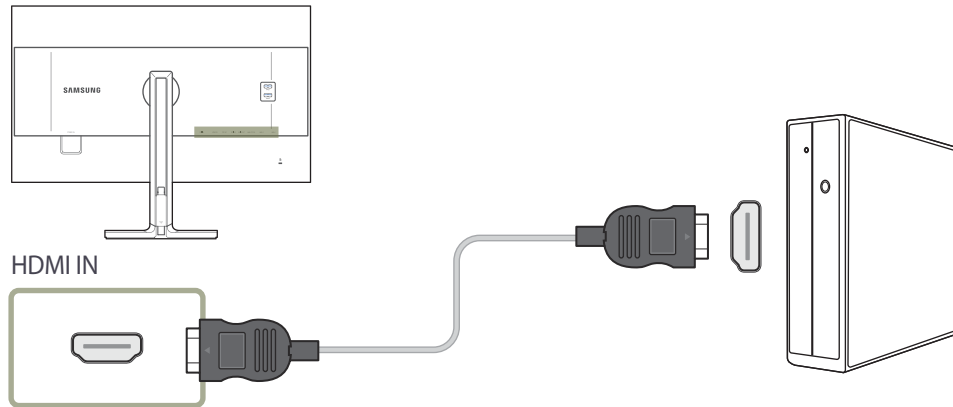
HDMI IN

1 Connect the HDMI cable to the **HDMI IN** port on the back of the product and the HDMI port on the PC.

2 Press ⬚/⤶ to change the input source to **HDMI**.

― If audio is supported, the **Volume** can be adjusted using the ◁) buttons on the front of the product.

― The DVI-HDMI cable can be connected to an HDMI port only.

― Use of the maximum resolution may not be possible and the picture quality may degrade, depending on the cable type.

― The product does not support UHD resolution when an HDMI-DVI cable is connected.

Connection Using the DP Cable

― Do not connect the power cable before connecting all other cables.
Ensure you connect a source device first before connecting the power cable.
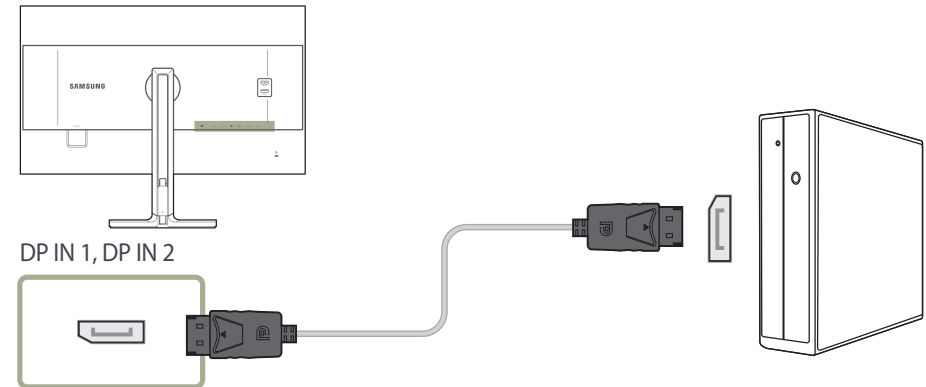
DP IN 1, DP IN 2

1 Connect the DP cable to the **DP IN 1**, **DP IN 2** port on the back of the product and the DP port on the PC.

2 Press ⬚/⤶ to change the input source to **DisplayPort1**, **DisplayPort2**.

― If audio is supported, the **Volume** can be adjusted using the ◁) buttons on the front of the product.

― Connections with an HDMI or DVI cable are not supported.

Connecting to Headphones or Speakers

― Do not connect the power cable before connecting all other cables.
  Ensure you connect a source device first before connecting the power cable.
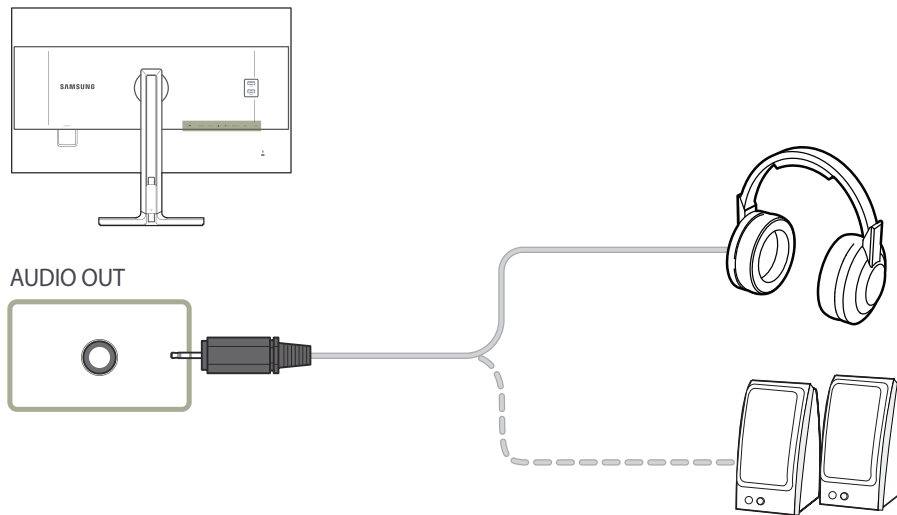
AUDIO OUT

1 Connect an audio output device such as headphones or speakers to **AUDIO OUT** on the product.

― If the stereo cable is connected, the **Volume** can be adjusted using the ◁》 buttons on the front of the product.

Connecting the Power

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

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

POWER IN
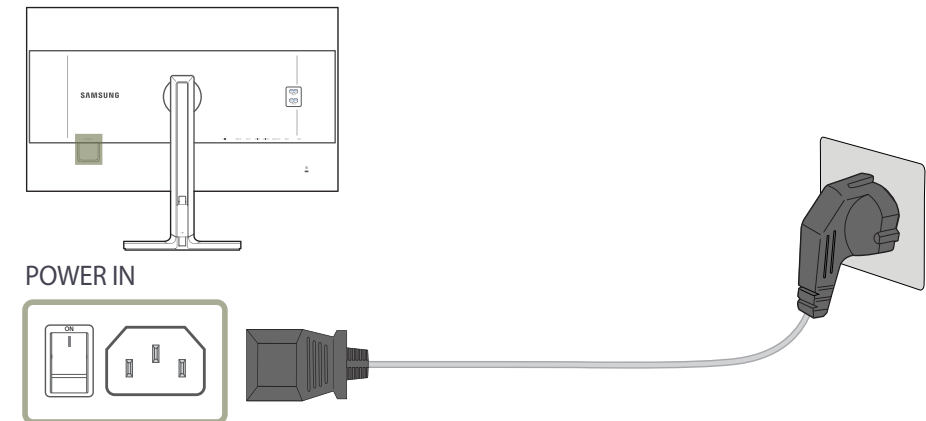
― The input voltage is switched automatically.

Tidying Up the Connected Cables
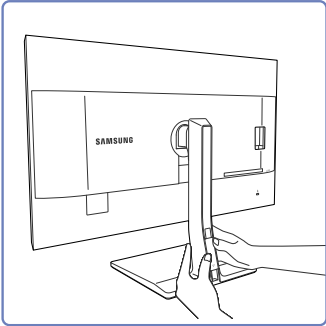
Remove the COVER-CABLE by sliding it down with both hands in the direction indicated by the arrow.
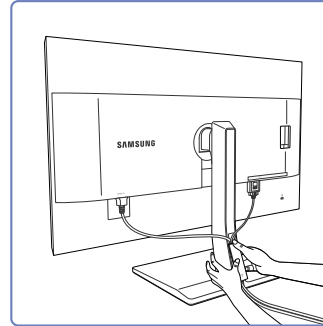
Hold the bottom of the stand neck securely with your left hand and use the thumb of your right hand to slide up the COVER-CABLE to fix it in place.
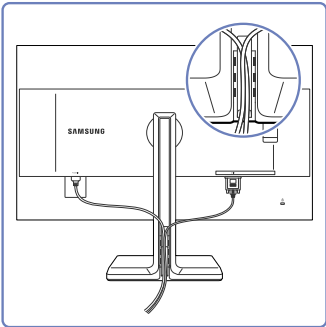
Insert and fix the cables in the slot.
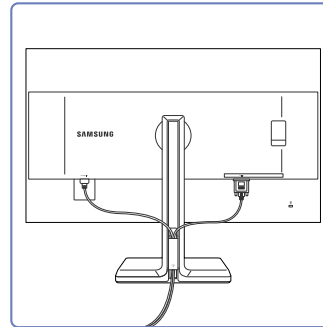
Installation is finished.
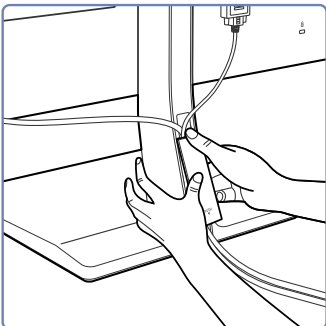
Hold the COVER-CABLE and fix the cables into the grooves on the STAND-REAR.

Connecting the Product to a PC as a USB HUB

Connecting a PC to the Product

― The product can function as a HUB by connecting to a PC via a USB cable. You can connect a source device directly to the product and control the device from the product, without having to connect the device to the PC.

To use the product as a USB hub, connect the product to a PC using a USB cable.
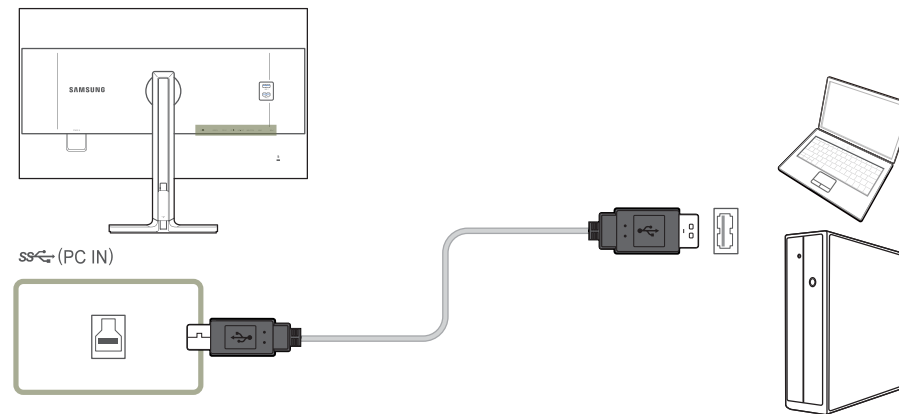
Connect the USB cable to ⬚ on the back of the product and USB ⬚ on the PC.

― A USB 2.0 cable can be used to connect the product to a PC. However, to take full advantage of the USB 3.0 function, connect a USB 3.0 cable between the PC and the product. Ensure the PC supports USB 3.0.

Utilizing the Product as a USB HUB

Using the product as a hub, connect and use various source devices with the product at the same time.

A PC cannot connect to multiple source devices at the same time as it has a limited number of input/output ports available. The HUB feature on the product will improve your work efficiency by allowing you to connect multiple source devices to the USB ports on the product at the same time without connecting them to a PC.
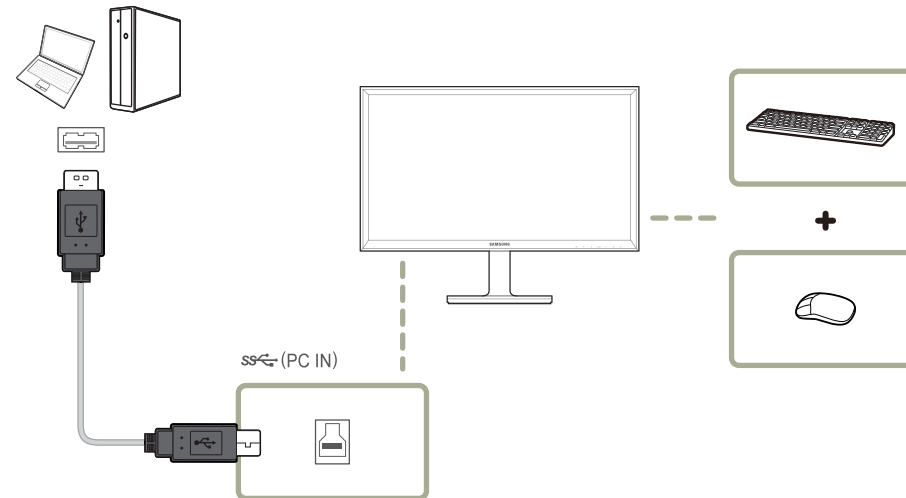
If multiple source devices are connected to the PC, the many cables around the PC may look messy. Connecting the devices directly to the product will resolve such inconvenience.

Connect a mobile device such as an MP3 player or smartphone to the product when connected to a PC. This allows you to control the device from the PC or charge the device battery.

― To detect and start a source device faster, connect the device to the USB 3.0 port on the product.

― An external mass-storage HDD requires an external power supply. Be sure to connect it to a power source.

― High-speed charging is possible using the $SS\leftarrow$ 1 and $SS\leftarrow$ 2 ports only. These ports charge devices faster than typical USB ports. The speed depends on the connected devices.

― Battery charging is possible in power-saving mode. However, it is not possible when the product is powered off.

― To charge a battery, make sure that the USB upstream port on the product is connected to a PC via a USB cable.

― Battery charging is not possible if the power cable is disconnected from the power socket.

― Mobile devices should be purchased separately.

Driver Installation

― You can set the optimum resolution and frequency for this product by installing the corresponding drivers.

― An installation driver is contained on the CD supplied with the product.

― If the file provided is faulty, visit the Samsung homepage (http://www.samsung.com/) and download the file.

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

2 Click "Windows Driver".

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

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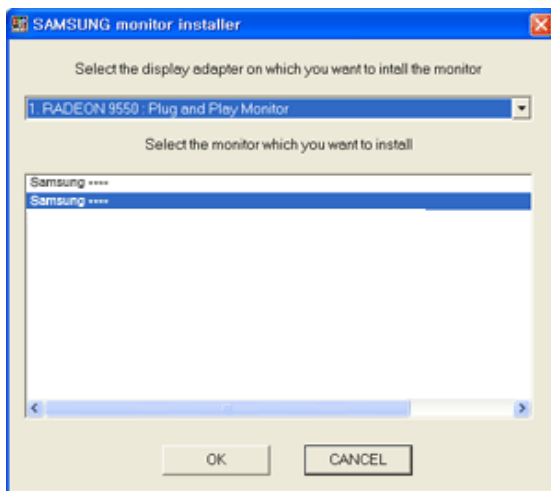
5 Go to Display Properties and check that the resolution and refresh rate are appropriate.

Refer to your Windows OS manual for further details.

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.
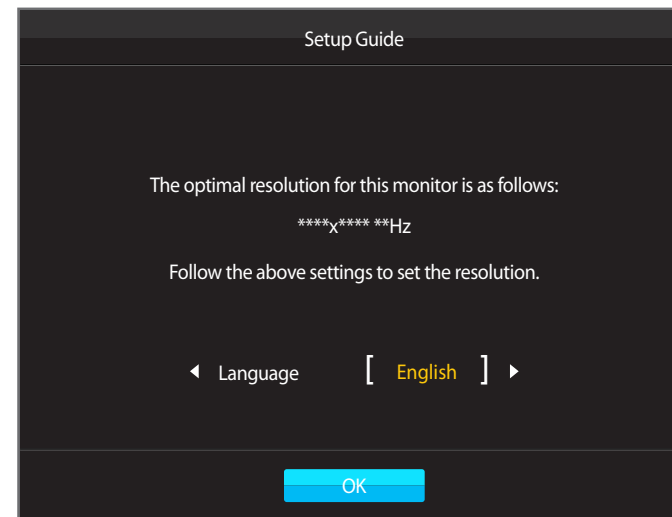
1 Press ● / ● to move to the language you want and press ▭/↩.

2 To hide the information message, press ▥ or ▭/↩.

― 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 05
Screen Setup

Configure the screen settings such as brightness.

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

Color Mode

Select a color mode (**Color Mode**) suitable for the environment where the product will be used.

Calibration 1 / **Calibration 2** / **Calibration 3** calibrate the screen using the settings configured from the **Natural Color Expert** program.

Picture	
Color Mode	Custom
Brightness	100
Contrast	75
Sharpness	60
Color	▶
Dual Color Mode	▶
Response Time	Faster

Choose a color mode that best suits your viewing environment. The calibration image will be displayed using optimized colors from the Natural Color Expert program.

Color Mode

- ✓ Custom
- High-brightness
- sRGB
- Adobe RGB

‒ The displayed image may differ depending on the model.

Configuring Color Mode (with a PC connected)

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

2 Press ● / ● to move to **Picture** and press ⬜ / ⬒ on the product.

3 Press ● / ● to move to **Color Mode** and press ⬜ / ⬒ on the product.

- **Custom**: Customize the screen settings.
- **High-brightness**: Make the screen look brighter than **sRGB** mode.
- **sRGB**: Adjust the color system to **sRGB** mode. This is the standard mode of this monitor.
- **Adobe RGB**: Adjust the color system to **Adobe RGB** mode. This mode is optimized for printing purposes.
- **SMPTE-C**: Adjust the color system to **SMPTE-C** mode. This mode is ideal to view TV NTSC content.
- **BT.709**: Adjust the color system to **BT.709** mode. This mode is ideal to view HDTV content.
- **EBU**: Adjust the color system to **EBU** mode. This mode is ideal to view TV PAL content.
- **DCI**: Adjust the color system to **DCI** mode. This mode is ideal to view movies.
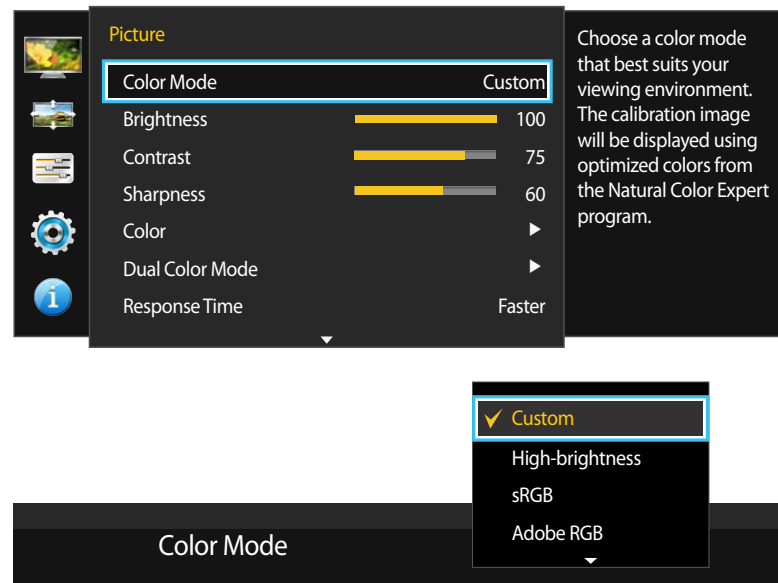- **DICOM**: Adjust the color system to **DICOM** mode. This mode is ideal to view medical images.
- **Calibration 1** / **Calibration 2** / **Calibration 3**: This mode analyzes the color characteristics of your monitor and allows you to save color information of the monitor as an ICC profile. This will tell your monitor what color space it should use and how it should interpret and display colors. Optimized color from the **Natural Color Expert** program and **Calibration 1** / **Calibration 2** / **Calibration 3** will be displayed on the screen.

  ‒ If you set **Color Mode** to **Calibration 1** / **Calibration 2** / **Calibration 3**, it is not possible to change the **Brightness**, **Contrast**, **Sharpness** and **Color** settings.

4 Press ● / ● to move to the option you want and press ⬜ / ⬒.

5 The selected option will be applied.

Dynamic	
Standard	
Movie	
✓ Custom	
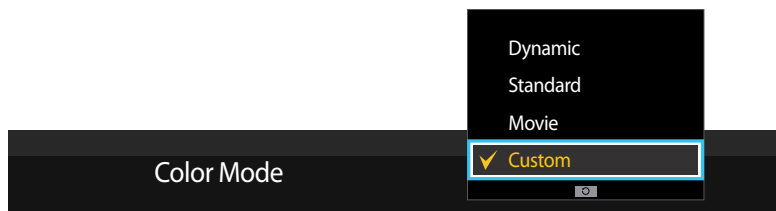
Color Mode

Configuring Color Mode (with AV connected)

―When the external input is connected through DVI/HDMI/DP and **PC/AV Mode** is set to **AV**, **Color Mode** has four automatic picture settings(**Dynamic**, **Standard**, **Movie**, **Custom**)that are preset at the factory.

―You can activate either **Dynamic**, **Standard**, **Movie**, **Custom**. You can select **Custom** which automatically recalls your personalized picture settings.

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

2 Press ● / ● to move to **Picture** and press ▭ / ◁ on the product.

3 Press ● / ● to move to **Color Mode** and press ▭ / ◁ on the product.

• **Dynamic**: Select this mode to view a sharper image than in **Standard** mode.

• **Standard**: Select this mode when the surroundings are bright. This also provides a sharp image.

• **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.

4 Press ● / ● to move to the option you want and press ▭ / ◁.

5 The selected option will be applied.

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 **Eco Saving** is set .

Picture	
Color Mode	Custom
Brightness	100
Contrast	75
Sharpness	60
Color	▶
Dual Color Mode	▶
Response Time	Faster

Adjust the brightness level. Values closer to 100 mean a brighter screen.

― The displayed image may differ depending on the model.

Configuring Brightness

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

2 Press ● / ● to move to **Picture** and press ▢ / ⏎ on the product.

3 Press ● / ● to move to **Brightness** and press ▢ / ⏎ on the product.

4 Adjust the **Brightness** using the ● / ● buttons.

5 The selected option will be applied.

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 **PIP/PBP Mode** is set to **On** and the **Size** is set to ▤ / ▥(PBP Mode).

Picture		
Color Mode		Custom
Brightness		100
Contrast		75
Sharpness		60
Color		▶
Dual Color Mode		▶
Response Time		Faster

Adjust the contrast level. Values closer to 100 mean a bigger light/dark contrast.

― The displayed image may differ depending on the model.
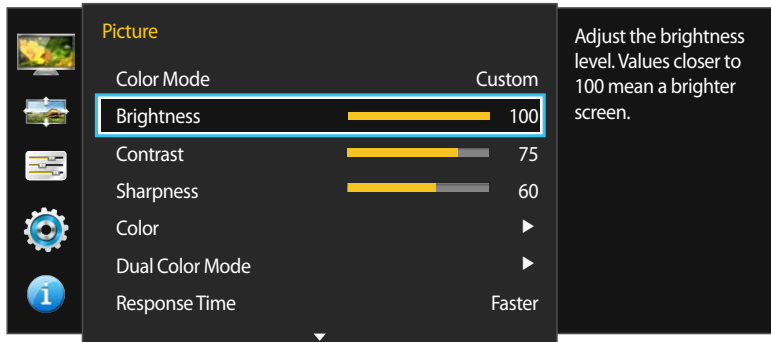
Configuring Contrast

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

2 Press ●/● to move to **Picture** and press ▢/⏎ on the product.

3 Press ●/● to move to **Contrast** and press ▢/⏎ on the product.

4 Adjust the **Contrast** using the ●/● buttons.

5 The selected option will be applied.

Sharpness

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

A higher value will make the outline of objects clearer.

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

Picture	
Color Mode	Custom
Brightness	100
Contrast	75
Sharpness	60
Color	▶
Dual Color Mode	▶
Response Time	Faster

Adjust the sharpness of the picture. Values closer to 100 mean a sharper image.

― The displayed image may differ depending on the model.

Configuring Sharpness

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

2 Press ● / ● to move to **Picture** and press ▢ / ⬅ on the product.

3 Press ● / ● to move to **Sharpness** and press ▢ / ⬅ on the product.
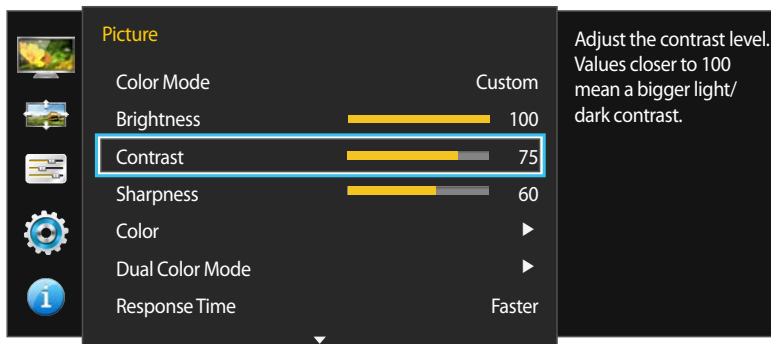
4 Adjust the **Sharpness** using the ● / ● buttons.

5 The selected option will be applied.

Color

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

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

― When **Color Mode** is set to **High-brightness**, it is not possible to change the **Color Temp.** and **Gamma** settings.

― When **Color Mode** is set to **DICOM**, it is not possible to change the **Gamma** settings.

Picture		Configure color settings.
Color Mode	Custom	
Brightness	100	
Contrast	75	
Sharpness	60	
Color	▶	
Dual Color Mode	▶	
Response Time	Faster	

Color		Adjust the red saturation level. Values closer to 100 mean greater intensity for the color.
Red	50	
Green	50	
Blue	50	
Gamma	Optimum	
Color Temp.	Optimum	

― The displayed image may differ depending on the model.

Configuring Color

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

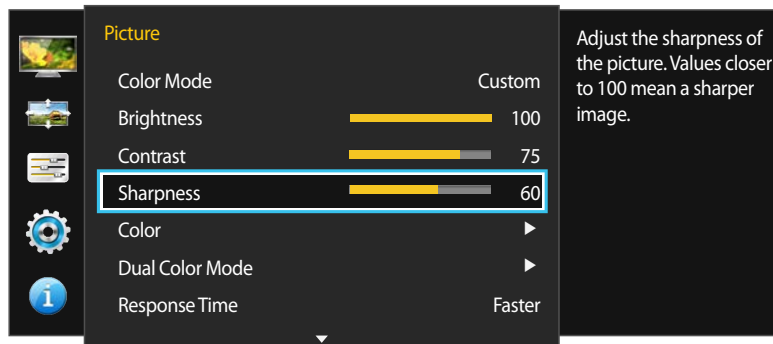**2** Press ● / ● to move to **Picture** and press ▭ / ⏎ on the product.

3 Press ● / ● to move to **Color** and press ▭ / ⏎ on the product.

- **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.
  ― When **Color Mode** is set to **sRGB**, **Adobe RGB**, **SMPTE-C**, **BT.709**, **EBU**, **DCI** or **DICOM**, it is not possible to change the **Red**, **Green** and **Blue** settings.
- **Gamma**: Adjust the middle level of luminance. (Range: **Optimum** ~ **2.6**)
- **Color Temp.**: Adjust the color temperature (red/green/blue). (Range: **Optimum** ~ **10000K**)

4 Press ● / ● to move to the option you want and press ▭ / ⏎.

5 The selected option will be applied.

Dual Color Mode

Split the screen into two to assign different settings to each of the divided screens.

Picture	
Color Mode	Custom
Brightness	100
Contrast	75
Sharpness	60
Color	▶
Dual Color Mode	▶
Response Time	Faster

Split the screen and enable a different color setting in each half.

Dual Color Mode	
Dual Color Mode	Off
Color Mode	Custom
Contrast	75
Sharpness	60
Red	50
Green	50
Blue	50

Split the screen and enable a different color setting in each half.

‒ The displayed image may differ depending on the model.

Configuring Dual Color Mode
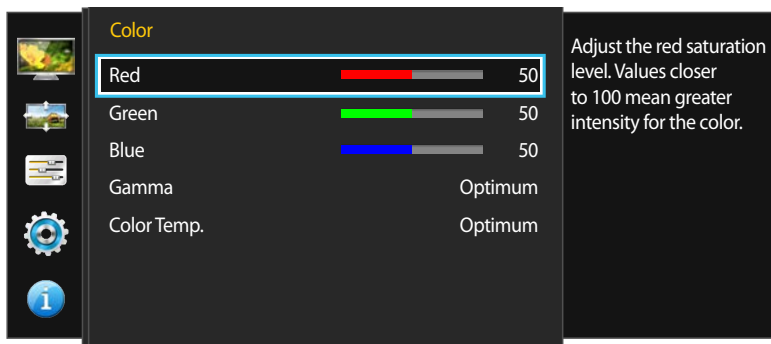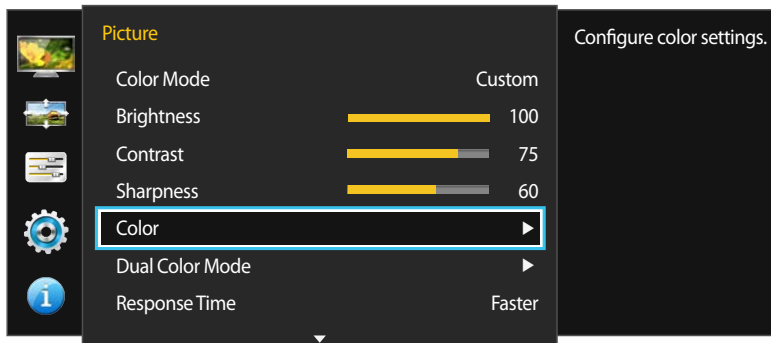
1 Press any button on the front of the product to display the Function Key Guide. Next, press ▦ to display the corresponding menu screen.

2 Press ● / ● to move to **Picture** and press ▭ / ⏎ on the product.

3 Press ● / ● to move to **Dual Color Mode** and press ▭ / ⏎ on the product.

- **Dual Color Mode**: **Off** / **On**
- **Color Mode**: **Custom** / **High-brightness** / **sRGB** / **Adobe RGB** / **SMPTE-C** / **BT.709** / **EBU** / **DCI** / **DICOM** / **Calibration 1** / **Calibration 2** / **Calibration 3**

  ‒ This feature is the same as **Color Mode** found on page().
- **Contrast**: Set the contrast for the divided screens.
- **Sharpness**: Set the sharpness for the divided screens.
- **Red**: Set the intensity of red in the divided screens.
- **Green**: Set the intensity of green in the divided screens.
- **Blue**: Set the intensity of blue in the divided screens.
- **Gamma**: Set the gamma in the divided screens.
- **Color Temp.**: Set the color temperature in the divided screens.

4 Press ● / ● to move to the option you want and press ▭ / ⏎.

5 The selected option will be applied.

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.

Picture		
Color Mode		Custom
Brightness		100
Contrast		75
Sharpness		60
Color	Standard	
Dual Color Mode	✓ Faster	
Response Time	Fastest	

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

― The displayed image may differ depending on the model.

Configuring the Response Time

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

2 Press ● / ● to move to **Picture** and press ▭ / ↵ on the product.

3 Press ● / ● to move to **Response Time** and press ▭ / ↵ on the product.

    · **Standard** / **Faster** / **Fastest**

4 Press ● / ● to move to the option you want and press ▭ / ↵.

5 The selected option will be applied.

View Calibration Values

View calibration settings configured using the **Natural Color Expert** program.

Picture			View calibration values from the Natural Color Expert program.
Sharpness		60	
Color		▶	
Dual Color Mode		▶	
Response Time		Faster	
View Calibration Values		▶	
HDMI Black Level			
Reset Color Mode		▶	

View Calibration Values		View calibration values from the Natural Color Expert program.
Calibration 1		
• Color Gamut	No Data	
• Color Temp.	No Data	
• Brightness	No Data	
• Black Level	No Data	
• R/G/B Gamma	No Data	
Return		
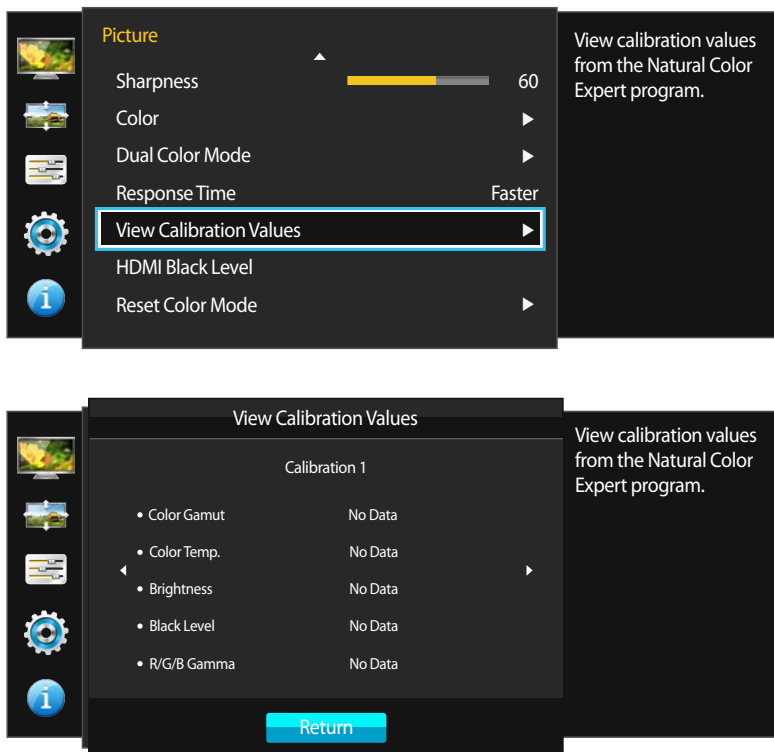
― The displayed image may differ depending on the model.

Viewing calibration settings

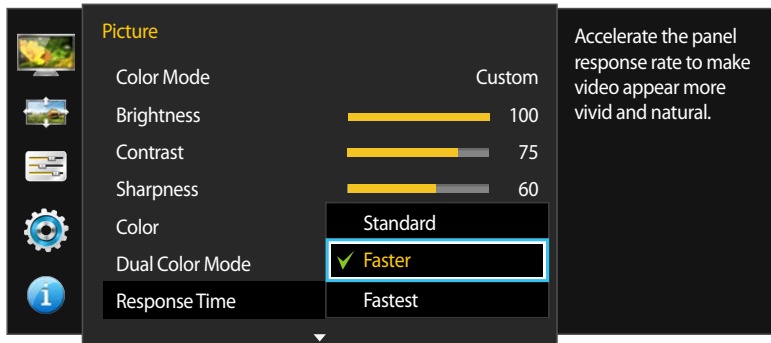**1** Press any button on the front of the product to display the Function Key Guide. Next, press ▥ to display the corresponding menu screen.

2 Press ● / ● to move to **Picture** and press ▭ / ⏎ on the product.

3 Press ● / ● to move to **View Calibration Values** and press ▭ / ⏎ on the product.

4 Use the ● / ● buttons to move the focus to **Calibration 1**, **Calibration 2** or **Calibration 3**.

5 View the option settings:

- **Color Gamut**: View the color gamut (range of color coordinates where the R/G/B values can be displayed) for each mode, such as **sRGB** and **Adobe RGB**.
- **Color Temp.**: View the color temperature within the specified range between 4000K and 10000K.
- **Brightness**: View the specified luminance.
- **Black Level**: View the specified luminance level of black.
- **R/G/B Gamma**: View the gamma values of green, red and blue.

― These options can be manually customized using the **Natural Color Expert** program.

6 Press ▭ / ⏎ to go back to the previous menu.

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. If this is the case, correct the degraded picture quality using **HDMI Black Level**.

― This function is only available in **HDMI** mode.

Picture		Optimize HDMI picture brightness and contrast by adjusting the black level of the video signal.
Sharpness	60	
Color	▶	
Dual Color Mode	▶	
Response Time	Faster	
View Calibration Values	Normal	
HDMI Black Level	✔ Low	
Reset Color Mode	▶	

‒ The displayed image may differ depending on the model.

Configuring the HDMI Black Level Settings

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

2 Press ● / ● to move to **Picture** and press ⬚ / ⬔ on the product.

3 Press ● / ● to move to **HDMI Black Level** and press ⬚ / ⬔ on the product.

- **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.

4 Press ● / ● to move to the option you want and press ⬚ / ⬔.

5 The selected option will be applied.

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

Reset Color Mode

Resets your current color mode to its default settings.

Picture		
Sharpness		60
Color		▶
Dual Color Mode		▶
Response Time		Faster
View Calibration Values		▶
HDMI Black Level		Normal
Reset Color Mode		▶

Reset the current color mode to its default settings.

Picture		
Sharpness		60
Color		
Dual C	Are you sure you want to reset the Color Mode?	
Respon		
View C	Yes No	
HDMI Black Level		Normal
Reset Color Mode		▶

Reset the current color mode to its default settings.
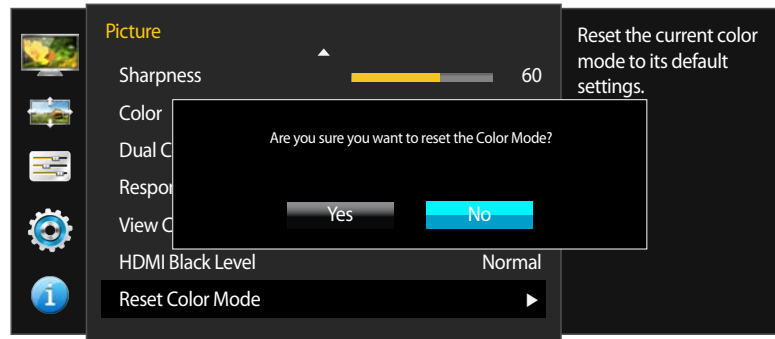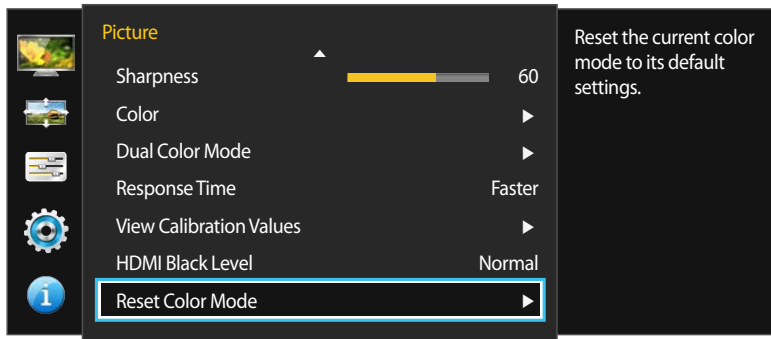
‒ The displayed image may differ depending on the model.
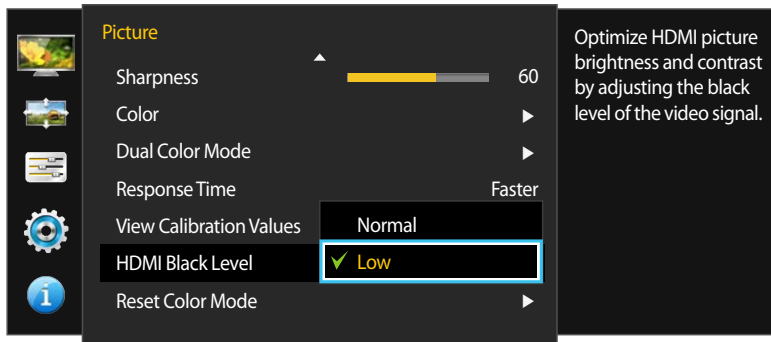
Configuring Reset Color Mode

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

2 Press ● / ● to move to **Picture** and press ▭ / ▭ on the product.

3 Press ● / ● to move to **Reset Color Mode** and press ▭ / ▭ on the product.

4 Press ● / ● to move to the option you want and press ▭ / ▭.

5 The selected option will be applied.

Image Size

Change the picture size.

― This menu is not available when **PIP/PBP Mode** is set to **On** and the **Size** is set to ▭▭, ▯▯(PBP Mode).

In PC mode

Screen		Choose the size and aspect ratio of the picture displayed on screen.
Image Size	Auto	
H-Position	✓ Wide	
V-Position	3	
PIP/PBP	▶	
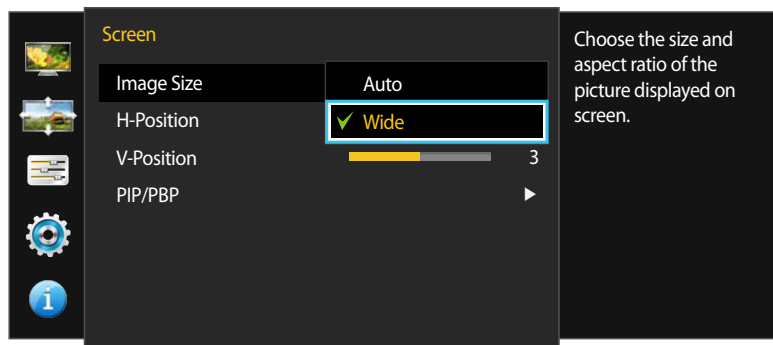
Changing the Image Size

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

2 Press ● / ● to move to **Screen** and press ▭ / ⤶ on the product.

3 Press ● / ● to move to **Image Size** and press ▭ / ⤶ on the product.

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

Screen		Choose the size and aspect ratio of the picture displayed on screen.
Image Size	4:3	
H-Position	✓ 16:9	
V-Position	Screen Fit	
PIP/PBP	▶	

― The displayed image may differ depending on the model.

In **AV** mode

- **4:3**: Display the picture with an aspect ratio of 4:3. Suitable for videos and standard broadcasts.

- **16:9**: Display the picture with an aspect ratio of 16:9.

- **Screen Fit**: Display the picture with the original aspect ratio without cutting off.

― Changing the screen size is available when the following conditions are satisfied.
  The function may not be supported depending on the ports provided with the product.

  ― A digital output device is connected using the DVI/HDMI/DP cable.

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

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

4   Press ● / ● to move to the option you want and press ⬚ / ⬚.

5   The selected option will be applied.

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 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.

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

Screen		
Image Size	Screen Fit	
H-Position		**3**
V-Position		3
PIP/PBP		▶

Move the image displayed on the screen to the left or right.

Screen		
Image Size	Screen Fit	
H-Position		3
V-Position		**3**
PIP/PBP		▶

Move the image displayed on the screen up or down.

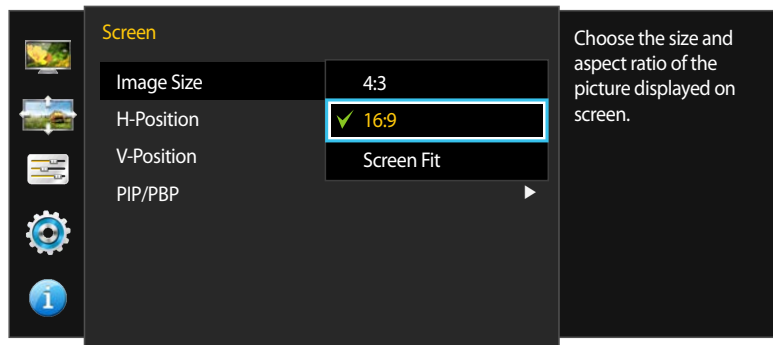― The displayed image may differ depending on the model.
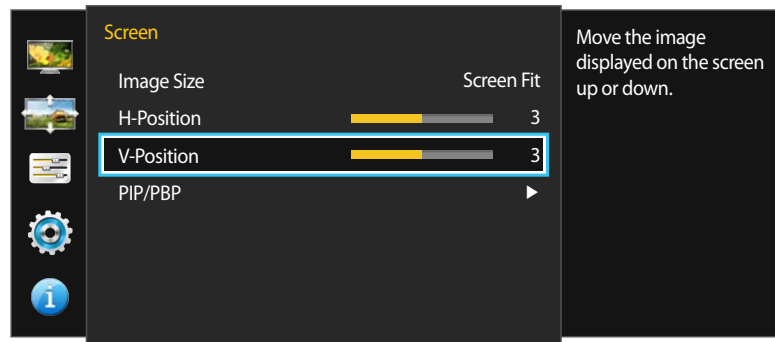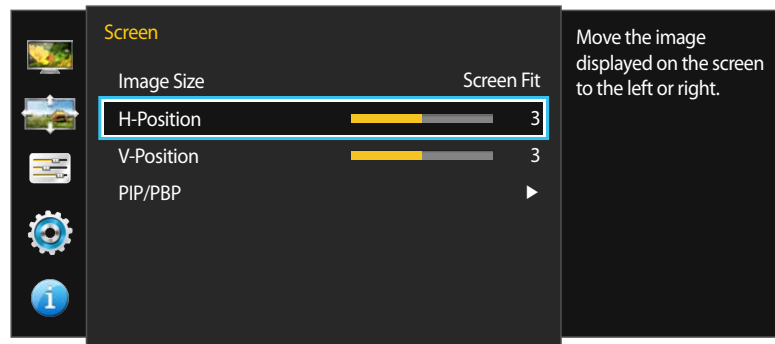
Configuring H-Position & V-Position

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

2 Press ● / ● to move to **Screen** and press ▭ / ◁ on the product.

3 Press ● / ● to move to **H-Position** or **V-Position**, and press ▭ / ◁.

4 Press ● / ● to configure **H-Position** or **V-Position**.

5 The selected option will be applied.

PIP/PBP

The PIP (Picture in Picture) function separates the screen into two parts. One source device is displayed on the main screen at the same time the another source device is displayed in inset windows.

Running the PBP (Picture by Picture: split screen) feature splits the screen into two or four screens. Screens from different external devices are displayed on each of the divided screens at the same time.

Screen		
Image Size		Screen Fit
H-Position	▬▬▬	3
V-Position	▬▬▬	3
PIP/PBP		▶

Configure the options for the PIP/PBP feature.

― The displayed image may differ depending on the model.

― The **PIP/PBP** function may not be available depending on the specifications of the graphics card used.
If the screen is blank in **PIP/PBP** mode when the optimum resolution is selected, go to **Control Panel** → **Display** → **Screen Resolution** and click **Detect** on the PC. (Instructions are based on Windows 7.)
If the screen is blank when the resolution is set to the optimal resolution, change the resolution as follows:

― If split into two screens: 1920 x 2160 (if rotated: 2160 x 1920)

― If split into four screens: 1920 x 1080 (if rotated: 2160 x 960)
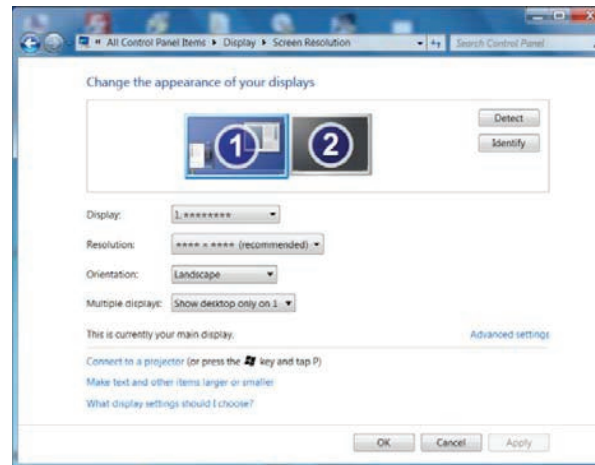
― To maximize the picture quality, a graphics card that supports the following resolutions is recommended:

― If split into two screens: 1920 x 2160 (if rotated: 2160 x 1920)

― If split into four screens: 1920 x 1080 (if rotated: 2160 x 960)

― When the **PIP/PBP** function is enabled, the resolution may not automatically switch to the optimum resolution due to a compatibility issue between the graphics card and the Windows operating system.
Set **PIP/PBP Mode** to **Off** or manually change the resolution to the optimum resolution using the Windows interface.

Configuring PIP/PBP Mode

PIP/PBP

PIP/PBP	
PIP/PBP Mode	Off
Size	✓ On
Position	
Sound Source	
Source	DisplayPort1/DisplayPort2/HDMI/DVI
Image Size	Wide/Wide/Wide/Wide
Contrast&Color	

Turn PIP/PBP Mode on or off.
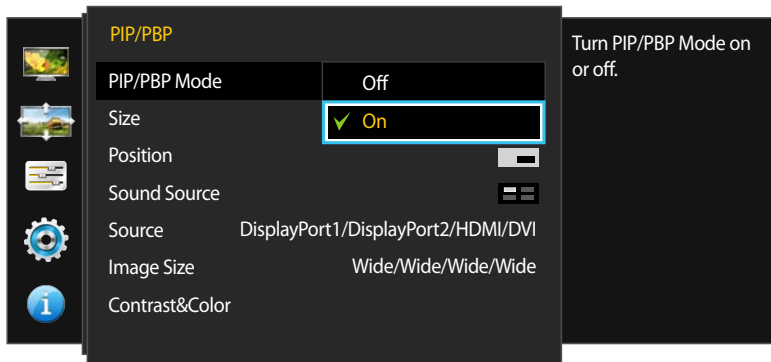
̶ The displayed image may differ depending on the model.

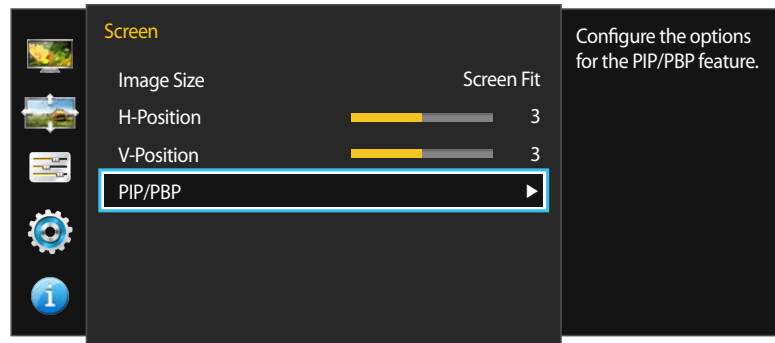Enable or disable the **PIP/PBP Mode** function.

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

2 Press ● / ● to move to **Screen** and press ▭ / ⏎ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ⏎ on the product.

4 Press ● / ● to move to **PIP/PBP Mode** and press ▭ / ⏎ on the product.

• **Off** / **On**

5 Press ● / ● to move to the option you want and press ▭ / ⏎.

6 The selected option will be applied.

Configuring Size

PIP/PBP			Select the size and aspect ratio of the sub-screen.
PIP/PBP Mode		On	
Size	✓		
Position			
Sound Source			
Source			
Image Size			
Contrast&Color			
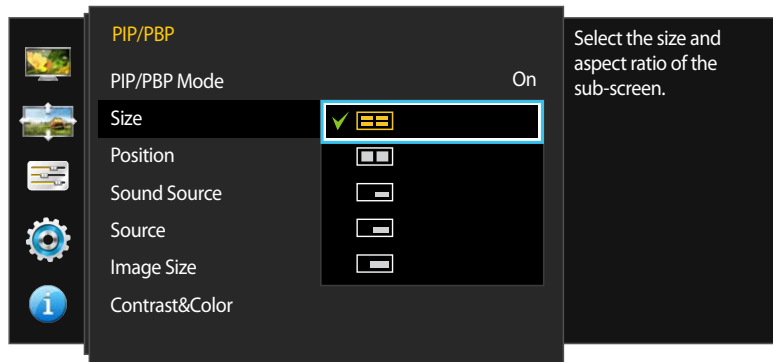
― The displayed image may differ depending on the model.

Select the size and aspect ratio of the sub-screen.

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

2 Press ● / ● to move to **Screen** and press ▭ / ◁ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ◁ on the product.

4 Press ● / ● to move to **Size** and press ▭ / ◁ on the product.

- ▦ : Split the screen into four parts to enable PBP mode. PBP mode supports a maximum of four input sources and features an optimal resolution of 1920 x 1080 (width x height).
- ▥ : Select the icon image if you want to use PBP mode where the optimum resolution for the left and right sides of the screen is 1920 x 2160 (width x height).
- ▬ : Select the icon image if you want to use PIP mode where the optimum resolution for the sub-screen is 720 x 480 (width x height).
- ▬ : Select the icon image if you want to use PIP mode where the optimum resolution of the sub-screen is 1280 x 720 (width x height).
- ▬ : Select the icon image if you want to use PIP mode where the optimum resolution of the sub-screen is 1920 x 1080 (width x height).

5 Press ● / ● to move to the option you want and press ▭ / ◁.

6 The selected option will be applied.

Configuring Position

⎯Not available if **Size** is set to ▣▣ or ▢▢ (PBP mode).

	PIP/PBP		Select the position of the sub-screen from the available options.
🖼	PIP/PBP Mode	On	
🖼	Size	▭	
🖳	**Position**	✓ ▭	
⚙	Sound Source	▭	
ℹ	Source	▭	
	Image Size	▭	
	Contrast&Color		
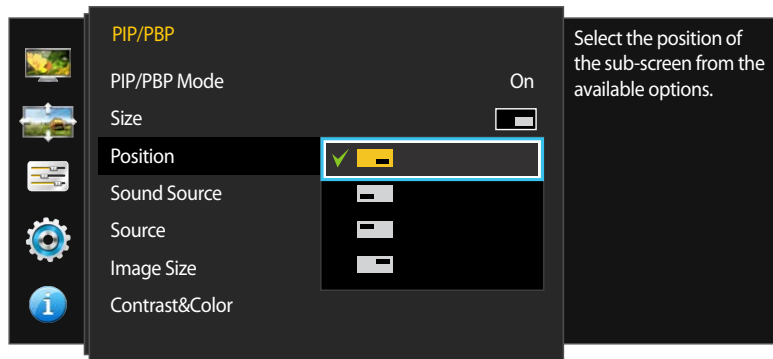
⎯ The displayed image may differ depending on the model.

Select the position of the sub-screen from the available options.

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

2 Press ● / ● to move to **Screen** and press ▭ / ◁ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ◁ on the product.

4 Press ● / ● to move to **Position** and press ▭ / ◁ on the product.

• ▭ / ▭ / ▭ / ▭

⎯ Not available when PBP is selected.

⎯ The screen may flicker if the input signal is unstable.

5 Press ● / ● to move to the option you want and press ▭ / ◁.

6 The selected option will be applied.

Configuring Sound Source

PIP/PBP

PIP/PBP Mode	On
Size	
Position	
Sound Source	
Source	DisplayPort1/DisplayPort2/HDMI/DVI
Image Size	Wide/Wide/Wide/Wide
Contrast&Color	

Set which screen you want to hear the sound for.
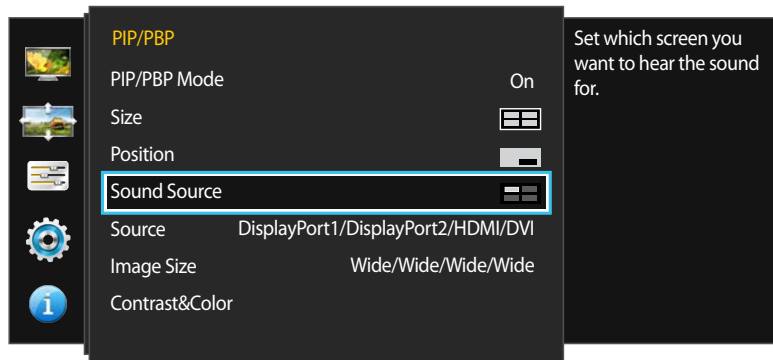
‒ The displayed image may differ depending on the model.

Set which screen you want to hear the sound for.

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

2 Press ● / ● to move to **Screen** and press ▱ / ◁ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▱ / ◁ on the product.

4 Press ● / ● to move to **Sound Source** and press ▱ / ◁ on the product.

‒ The gray area in each icon refers to the sound source (**Sound Source**). The source of sound can be from the main or sub screen or the left or right screen.

(available in PIP mode(Size ▭ / ▭ / ▭))
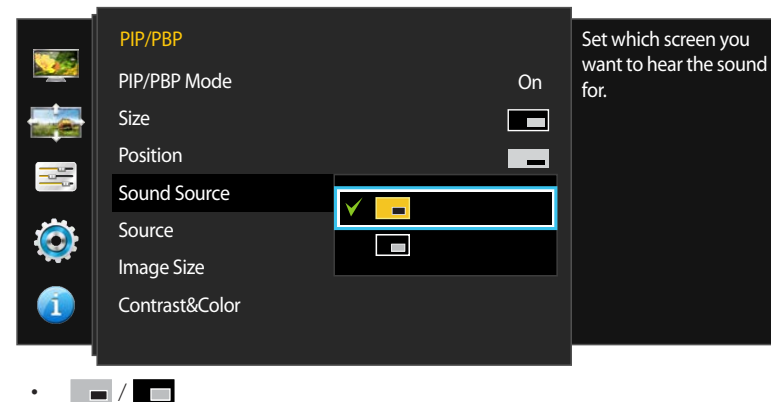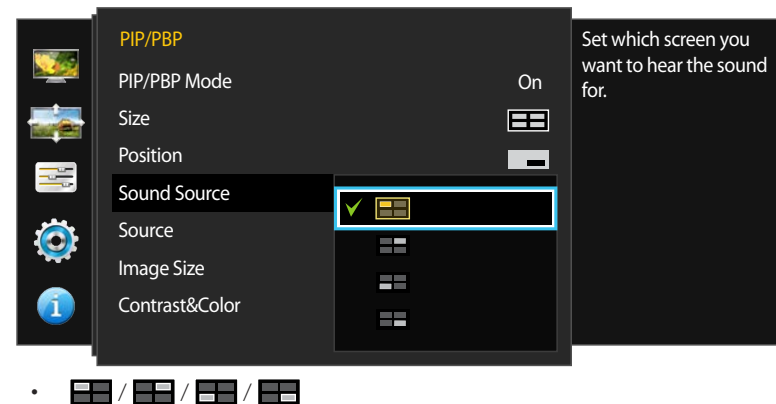
PIP/PBP

PIP/PBP Mode	On
Size	
Position	
Sound Source	✓ ▭
Source	▭
Image Size	
Contrast&Color	

Set which screen you want to hear the sound for.

• ▭ / ▭

59

(available in PBP mode(Size ▢▢))

PIP/PBP	
PIP/PBP Mode	On
Size	▢▢
Position	▭
Sound Source	✓ ▣
Source	▢
Image Size	
Contrast&Color	

Set which screen you want to hear the sound for.

- ▣ / ▢

(available in PBP mode(Size ⊞))

PIP/PBP	
PIP/PBP Mode	On
Size	⊞
Position	▭
Sound Source	✓ ▦
Source	▦
Image Size	▦
Contrast&Color	▦

Set which screen you want to hear the sound for.

- ▦ / ▦ / ▦ / ▦

5   Press ● / ● to move to the option you want and press ▭ / ⏎.

6   The selected option will be applied.

Configuring Source

PIP Mode

(available in PIP mode(Size ▬ / ▭ / ▭))

PIP/PBP		
🖼	PIP/PBP	
	PIP/PBP Mode	On
🖼	Size	▬
	Position	▭
📑	Sound Source	▭
	Source	✓ DisplayPort1
⚙	Image Size	DisplayPort2
	Contrast&Color	HDMI
ℹ		DVI

Select the source for each screen.
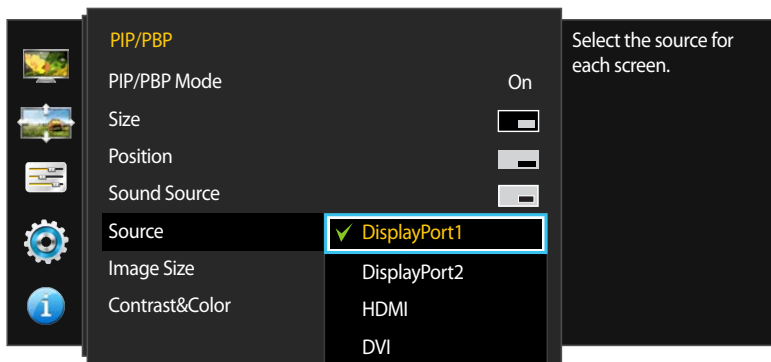
‒ The displayed image may differ depending on the model.

Select the source for each screen.

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

2 Press ● / ● to move to **Screen** and press ⬚ / ⬚ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ⬚ / ⬚ on the product.

4 Press ● / ● to move to **Source** and press ⬚ / ⬚ on the product.

· **DisplayPort1** / **DisplayPort2** / **HDMI** / **DVI**

5 Press ● / ● to move to the option you want and press ⬚ / ⬚.

6 The selected option will be applied.

― The input source of the sub screen will be changed.

― Select another input source that is not the current input source.

― The screen may flicker if the input signal is unstable.

― If the function button description page appears, press ⬚ / ⬚. The main screen will switch in the order **DisplayPort1** → **DisplayPort2** → **HDMI** → **DVI**.

PBP Mode

(available in PBP mode(Size ▦))

```
                    Source
               ┌──────────────┐
    ┌─────┐  ◄ │ DisplayPort1 │ ►  ┌─────┐
    │▒▒▒▒▒│    │    ▭         │    │  ▭  │
    └─────┘    └──────────────┘    └─────┘
               ┌──────────────┐
     ┌───┐     │ DisplayPort2 │
     │▓▓ │     │    ▭         │
     │▓▓ │     └──────────────┘
     └───┘     ┌──────────────┐
     ╚═╝       │    HDMI       │
               │    ▭         │
               └──────────────┘
               ┌──────────────┐
               │     DVI       │
               │   ▒▒▒▒▒       │
               └──────────────┘

        ┌────────┐    ┌────────┐
        │ Apply  │    │ Cancel │
        └────────┘    └────────┘
```

‒ The displayed image may differ depending on the model.

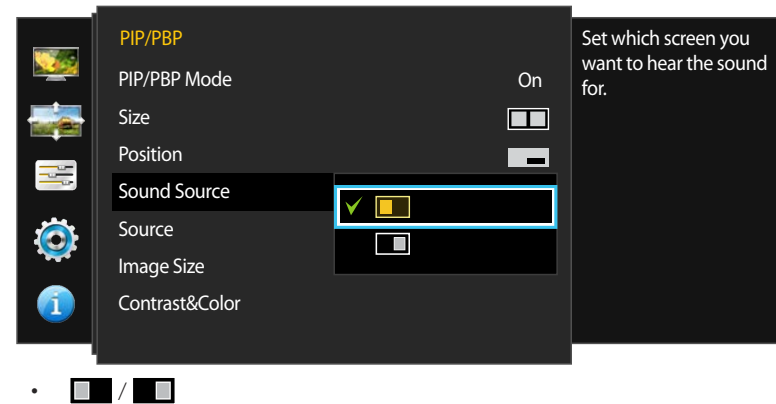Select an input source for the device displayed on each of the divided screens.

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

2 Press ● / ● to move to **Screen** and press ▱ / ⏎ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▱ / ⏎ on the product.

4 Press ● / ● to move to **Source** and press ▱ / ⏎ on the product.

• **DisplayPort1** / **DisplayPort2** / **HDMI** / **DVI**

5 Use ● / ● and ▥ / ▱ / ⏎ to select an input source for each of the divided screens.

6 Press ● / ● to move to **Apply** and press ▱ / ⏎ on the product. The selected option will be applied.

Pressing ● / ● when **Cancel** is selected will clear the **Source** settings and display the **PIP/PBP** control menu page.

― The screen may flicker if the input signal is unstable.

― If the function button description page appears, press ▱ / ⏎ . The select input source menu will appear.

(available in PBP mode(Size ▭▭))

Source

DisplayPort1   DisplayPort2

Apply

Cancel

_____

‒ The displayed image may differ depending on the model.

Select input sources for the devices displayed on the main and sub screens.

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

2 Press ● / ● to move to **Screen** and press ▭ / ↵ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ↵ on the product.

4 Press ● / ● to move to **Source** and press ▭ / ↵ on the product.

- **DisplayPort1** / **DisplayPort2** / **HDMI** / **DVI**

5 Use ● / ● and ▯▯▯ / ▭ / ↵ to select input sources for the left and right screens.

6 Press ▭ / ↵ to move to **Apply** and press ▭ / ↵ on the product. The selected option will be applied.

Pressing ▭ / ↵ when **Cancel** is selected will clear the **Source** settings and display the **PIP/PBP** control menu page.

⁻ The screen may flicker if the input signal is unstable.

⁻ When the input signal of the left and right screens are the same, the operation cannot be performed.

⁻ If the function button description page appears, press ▭ / ↵. The select input source menu will appear.

Configuring Image Size

PIP Mode

In PC mode

```
PIP/PBP
   PIP/PBP Mode              On
   Size                      ▭
   Position                  ▭
   Sound Source              ▭
   Source                    HDMI
   Image Size        Auto
   Contrast&Color    ✔ Wide
```

Select the image size for each screen.

In AV mode

```
PIP/PBP
   PIP/PBP Mode              On
   Size                      ▭
   Position                  ▭
   Sound Source              ▭
   Source                    HDMI
   Image Size        4:3
   Contrast&Color    ✔ 16:9
                     Screen Fit
```
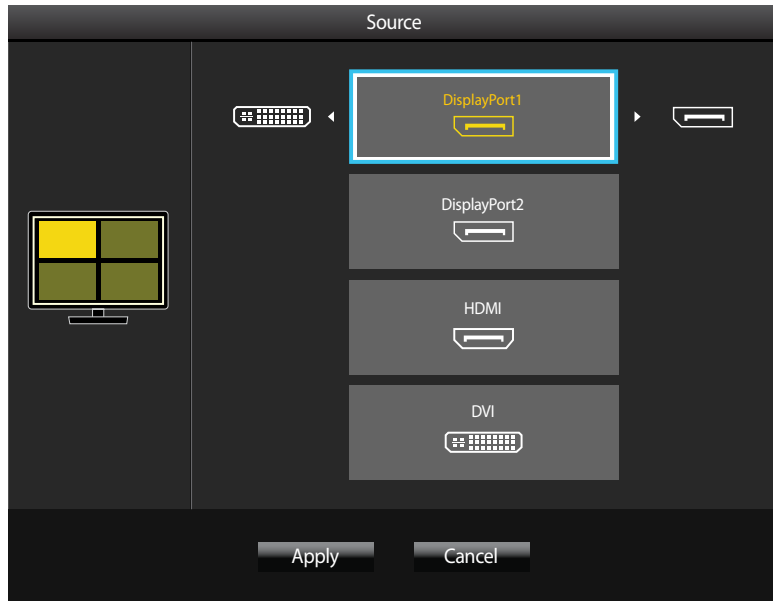
Select the image size for each screen.
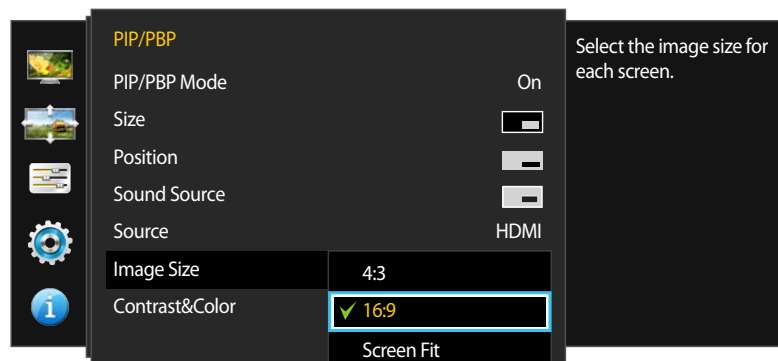
― The displayed image may differ depending on the model.

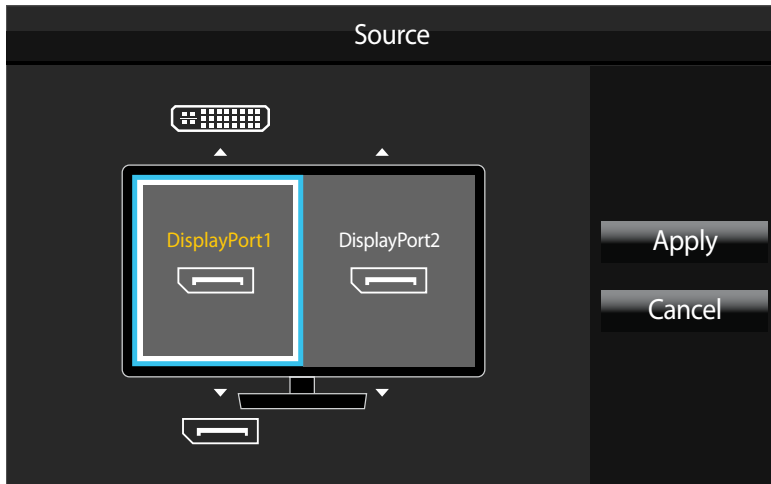Select the image size for sub-screen.

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

2 Press ● / ● to move to **Screen** and press ⬒ / ⏎ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ⬒ / ⏎ on the product.

4 Press ● / ● to move to **Image Size** and press ⬒ / ⏎ on the product.

(available in PIP mode(Size ▭ / ▭ / ▭))

In PC mode

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

In AV mode

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

― 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/HDMI/DP cable.
   − The input signal is 480p, 576p, 720p, or 1080p and monitor can display normally (Not every model can support all of these signals.).
   − This can only be set when the external input is connected through DVI/HDMI/DP and **PC/AV Mode** is set to **AV**.

5 Press ● / ● to move to the option you want and press ⬒ / ⏎.

6 The selected option will be applied.

PBP Mode

(available in PBP mode(Size ⊟))

```
                    Image Size
  ┌──────────────────────────────────────┐
  │                                       │
  │         ◀    [  Wide  ]    ▶          │
  │                                       │
  │                                       │
  │   ┌────┐        [  Wide  ]            │
  │   │▓▓▓▓│                              │
  │   │░░░░│        [  Wide  ]            │
  │   └────┘                              │
  │     ▟▟          [  Wide  ]            │
  │                                       │
  │        [ Apply ]    [ Cancel ]        │
  └──────────────────────────────────────┘
```

(available in PBP mode(Size ▦))

```
                    Image Size
  ┌──────────────────────────────────────┐
  │                                       │
  │         ▲         ▲                   │
  │    ┌────────┬────────┐                │
  │    │        │        │     [ Apply ]  │
  │    │ Wide   │  Wide  │                │
  │    │        │        │     [ Cancel ] │
  │    └────────┴────────┘                │
  │         ▼         ▼                   │
  │          ▟▟▟▟                         │
  └──────────────────────────────────────┘
```

― The displayed image may differ depending on the model.

Set the **Image Size** for each of the divided screens.
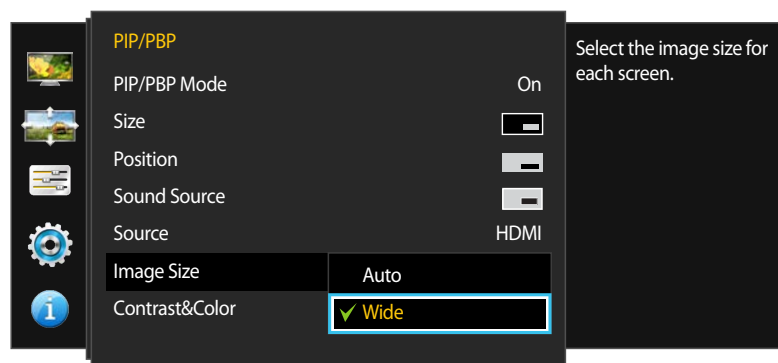
1 Press any button on the front of the product to display the Function Key Guide. Next, press ▥ to display the corresponding menu screen.

2 Press ● / ● to move to **Screen** and press ▭ / ⬜ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ⬜ on the product.

4 Press ● / ● to move to **Image Size** and press ▭ / ⬜ on the product.

In PC mode

• **Auto**: Display the picture according to the aspect ratio of the each screen input source.

• **Wide**: Display the picture in full screen regardless of the aspect ratio of the each screen input source.

In AV mode

• **4:3**: Display the picture of the sub-screen with an aspect ratio of 4:3. Suitable for videos and standard broadcasts.

• **16:9**: Display the picture of the sub-screen with an aspect ratio of 16:9.

• **Screen Fit**: Display the picture of the sub-screen with the original aspect ratio without cutting anything off.

― 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/HDMI/DP cable.
  − The input signal is 480p, 576p, 720p, or 1080p and monitor can display normally (Not every model can support all of these signals.).
  − This can only be set when the external input is connected through DVI/HDMI/DP and **PC/AV Mode** is set to **AV**.

5 Use ● / ● and ▥ / ▭ / ⬜ to specify the **Image Size** for each of the divided screens.

6 Use ● / ● and ▥ / ▭ / ⬜ to move the focus to **Apply** and press ▭ / ⬜.

7 The selected option will be applied.

Configuring Contrast&Color

PIP Mode
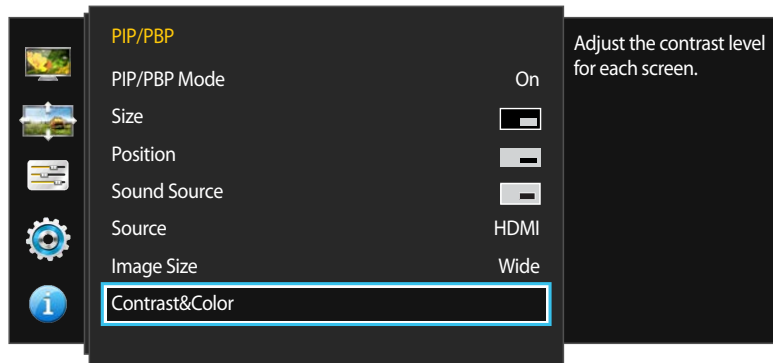
	PIP/PBP	
	PIP/PBP Mode	On
	Size	▭
	Position	▭
	Sound Source	▭
	Source	HDMI
	Image Size	Wide
	Contrast&Color	

Adjust the contrast level for each screen.

‒ The displayed image may differ depending on the model.

Set the **Contrast** and **Color**(**Red**, **Green** and **Blue**)for the sub screen.

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

2 Press ● / ● to move to **Screen** and press ▭ / ↵ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ↵ on the product.

4 Press ● / ● to move to **Contrast&Color** and press ▭ / ↵ on the product.

 • **Contrast** / **Red** / **Green** / **Blue**

5 Use ▥ to move the focus to a specific option and customize the value using ● / ●.

6 Press ▭ / ↵ to save changes.

7 The selected option will be applied.

PBP Mode

(available in PBP mode(Size ▦))

```
                  Contrast&Color

          Contrast     : 75
       R/G/B Gamma    : 50/50/50

                                          Cancel
```

(available in PBP mode(Size ▭▭))

```
                  Contrast&Color

          Contrast     : 75
       R/G/B Gamma    : 50/50/50

                                          Cancel
```

‒ The displayed image may differ depending on the model.
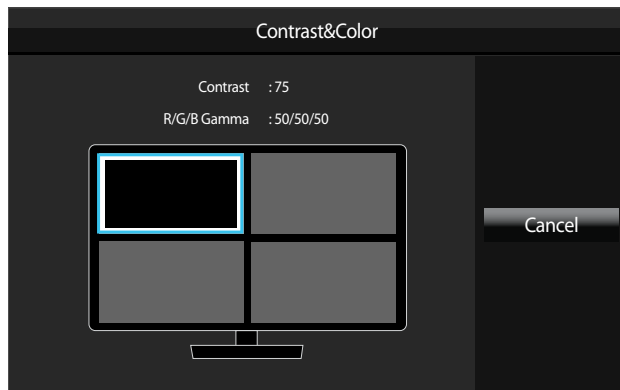
Set the **Contrast** and **Color**(**Red**, **Green** and **Blue**)for each screen.

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

2 Press ● / ● to move to **Screen** and press ▭ / ◿ on the product.

3 Press ● / ● to move to **PIP/PBP** and press ▭ / ◿ on the product.

4 Press ● / ● to move to **Contrast&Color** and press ▭ / ◿ on the product.

5 Use ● / ● and ▯▯ / ▭ / ◿ to move the focus to a specific screen and press ▭ / ◿.

   • **Contrast** / **Red** / **Green** / **Blue**

6 Use ▯▯ to move the focus to a specific option and customize the value using ● / ●.

7 Press ▭ / ◿ to save changes.

8 The selected option will be applied.

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

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.

Options		Set the menu language.
Language	Deutsch	
Display Time	✔ English	
	Español	
	Français	
	Italiano	
	Magyar	
	Polski	
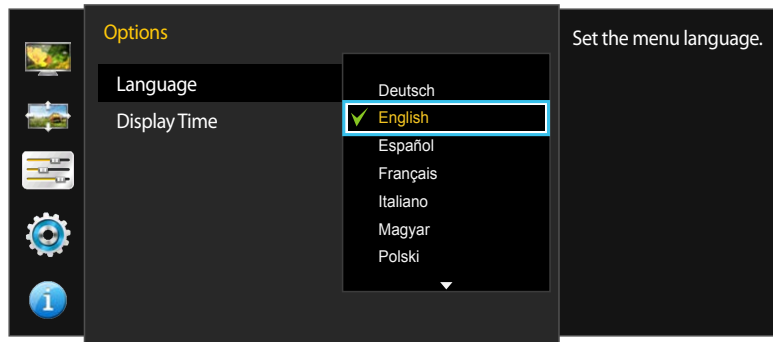
― The displayed image may differ depending on the model.

Configuring Language

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

2 Press ● / ● to move to **Options** and press ⬚ / ⬅ on the product.

3 Press ● / ● to move to **Language** and press ⬚ / ⬅ on the product.

4 Press ● / ● to move to the language you want and press ⬚ / ⬅.

5 The selected option will be applied.

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.

Options		
Language	English	
Display Time		
	5 sec	
	10 sec	
	✓ 20 sec	
	200 sec	

Set how long the menu window will remain on screen for when it is not in use.

‒ The displayed image may differ depending on the model.

Configuring Display Time

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

2 Press ● / ● to move to **Options** and press ⬜ / ⬛ on the product.

3 Press ● / ● to move to **Display Time** and press ⬜ / ⬛ on the product.

- **5 sec** / **10 sec** / **20 sec** / **200 sec**

4 Press ● / ● to move to the option you want and press ⬜ / ⬛.

5 The selected option will be applied.

Chapter 08
Setup and Reset

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

Eco Saving

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

Settings		Adjust the power consumption of the product to save energy.
Eco Saving	✔ Off	
USB Super Charging	Minimum	
PC/AV Mode	Maximum	
DisplayPort Ver.	▶	
Source Detection	Auto	
Key Repeat Time	Acceleration	
Off Timer	▶	
▼		
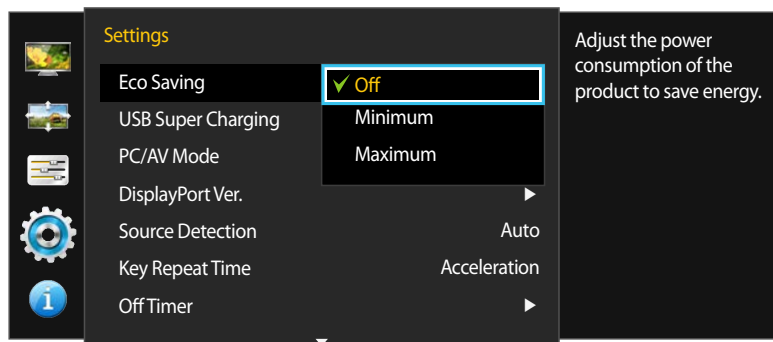
― The displayed image may differ depending on the model.

Configuring Eco Saving

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

2 Press ● / ● to move to **Settings** and press ⬚ / ⬚ on the product.

3 Press ● / ● to move to **Eco Saving** and press ⬚ / ⬚ on the product.

 • **Off**: Deactivate the **Eco Saving** function.

 • **Minimum**: Change the monitor power consumption to 50% of the default level.

 • **Maximum**: Change the monitor power consumption to 75% of the default level.

4 Press ● / ● to move to the option you want and press ⬚ / ⬚.

5 The selected option will be applied.

70

USB Super Charging

Charge the battery of a connected source device quickly using the USB 3.0 port on the product.

| Settings | | | Set the USB Super |
| --- | --- | --- | charging mode. |

Eco Saving — Off
USB Super Charging — ▶
PC/AV Mode — ▶
DisplayPort Ver. — ▶
Source Detection — Auto
Key Repeat Time — Acceleration
Off Timer — ▶

USB Super Charging — Set the USB Port1 charging On/Off.

USB1 — ✔ Off
USB2 — On

― Setting **USB Super Charging** to **On** during a data transfer will stop the data transfer. If you set **USB Super Charging** to **Off**, the standard charging and data transfer feature will be available.

― High-speed charging is possible using the ss⟿1 and ss⟿2 ports only. These ports charge devices faster than typical USB ports. The speed depends on the connected devices.

― To properly charge USB devices in power-saving mode, set **USB Super Charging** to **On**. The connected device will charge according to USB 2.0 (0.45A or more) or USB 3.0 (0.90A or more) specifications.

Configuring USB Super Charging

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

2 Press ● / ● to move to **Settings** and press ▭ / ⏎ on the product.

3 Press ● / ● to move to **USB Super Charging** and press ▭ / ⏎ on the product.

4 Select a USB port that will be used for **USB Super Charging**.

- **Off**: Disable **USB Super Charging**.
- **On**: Enable the function to quickly charge a source device connected to the USB 3.0 port.

5 Press ● / ● to move to the option you want and press ▭ / ⏎.

6 The selected option will be applied.
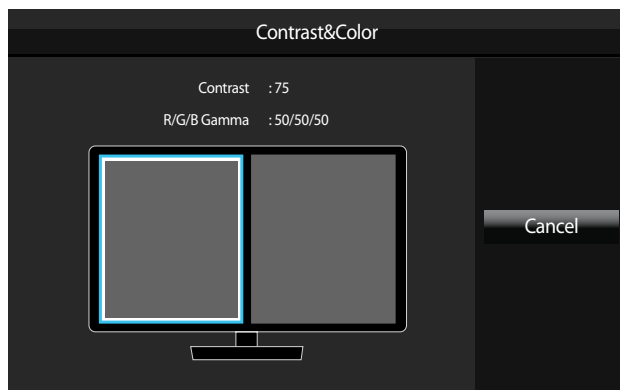
― The displayed image may differ depending on the model.

PC/AV Mode

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

This option is useful when you view a movie.

Settings		
Eco Saving	Off	
USB Super Charging	▶	
PC/AV Mode	▶	
DisplayPort Ver.	▶	
Source Detection	Auto	
Key Repeat Time	Acceleration	
Off Timer	▶	

Set to AV to enlarge the picture.

PC/AV Mode		
DisplayPort1	✔ PC	
DisplayPort2	AV	
HDMI	PC	
DVI	PC	

Select the PC/AV mode for the DisplayPort1 source.
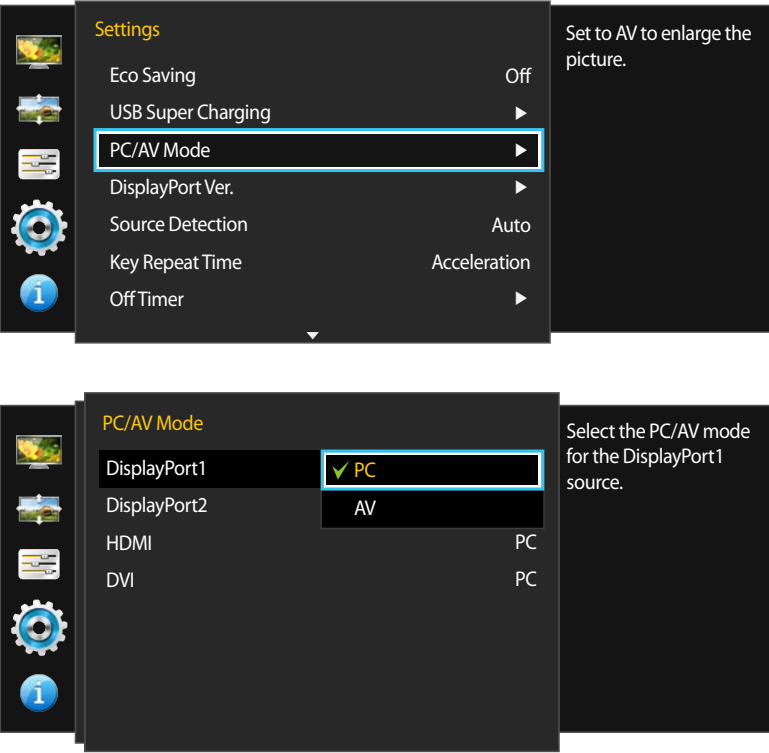
― The displayed image may differ depending on the model.

―Supplied for the wide models only such as 16:9 or 16:10.

―If the monitor (when set to **DVI**, **HDMI**, **DisplayPort1** or **DisplayPort2**) is in power saving mode or is displaying the message **Check Signal Cable**, press the ▥ button to display the On Screen Display(OSD). You can select **PC** or **AV**.

Configuring PC/AV Mode

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

2 Press ● / ● to move to **Settings** and press ◰ / ↵ on the product.

3 Press ● / ● to move to **PC/AV Mode** and press ◰ / ↵ on the product.

4 Press ● / ● to move to **DisplayPort1**, **DisplayPort2**, **HDMI** or **DVI** and press ◰ / ↵ on the product.

　• Set to PC when connected to a PC.

　• Set to AV when connected to an AV device.

5 Press ● / ● to move to the option you want and press ◰ / ↵.

6 The selected option will be applied.

DisplayPort Ver.

Select your Displayport. Displayport 1.1 supports High Bit Rate 1, while 1.2 supports High Bit Rate 2.

Settings		
Eco Saving	Off	
USB Super Charging	▶	
PC/AV Mode	▶	
DisplayPort Ver.	▶	
Source Detection	Auto	
Key Repeat Time	Acceleration	
Off Timer	▶	

Select your Displayport. Displayport 1.1 supports HBR 1, while 1.2 supports HBR 2.

DisplayPort Ver.		
DisplayPort1	1.1	
DisplayPort2	✔ 1.2	

Select your Displayport. Displayport 1.1 supports HBR 1, while 1.2 supports HBR 2.
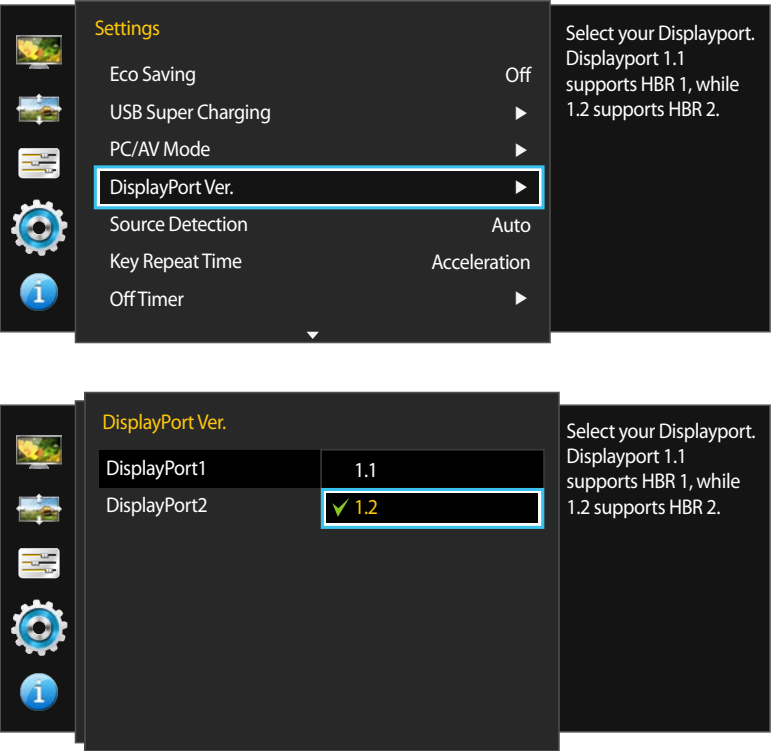
― The displayed image may differ depending on the model.

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

― If the monitor (when set to **DisplayPort1** or **DisplayPort2**) is in power saving mode or is displaying the message **Check Signal Cable**, press the ▤ button to display the On Screen Display (OSD). You can select **1.1** or **1.2**.

Configuring DisplayPort Ver.

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

2 Press ● / ● to move to **Settings** and press ▢ / ⏎ on the product.

3 Press ● / ● to move to **DisplayPort Ver.** and press ▢ / ⏎ on the product.

· **1.1** / **1.2**

4 Press ● / ● to move to the option you want and press ▢ / ⏎.

5 The selected option will be applied.

Source Detection

You can activate **Source Detection**.

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

Settings		Decide how input
USB Super Charging	▶	sources will be detected.
PC/AV Mode	▶	
DisplayPort Ver.	▶	
Source Detection	✓ Auto	
Key Repeat Time	Manual	
Off Timer	▶	
Reset All		

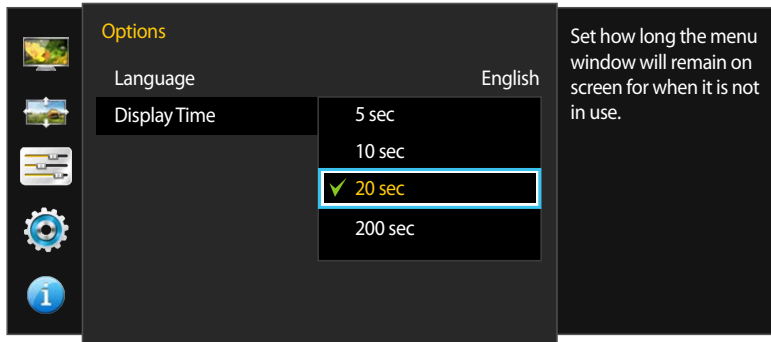‑ The displayed image may differ depending on the model.

Configuring Source Detection

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

2 Press ● / ● to move to **Settings** and press ⬜ / ⬛ on the product.

3 Press ● / ● to move to **Source Detection** and press ⬜ / ⬛ on the product.

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

4 Press ● / ● to move to the option you want and press ⬜ / ⬛.

5 The selected option will be applied.

Key Repeat Time

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

	Settings		
	USB Super Charging	▶	Configure the response rate of a button when the button is pressed.
	PC/AV Mode		
	DisplayPort Ver.		
	Source Detection		
	Key Repeat Time		
	Off Timer	▶	
	Reset All		

Settings
- ✔ Acceleration
- 1 sec
- 2 sec
- No Repeat
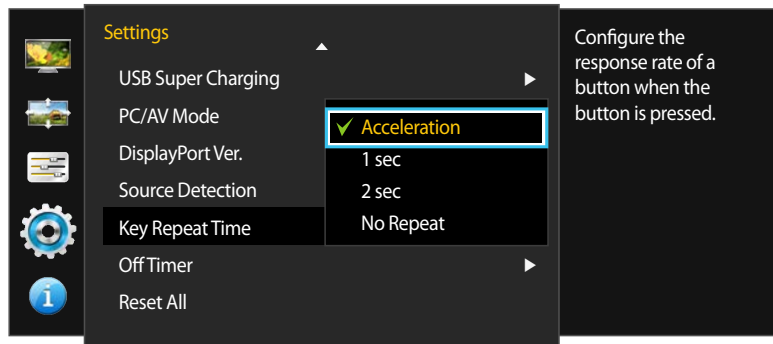
― The displayed image may differ depending on the model.

Configuring Key Repeat Time

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

2 Press ● / ● to move to **Settings** and press ▭ / ▣ on the product.

3 Press ● / ● to move to **Key Repeat Time** and press ▭ / ▣ on the product.

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

4 Press ● / ● to move to the option you want and press ▭ / ▣.

5 The selected option will be applied.

Off Timer

You can set the product to automatically turn off.

Settings		Enable or disable the Off Timer.
USB Super Charging	▶	
PC/AV Mode	▶	
DisplayPort Ver.	▶	
Source Detection	Auto	
Key Repeat Time	Acceleration	
Off Timer	▶	
Reset All		

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

― The displayed image may differ depending on the model.
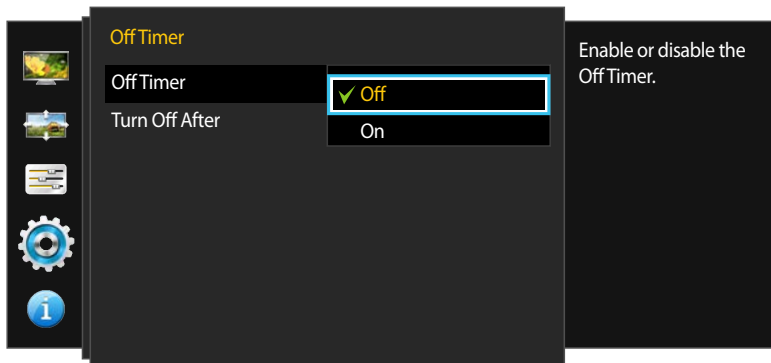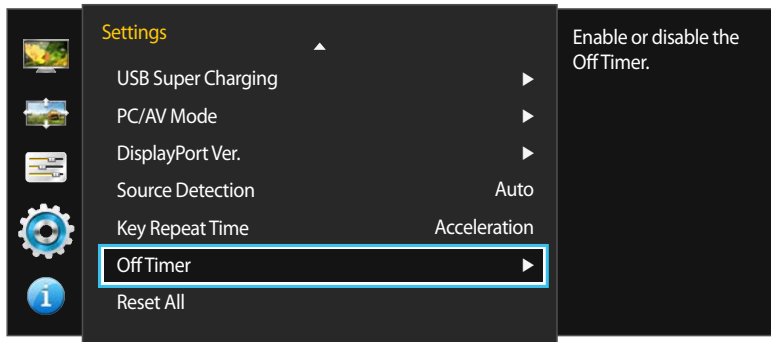
Configuring Off Timer

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

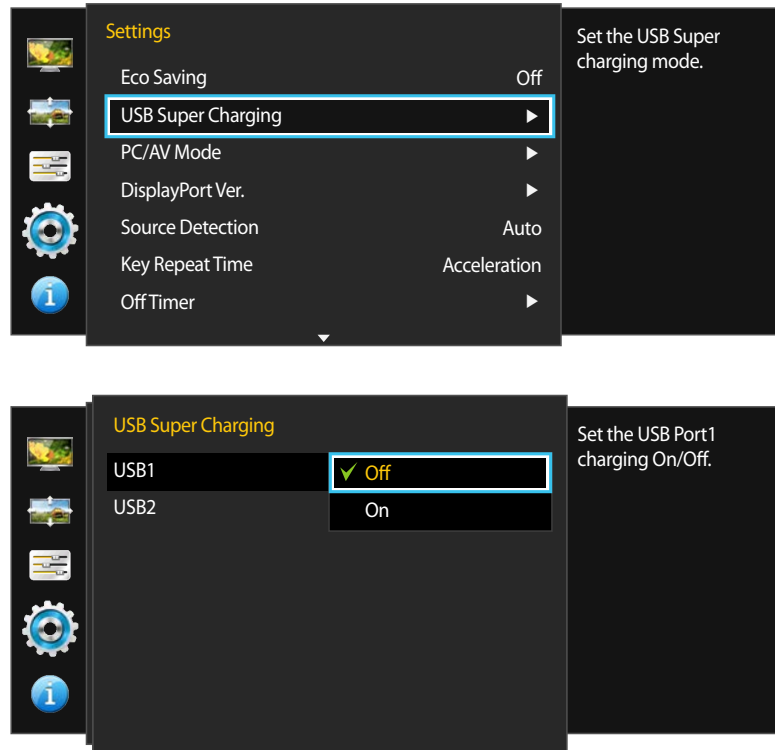**2** Press ● / ● to move to **Settings** and press ▭ / ◁ on the product.

3 Press ● / ● to move to **Off Timer** and press ▭ / ◁ on the product.

4 Press ● / ● to move to **Off Timer** and press ▭ / ◁ on the product.

‒ **Off**: Deactivate the off timer so that the product does not power off automatically.

‒ **On**: Activate the off timer so that the product powers off automatically.

5 Press ● / ● to move to the option you want and press ▭ / ◁.

6 The selected option will be applied.

Off Timer	
Off Timer	Off
Turn Off After	4h

Set the monitor to automatically turn off after a certain time period.
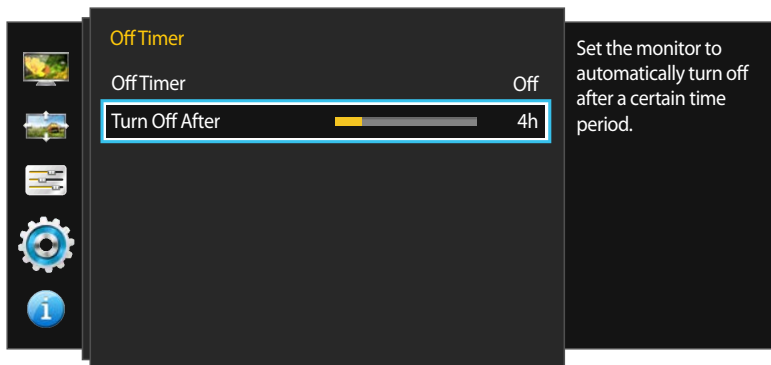
- The displayed image may differ depending on the model.

Configuring Turn Off After

⎯ This option is only available when **Off Timer** is set to **On**.

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

2 Press ● / ● to move to **Settings** and press ⬚ / ⬚ on the product.

3 Press ● / ● to move to **Off Timer** and press ⬚ / ⬚ on the product.

4 Press ● / ● to move to **Turn Off After** and press ⬚ / ⬚ on the product.

5 Press ● / ● to configure **Turn Off After**.

6 The selected option will be applied.

⎯ The off timer can be set within a range of 1 to 23 hours. The product will automatically power off after the specified number of hours.

⎯ 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** → **Settings** and set **Off Timer** to **Off**.

Reset All

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

	Settings		Return all the settings for the product to the default factory settings.
	USB Super Charging	▶	
	PC/AV Mode	▶	
	DisplayPort Ver.	▶	
	Source Detection	Auto	
	Key Repeat Time	Acceleration	
	Off Timer	▶	
	Reset All		

	Settings		Return all the settings for the product to the default factory settings.
	USB Super Charging	▶	
	PC/AV		
	Displa	Reset all settings?	
	Sourc	Yes No	
	Key Re		
	Off Timer		
	Reset All		

— The displayed image may differ depending on the model.

Initializing Settings (Reset All)

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

2 Press ●/● to move to **Settings** and press ▢/▢ on the product.

3 Press ●/● to move to **Reset All** and press ▢/▢ on the product.

4 Press ●/● to move to the option you want and press ▢/▢.

5 The selected option will be applied.

Chapter 09
Information Menu and Others

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

Information

View the current input source, frequency and resolution.

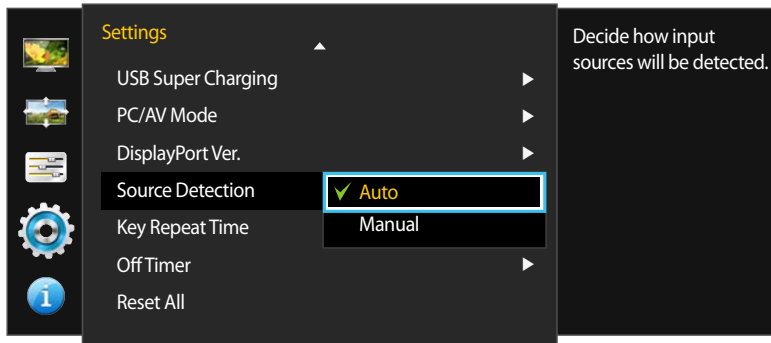### Displaying Information

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

2 Press ● / ● to move to **Information**. The current input source, frequency and resolution will appear.
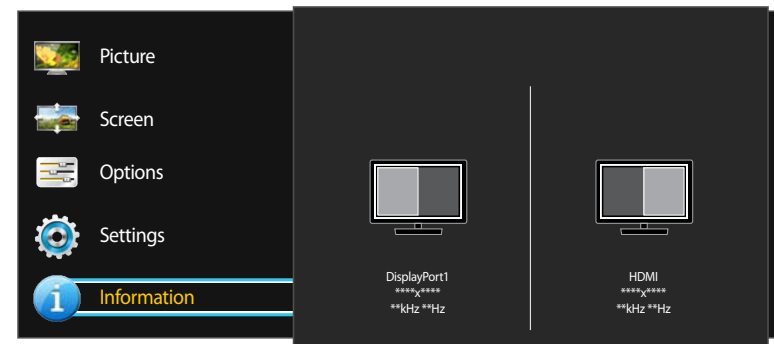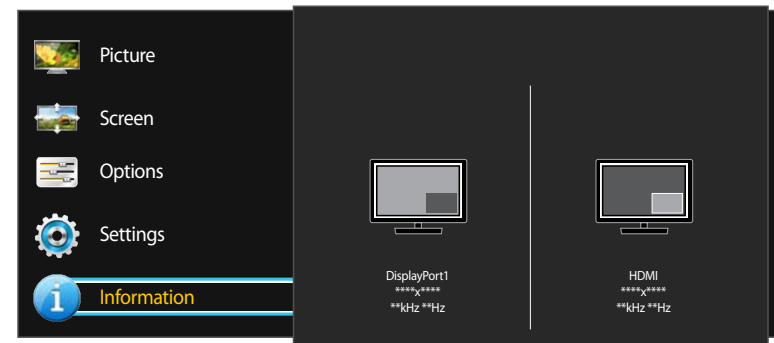
‒ The displayed image may differ depending on the model.

Configuring Brightness and Contrast in the Initial Screen

Adjust the **Brightness**, **Contrast** using the ☼ buttons when the initial screen (that displays no menu screen) is displayed.

Brightness	▬▬▬▬▬▬▬▬▬▬	100
▼ Contrast		

‒ The displayed image may differ depending on the model.

Brightness

― This menu is not available when **Eco Saving** is enabled.

Contrast

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

1 Press any button on the front of the product (when no menu screen is displayed) to display the Function Key Guide. Next, press ☼.

2 Press the ▥ button to alternate between the **Brightness** and **Contrast** settings.

3 Adjust the **Brightness**, **Contrast** using the ● / ● buttons.

Configuring Volume in the Initial Screen

Adjust the **Volume** using the ◁⁾⁾ buttons when the initial screen (that displays no menu screen) is displayed.

Volume	▬▬▬▬▬▬▬▬	50

‒ The displayed image may differ depending on the model.

― Available only when the input source is **DisplayPort1**, **DisplayPort2** or **HDMI**.

1 Press any button on the front of the product (when no menu screen is displayed) to display the Function Key Guide. Next, press ◁⁾⁾.

2 Adjust the **Volume** setting using the ● / ● buttons.

Chapter 10
Installing the Software

Easy Setting Box

Easy Setting Box

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

Installing the Software

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

2 Select the **Easy Setting Box** setup program.

― If the pop-up screen for the software installation does not appear on the main screen, find and double-click the **Easy Setting Box** setup file on the CD-ROM.

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

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

― The software may not work properly if you do not restart the computer after the installation.

― The **Easy Setting Box** 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 (Easy Setting Box)

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

System Requirements

OS

- Windows Vista 32Bit/64Bit
- Windows 7 32Bit/64Bit
- Windows 8 32Bit/64Bit
- Windows 8.1 32Bit/64Bit

Hardware

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

Removing the Software

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

Select **Easy Setting Box** from the program list and click the **Add/Delete** button.

Chapter 11
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 product or PC system settings.

Check the following.

Installation issue (PC mode)

Issues	Solutions
The screen keeps switching on and off.	Check the cable connection between the product and PC, and ensure the connectors are locked.
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 computer manufacturer for further details about how to adjust the screen settings.)

Screen issue

Issues	Solutions
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.91).
The images on the screen look distorted.	Check the cable connection to the product.

Issues	Solutions
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.	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.91) in this manual and the **Information** menu on the product.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust **Brightness** 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 or Windows 8.1): Go to **Control Panel → Fonts → Adjust ClearType text** and change **Turn on ClearType**.

Sound issue

Issues	Solutions
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.
Video is available but there is no sound.	Sound cannot be heard if a DVI cable is used to connect the input device.
	Connect the device using an HDMI cable or a DP cable.

Source device issue

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

Other issue

Issues	Solutions
The ports ⇜1 and ⇜2 are not working.	The USB data transfer feature is not available when the **USB Super Charging** feature is set to **On**.
	To use the USB data transfer feature, go to **Settings** → **USB Super Charging**, select a specific USB port(**USB1** or **USB2**), and then select **Off**.

Q & A

Question	Answer
How can I change the frequency?	Set the frequency on your graphics card.
	• Windows XP: Go to **Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor**, and adjust **Refresh rate** under **Monitor settings**.
	• Windows ME/2000: Go to **Control Panel → Display → Settings → Advanced → Monitor**, and adjust **Refresh rate** under **Monitor settings**.
	• Windows Vista: Go to **Control Panel → Appearance and Personalization → Personalization → Display Settings → Advanced Settings → Monitor**, and adjust **Refresh rate** under **Monitor settings**.
	• Windows 7: Go to **Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor**, and adjust **Refresh rate** under **Monitor settings**.
	• Windows 8(Windows 8.1): Go to **Settings → Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor**, and adjust **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.

Question	Answer
How do I set power-saving mode?	• Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
	• Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** or BIOS SETUP on the PC.
	• Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
	• Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.
	• Windows 8(Windows 8.1): Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** or BIOS SETUP on the PC.

- Size

- Display area

H

V

- Dimensions (W x H x D)

D

H

W
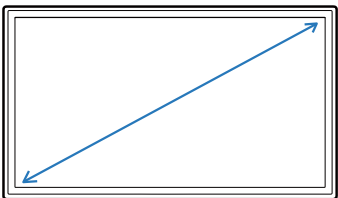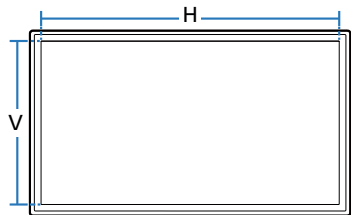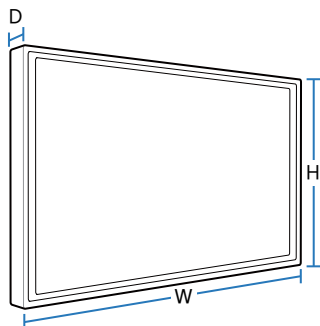
General

Model Name		**U32D970**
Panel	**Size**	32 Class (31.5 Inches / 80 cm)
	Display area	697.92 mm (H) x 392.58 mm (V)
		27.5 Inches (H) x 15.5 Inches (V)
	Pixel Pitch	0.18175 mm (H) x 0.18175 mm (V)
		0.007156 Inches (H) x 0.007156 Inches (V)
Dimensions (W x H x D) / Weight	**Without Stand**	727.8 x 427.3 x 62.1 mm / 10.3 kg
		28.7 x 16.8 x 2.4 Inches / 22.7 lbs
	With Stand	MIN: 727.8 x 490.6 x 280.0 mm / 13.7 kg
		28.7 x 19.3 x 11.0 Inches / 30.2 lbs
		MAX: 727.8 x 620.6 x 280.0 mm / 13.7 kg
		28.7 x 24.4 x 11.0 Inches / 30.2 lbs
VESA Mounting Interface		100 mm x 100 mm
		3.9 Inches x 3.9 Inches
		Bracket wall mount: 200 mm x 200 mm
		7.9 Inches x 7.9 Inches

Model Name	**U32D970**
Display Color	1.07B (True 10 bit)
Color Gamut Coverage	AdobeRGB 99.5 % (Typical), 99 % (Minimum)
Maximum Pixel Clock	533.25 MHz (DP)
Power Supply	This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.
Signal connectors	DL-DVI, HDMI, DP Port

Environmental conditions	**Operating**	Temperature: 50˚F ~ 104˚F (10˚C ~ 40˚C)
		Humidity: 10 % - 80 %, non-condensing
	Storage	Temperature: -4˚F ~ 140˚F (-20˚C ~ 60˚C)
		Humidity: 5 % - 95 %, non-condensing

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

― This device is a Class B digital apparatus.

― Color gamut size and coverage calculated as 2-D gamut area in CIE 1931 xy color space.
Coverage is the relative display gamut area contained inside the reference gamut.
AdobeRGB is a standard defined by Adobe Systems Incorporated.

― Color performance specifications represent the typical specifications provided by SEC's measurement device(CA-310) in Factory.
: Actual performance may vary either higher or lower.

(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

PowerSaver

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

PowerSaver	Normal Operation	Power saving mode	Power off (Power button)
Power Indicator	On	Blinking	Off
Power Consumption	Typical 90 W (Without USB)	0.5 W	0.5 W
	Typical 130 W (With USB, Max 140 W)		

― The displayed power consumption level can vary in different operating conditions or when settings are changed.

― SOG(Sync On Green) is not supported.

― To reduce the power consumption to 0, turn off the switch at the back or disconnect the power cord. Disconnect the power cable if you will not be using the product for an extended period of time (during vacation, etc.).

― To properly charge USB devices in power-saving mode, set **USB Super Charging** to **On**. The connected device will charge according to USB 2.0 (0.45A or more) or USB 3.0 (0.90A or more) specifications.

Standard Signal Mode Table

Model Name		U32D970
Synchronization	Horizontal Frequency	30 ~ 81 kHz
	Vertical Frequency	56 ~ 75 Hz
Resolution	Optimum resolution	DisplayPort1 / DisplayPort2: 3840 x 2160 @ 60 Hz
		HDMI / DVI: 3840 x 2160 @ 30 Hz
	Maximum resolution	DisplayPort1 / DisplayPort2: 3840 x 2160 @ 60 Hz
		HDMI / DVI: 3840 x 2160 @ 30 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, 640 x 350	31.469	70.086	25.175	+/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
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	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	+/+

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
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 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	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 1200	75.000	60.000	162.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+
VESA, 1920 x 1200	74.556	59.885	193.250	-/+
VESA, 2560 x 1440	88.787	59.951	241.500	+/-
VESA, 3840 x 2160 (30 Hz)	67.500	30.000	297.000	+/+
VESA, 3840 x 2160 (60 Hz)	133.313	59.997	533.250	+/+

Chapter 13
Appendix

Contact SAMSUNG WORLD WIDE

― If you have any questions or comments relating to Samsung products, please contact the SAMSUNG customer care center.

NORTH AMERICA

U.S.A	1-800-SAMSUNG (726-7864)	http://www.samsung.com/us
CANADA	1-800-SAMSUNG (726-7864)	http://www.samsung.com/ca (English) http://www.samsung.com/ca_fr (French)

LATIN AMERICA

ARGENTINE	0800 333 3733	http://www.samsung.com.ar
BOLIVIA	800-10-7260	http://www.samsung.com
BRAZIL	0800-124-421 (Demais cidades e regiões) 4004-0000 (Capitais e grandes centros)	http://www.samsung.com.br
CHILE	800-SAMSUNG (726-7864)	http://www.samsung.com/cl
COLOMBIA	01 8000 112 112 Bogotá 600 12 72	http://www.samsung.com/co

LATIN AMERICA

COSTA RICA	0-800-507-7267	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
DOMINICA	1-800-751-2676	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
ECUADOR	1-800-10-7267	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
EL SALVADOR	800-6225	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
GUATEMALA	1-800-299-0013	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
HONDURAS	800-27919267	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
JAMAICA	1-800-234-7267	http://www.samsung.com
NICARAGUA	001-800-5077267	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
MEXICO	01-800-SAMSUNG (726-7864)	http://www.samsung.com
PANAMA	800-7267	http://www.samsung.com/latin (Spanish) http://www.samsung.com/latin_en (English)
PARAGUAY	009 800 542 0001	http://www.samsung.com.py
PERU	0-800-777-08	http://www.samsung.com/pe
PUERTO RICO	1-800-682-3180	http://www.samsung.com

LATIN AMERICA

TRINIDAD & TOBAGO	1-800-SAMSUNG (726-7864)	http://www.samsung.com
URUGUAY	000 405 437 33	http://www.samsung.com
VENEZUELA	0-800-100-5303	http://www.samsung.com/ve

EUROPE

AUSTRIA	0810 - SAMSUNG (7267864, € 0.07/min)	http://www.samsung.com
BELGIUM	02-201-24-18	http://www.samsung.com/be (Dutch) http://www.samsung.com/be_fr (French)
BOSNIA	051 331 999	http://www.samsung.com
BULGARIA	07001 33 11 , share cost tariff	http://www.samsung.com/bg
CROATIA	062 SAMSUNG (062 726 786)	http://www.samsung.com/hr
CYPRUS	8009 4000 only from landline	http://www.samsung.com/gr
CZECH	800 - SAMSUNG (800-726786)	http://www.samsung.com
	Samsung Electronics Czech and Slovak, s.r.o. V Parku 2343/24, 148 00 - Praha 4	
DENMARK	70 70 19 70	http://www.samsung.com
EIRE	0818 717100	http://www.samsung.com
ESTONIA	800-7267	http://www.samsung.com/ee
FINLAND	030-6227 515	http://www.samsung.com
FRANCE	01 48 63 00 00	http://www.samsung.com/fr

EUROPE

GERMANY	0180 6 SAMSUNG bzw.	http://www.samsung.com
	0180 6 7267864* (*0,20 €/Anruf aus dem dt. Festnetz, aus dem Mobilfunk max. 0,60 €/Anruf)	
GREECE	80111-SAMSUNG (80111 726 7864) only from land line (+30) 210 6897691 from mobile and land line	http://www.samsung.com/gr
HUNGARY	06-80-SAMSUNG (726-7864)	http://www.samsung.com/hu
ITALIA	800-SAMSUNG (726-7864)	http://www.samsung.com
LATVIA	8000-7267	http://www.samsung.com/lv
LITHUANIA	8-800-77777	http://www.samsung.com/lt
LUXEMBURG	261 03 710	http://www.samsung.com
MONTENEGRO	020 405 888	http://www.samsung.com
NETHERLANDS	0900-SAMSUNG (0900-7267864) (€ 0,10/Min)	http://www.samsung.com
NORWAY	815 56480	http://www.samsung.com
POLAND	0 801-172-678* lub +48 22 607-93-33 ** *(całkowity koszt połączenia jak za 1 impuls według taryfy operatora) ** (koszt połączenia według taryfy operatora)	http://www.samsung.com/pl
PORTUGAL	808 20-SAMSUNG (808 20 7267)	http://www.samsung.com
ROMANIA	08008 SAMSUNG (08008 726 7864) TOLL FREE No.	http://www.samsung.com/ro
SERBIA	011 321 6899	http://www.samsung.com/rs

EUROPE

SLOVAKIA	0800 - SAMSUNG (0800-726 786)	http://www.samsung.com
SPAIN	902172678	http://www.samsung.com
SWEDEN	0771 726 7864 (SAMSUNG)	http://www.samsung.com
SWITZERLAND	0848 - SAMSUNG (7267864, CHF 0.08/min)	http://www.samsung.com/ch (German) http://www.samsung.com/ch_fr (French)
U.K	0330 SAMSUNG (7267864)	http://www.samsung.com

CIS

ARMENIA	0-800-05-555	http://www.samsung.com
AZERBAIJAN	088-55-55-555	http://www.samsung.com
BELARUS	810-800-500-55-500	http://www.samsung.com
GEORGIA	0-800-555-555	http://www.samsung.com
KAZAKHSTAN	8-10-800-500-55-500 (GSM: 7799)	http://www.samsung.com
KYRGYZSTAN	00-800-500-55-500	http://www.samsung.com
MOLDOVA	0-800-614-40	http://www.samsung.com
MONGOLIA	+7-800-555-55-55	http://www.samsung.com
RUSSIA	8-800-555-55-55	http://www.samsung.com
TADJIKISTAN	8-10-800-500-55-500	http://www.samsung.com
UKRAINE	0-800-502-000	http://www.samsung.com/ua (Ukrainian) http://www.samsung.com/ua_ru (Russian)

CIS

UZBEKISTAN	8-10-800-500-55-500	http://www.samsung.com

ASIA PACIFIC

AUSTRALIA	1300 362 603	http://www.samsung.com/au
CHINA	400-810-5858	http://www.samsung.com
HONG KONG	(852) 3698 4698	http://www.samsung.com/hk (Chinese) http://www.samsung.com/hk_en (English)
INDIA	1800 3000 8282 1800 266 8282	http://www.samsung.com/in
INDONESIA	0800-112-8888 (Toll Free) (021) 56997777	http://www.samsung.com/id
JAPAN	0120-327-527	http://www.samsung.com
MALAYSIA	1800-88-9999	http://www.samsung.com/my
NEW ZEALAND	0800 SAMSUNG (0800 726 786)	http://www.samsung.com/nz
PHILIPPINES	1-800-10-7267864 [PLDT] 1-800-8-7267864 [Globe landline and Mobile] 02-4222111 [Other landline]	http://www.samsung.com/ph
SINGAPORE	1800-SAMSUNG (726-7864)	http://www.samsung.com/sg
TAIWAN	0800-32-9999	http://www.samsung.com/tw

ASIA PACIFIC

THAILAND	0-2689-3232, 1800-29-3232	http://www.samsung.com/th
VIETNAM	1800 588 889	http://www.samsung.com

MENA

ALGERIA	0800 100 100	http://www.samsung.com/n_africa
BAHRAIN	8000-4726	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
EGYPT	08000-726786	http://www.samsung.com
IRAN	021-8255	http://www.samsung.com
JORDAN	0800-22273 06 5777444	http://www.samsung.com/Levant (English)
KUWAIT	183-2255 (183-CALL)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
MOROCCO	080 100 2255	http://www.samsung.com
OMAN	800-SAMSUNG (726-7864)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
PAKISTAN	0800-Samsung (72678)	http://www.samsung.com/pk/
QATAR	800-2255 (800-CALL)	http://www.samsung.com/ae (English) http://www.samsung.com/ae_ar (Arabic)
SAUDI ARABIA	920021230	http://www.samsung.com/sa

MENA

SYRIA	18252273	http://www.samsung.com/Levant (English)
TUNISIA	80-1000-12	http://www.samsung.com/n_africa
TURKEY	444 77 11	http://www.samsung.com
U.A.E	800-SAMSUNG (726-7864)	http://www.samsung.com

AFRICA

BOTSWANA	8007260000	http://www.samsung.com
BURUNDI	200	http://www.samsung.com
CAMEROON	7095-0077	http://www.samsung.com/africa_fr
COTE D' IVOIRE	8000 0077	http://www.samsung.com/africa_fr
DRC	499999	http://www.samsung.com
GHANA	0800-10077 0302-200077	http://www.samsung.com/africa_en
KENYA	0800 545 545	http://www.samsung.com
NAMIBIA	08 197 267 864	http://www.samsung.com
NIGERIA	0800-726-7864	http://www.samsung.com/africa_en
MOZAMBIQUE	847267864 / 827267864	http://www.samsung.com
RWANDA	9999	http://www.samsung.com
SENEGAL	800-00-0077	http://www.samsung.com/africa_fr

AFRICA

SOUTH AFRICA	0860 SAMSUNG (726 7864)	http://www.samsung.com
SUDAN	1969	http://www.samsung.com
TANZANIA	0685 88 99 00	http://www.samsung.com
UGANDA	0800 300 300	http://www.samsung.com
ZAMBIA	0211 350370	http://www.samsung.com

Responsibility for the Pay Service(Cost to Customers)

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

Not a product defect

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

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

A Product damage caused by customer's fault

Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

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

Others

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

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

Correct Disposal

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

(Applicable in countries with separate collection systems)

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

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

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

Terminology

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

HUB_____ HUB refers to a device that is a common connection point for multiple devices connected over a network. It is used to connect multiple PCs, video devices, office devices and/or LANs over a single network.

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

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

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

Dot Pitch_____ The product and screen consist of red, green and blue dots. A shorter distance between the dots produces a higher resolution. Dot pitch refers to the distance between the shortest distance between dots of the same color. Dot pitch is measured in millimeters.

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

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

Resolution_____ Resolution is the number of horizontal pixels and vertical pixels that form a screen. It represents the level of display detail. A higher resolution displays a greater amount of information on the screen and is suitable for performing multiple tasks at the same time.
E.g. A resolution of 1366 x 768 consists of 1366 horizontal pixels (horizontal resolution) and 768 vertical lines (vertical resolution).
E.g. A resolution of 1920 x 1080 consists of 1920 horizontal pixels (horizontal resolution) and 1080 vertical lines (vertical resolution).

Plug & Play_____ The Plug & Play feature allows the automatic exchange of information between a monitor and PC to produce an optimum display environment.
The monitor uses VESA DDC (international standard) to execute Plug & Play.