SAMSUNG

User Manual

U24E850R
U28E850R
U32E850R

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.

BN46-00482B-07

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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.

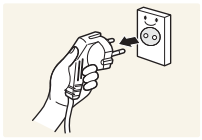
Icons used in this manual

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

Cleaning

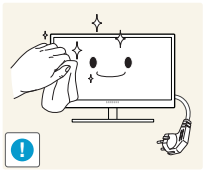
Exercise care when cleaning as the panel and exterior of advanced LCDs are easily scratched.

Take the following steps when cleaning.



1. Power off the monitor and computer.
2. Disconnect the power cord from the monitor.

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



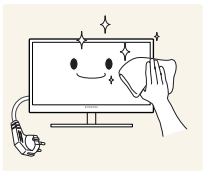
3. Wipe the monitor with a clean, soft and dry cloth.



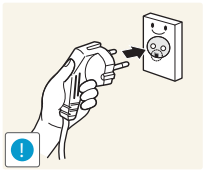
- Do not apply a cleaning agent that contains alcohol, solvent, or surfactant to the monitor.



- 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 monitor.

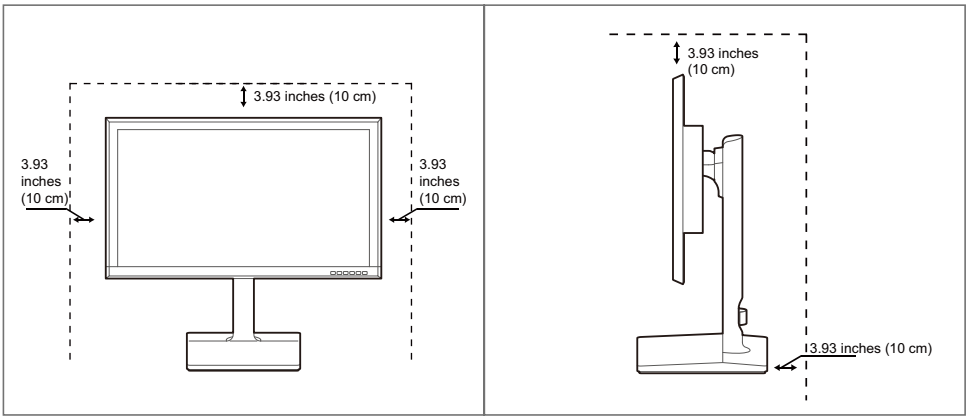


5. Connect the power cord to the product after cleaning the product.
6. Power on the monitor and computer.

Securing the Installation Space

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

The exterior may differ depending on the product.



Precautions for storage

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

Safety Precautions

Caution
RISK OF ELECTRIC SHOCK DO NOT OPEN
Caution: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). THERE ARE NO USER SERVICEABLE PARTS INSIDE. REFER ALL SERVICING TO QUALIFIED PERSONNEL.

	This symbol indicates that high voltage is present inside. It is dangerous to make any kind of contact with any internal part of this product.
	This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

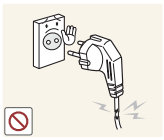
Symbols

 Warning	A serious or fatal injury may result if instructions are not followed.
 Caution	Personal injury or damage to properties may result if instructions are not followed.
	Activities marked by this symbol are prohibited.
	Instructions marked by this symbol must be followed.

Electricity and Safety

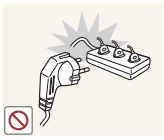
The following images are for reference only. Real-life situations may differ from what is shown in the images.

Warning



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

- An electric shock or fire may result.



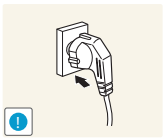
Do not plug many products into the same power socket.

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



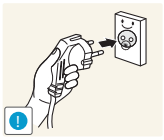
Do not touch the power plug with wet hands.

- Otherwise, an electric shock may result.



Insert the power plug all the way in so it is not loose.

- An unstable connection may cause a fire.



Connect the power plug to a grounded power socket (type 1 insulated devices only).

- An electric shock or injury may result.



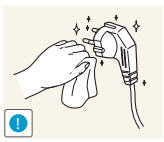
Do not bend or pull the power cord with force. Do not weigh the power cord down with a heavy object.

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



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

- An electric shock or fire may result.



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

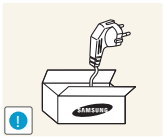
- Otherwise, a fire may result.

Caution



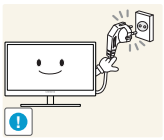
Do not unplug the power cord when the product is in use.

- The product may become damaged by an electric shock.



Do not use the power cord for products other than authorized products supplied by Samsung.

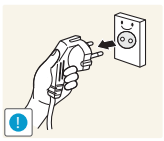
- An electric shock or fire may result.



Keep the power socket where the power cord is connected unobstructed.

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

  Power to the product cannot be completely cut off with the power button.



Hold the plug when disconnecting the power cord from the power socket.

- An electric shock or fire may result.

Installation and Safety

Warning



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

- Otherwise, a fire may result.



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

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



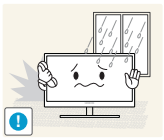
Keep the plastic packaging bag for the product in a place that cannot be reached by children.

- Children may suffocate.



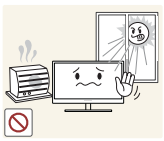
Do not install the product on an unstable or vibrating surface (insecure shelf, sloped surface, etc.).

- The product may fall and break or cause a personal injury.
- Using the product in an area with excess vibration may damage the product or cause a fire.



Do not install the product in a vehicle or a place exposed to dust, moisture (water drips, etc.), oil, or smoke.

- An electric shock or fire may result.



Do not expose the product to direct sunlight, heat, or a hot object such as a stove.

- Otherwise, the product lifespan may be reduced, or a fire may result.



Do not install the product within the reach of young children.

- The product may fall and injure children.



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

Caution



Take care not to drop the product when moving it.

- Otherwise, product failure or personal injury may result.



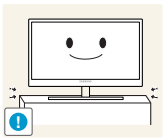
Do not set down the product on its front.

- The screen may become damaged.



When installing the product on a cabinet or shelf, make sure that the bottom edge of the front of the product is not protruding.

- The product may fall and break or cause a personal injury.
- Install the product only on cabinets or shelves of the right size.



Put down the product carefully.

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

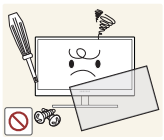


Installing the product in an unusual place (a place exposed to a lot of fine dust, chemical substances, extreme temperatures or a significant presence of moisture, or a place where the product will operate continuously for an extended period of time) may seriously affect its performance.

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

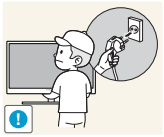
Operation

Warning



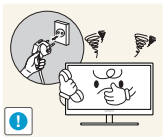
High voltage runs through the product. Do not attempt to disassemble, repair, or modify the product on your own.

- An electric shock or fire may result.
- Contact Samsung Customer Service Center for repair.



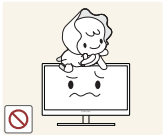
To move the product, first disconnect all the cables from it, including the power cable.

- Otherwise, the power cord may be damaged and a fire or electric shock may result.



If the product generates a strange noise, a burning smell, or smoke, remove the power cord immediately and contact Samsung Customer Service Center.

- An electric shock or fire may result.



Do not let children hang from the product or climb on top of it.

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



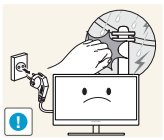
If the product falls or the exterior is damaged, power off the product, remove the power cord, and contact Samsung Customer Service Center.

- Otherwise, an electric shock or fire may result.



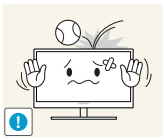
Do not put a heavy object, toy, or sweets on top of the product.

- The product or heavy objects may fall as children try to reach for the toy or sweets resulting in a serious injury.



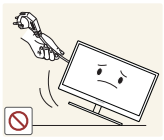
During a lightning or thunderstorm, power off the product and remove the power cable.

- An electric shock or fire may result.



Do not drop objects on the product or apply impact.

- An electric shock or fire may result.



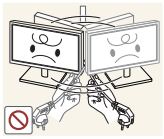
Do not move the product by pulling the power cord or any cable.

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



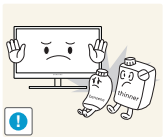
If a gas leakage is found, do not touch the product or power plug. Also, ventilate the area immediately.

- Sparks can cause an explosion or fire.



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

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



Do not use or keep combustible spray or an inflammable substance near the product.

- An explosion or fire may result.



Ensure the vents are not blocked by tablecloths or curtains.

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



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

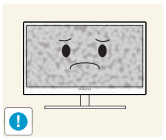
- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.



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

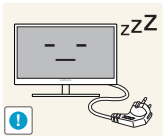
- If water or any foreign substance enters the product, be sure to power off the product, remove the power cord, and contact Samsung Customer Service Center.
- Product failure, an electric shock or fire may result.

Caution



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

- If you are not going to use the product for an extended period of time, activate power-saving mode or a moving-picture screen saver.



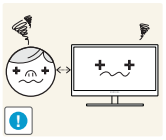
Disconnect the power cord from the power socket if you do not plan on using the product for an extended period of time (vacation, etc).

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



Use the product at the recommended resolution and frequency.

- Your eyesight may deteriorate.



Looking at the screen too close for an extended period of time can deteriorate your eyesight.



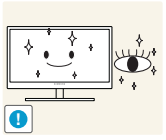
Do not hold the monitor upside-down or move it by holding the stand.

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



Do not use humidifiers or stoves around the product.

- An electric shock or fire may result.

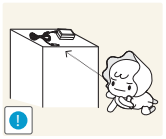


Rest your eyes for more than 5 minutes for every 1 hour of product use.

- Eye fatigue will be relieved.



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



Store the small accessories used with the product out of reach of children.



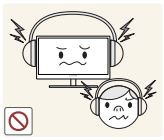
Exercise caution when adjusting the product angle or stand height.

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



Do not place heavy objects on the product.

- Product failure or personal injure may result.



When using headphones or earphones, do not turn the volume too high.

- Having the sound too loud may damage your hearing.

Correct posture to use the product



Use the product in the correct posture as follows:

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

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

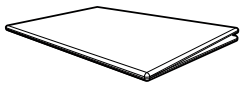
1 Preparations

1.1 Checking the Contents

1.1.1 Checking the Components

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

Components

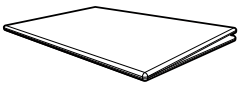


Quick Setup Guide

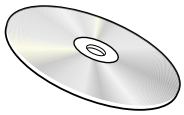


Warranty card

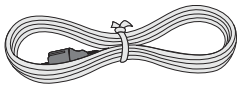
(Not available in some locations)



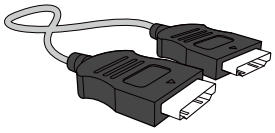
Regulatory guide (optional)



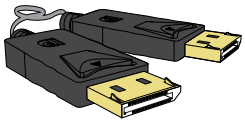
User manual (optional)



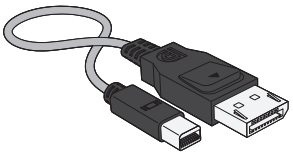
Power cable



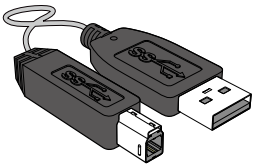
HDMI cable (optional)



DP cable (optional)



MINI DP cable (optional)



USB 3.0 cable (optional)

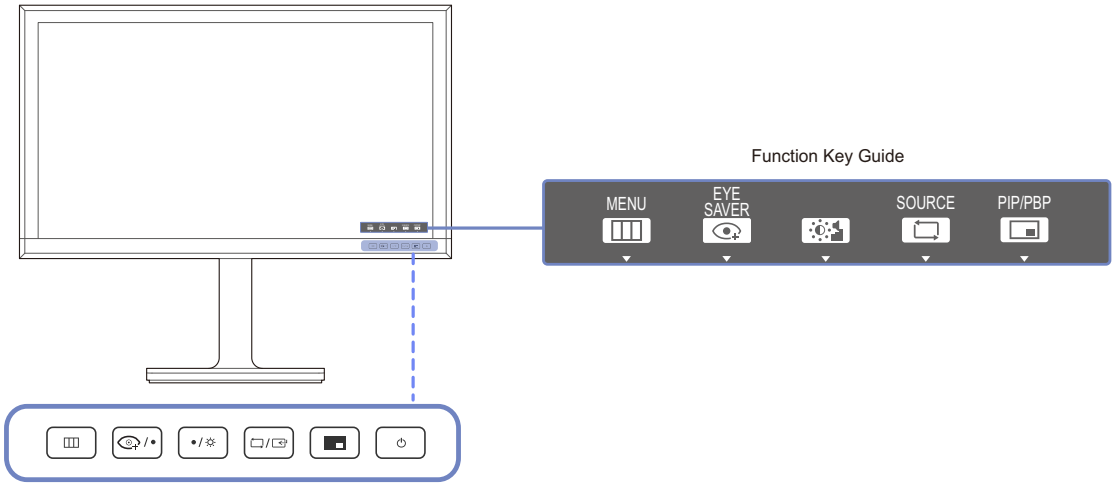
- Components may vary depending on the country.
- Recommend to use the HDMI cable and DP cable which is provided by the supplier.
- The optimal resolution may not be available when using a non-high speed HDMI or HDMI-DVI cable.
- To ensure that the screen displays properly and sound can be normal output, using a standard DP, MINI DP or HDMI cable is recommended. The DP, MINI DP and HDMI cables must support a resolution of 3840 x 2160 at 60 Hz. (U24E850R)
- To ensure that the screen displays properly and sound can be normal output, using a DP or MINI DP cable that supports 3840 x 2160 @ 60 Hz is recommended. An HDMI cable that supports 3840 x 2160 @ 30 Hz will work when connect with **HDMI 1**. An HDMI cable that supports 3840 x 2160 @ 60 Hz will work when connect with **HDMI 2**. (U28E850R / U32E850R)

1.2 Parts

1.2.1 Frontal Button

The color and shape of parts may differ from what is shown.

Specifications are subject to change without notice to improve quality.



Icons	Description
	Open or close the onscreen display (OSD) menu, or return to the parent menu. • OSD control lock: Maintain the current settings, or lock the OSD control to prevent unintended changes to settings. • Enable: To lock the OSD control, press and hold the [ ] button for 10 seconds. • Disable: To unlock the OSD control, press and hold the [ ] button for 10 seconds. If the OSD control is locked, Brightness, Contrast and Volume can be adjusted. PIP/PBP and Eye Saver Mode are available. Information can be viewed.
	Select [ ] to display and access the following menu items. Press to enable or disable **Eye Saver Mode**. The items below are not available if the **Eye Saver Mode** function is enable. • **PICTURE** → Game Mode, SAMSUNG MAGIC Bright, SAMSUNG MAGIC Angle, Brightness • **COLOR** • **System** → Smart Eco Saving

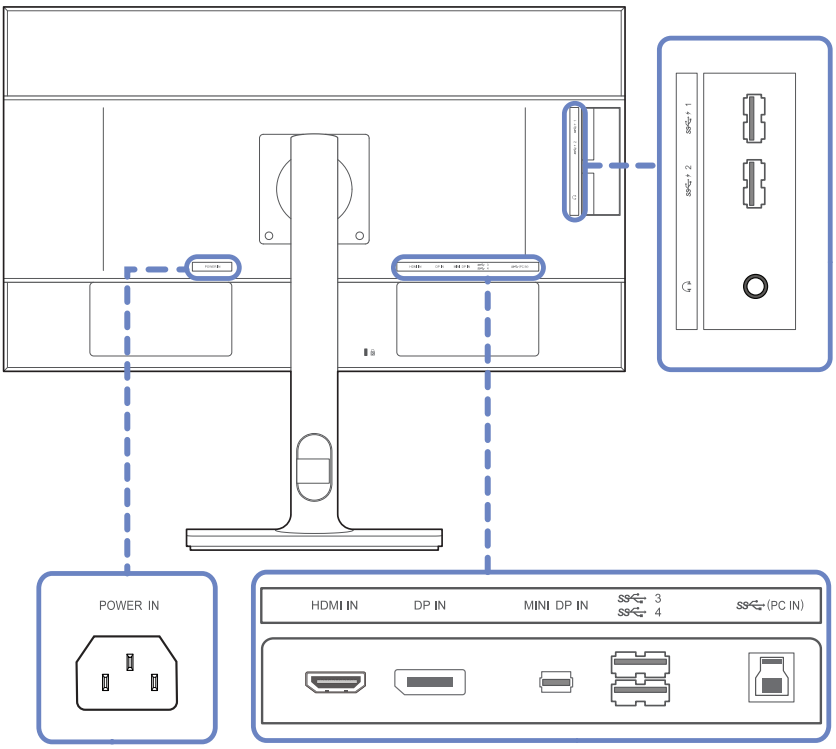
Icons	Description
• / •	Move to the upper or lower menu or adjust the value for an option on the OSD menu.
☼	Adjust the screen brightness, contrast and volume.
⮌/⮎	Confirm a menu selection. Pressing the [⮌/⮎] button when the OSD menu is not displayed will change the input source **U24E850R** (DisplayPort/Mini DP/HDMI), **U28E850R / U32E850R** (DisplayPort/Mini DP/HDMI 1/HDMI 2). 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.
▭	Press the button when configuring settings for the PIP/PBP function is required.
⏻	Turn the screen on or off.
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.

1.2.2 Reverse Side

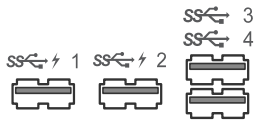
The color and shape of parts may differ from what is shown.

Specifications are subject to change without notice to improve quality.

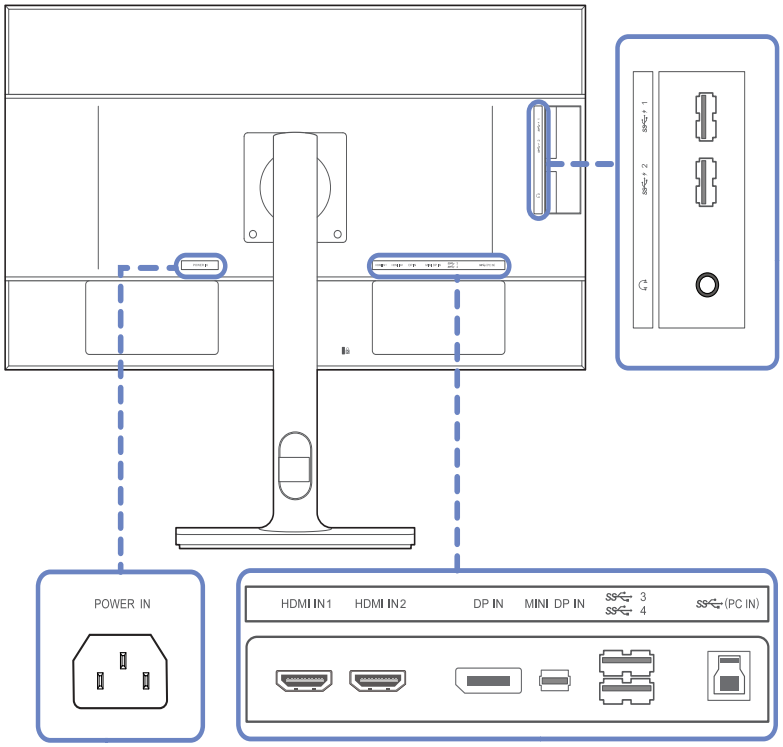
U24E850R



Port	Description
POWER IN	Connect the power cord for your monitor to the [POWER IN] port on the back of the product.
HDMI IN	Connect to a source device using an HDMI cable.
DP IN	Connects to a PC using a DP cable.
MINI DP IN	Connects to a PC using a MINI DP cable.

Port	Description
	Connect to a USB device. 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.
SS (PC IN) 	Connects to a PC using a USB cable. Compatible with a USB cable version 3.0 or lower. This port can only connect to a PC.
	Connect to an audio output device such as headphones.

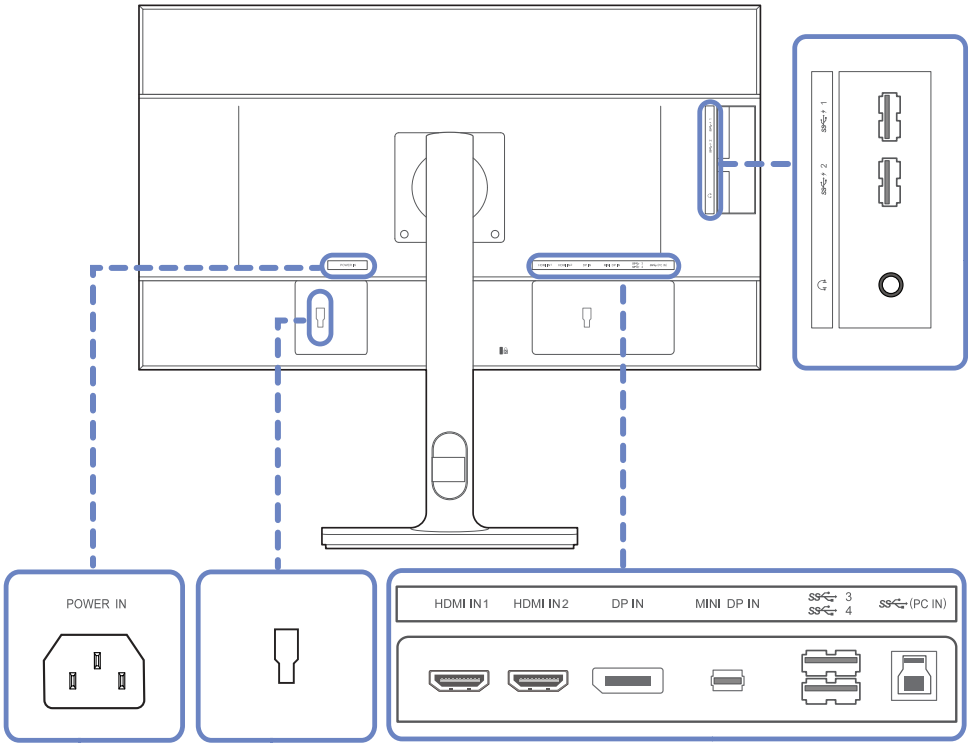
U28E850R



Port	Description
POWER IN	Connect the power cord for your monitor to the [POWER IN] port on the back of the product.
HDMI IN 1 HDMI IN 2	Connect to a source device using an HDMI cable. **HDMI 1** support 3840 x 2160 @ 30 Hz **HDMI 2** support 3840 x 2160 @ 60 Hz
DP IN	Connects to a PC using a DP cable.
MINI DP IN	Connects to a PC using a MINI DP cable.
SS 1 SS 2 SS 3 SS 4	Connect to a USB device. 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.

Port	Description
SS (PC IN) 	Connects to a PC using a USB cable. Compatible with a USB cable version 3.0 or lower. This port can only connect to a PC.
	Connect to an audio output device such as headphones.

U32E850R



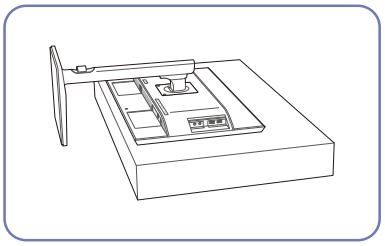
Port	Description
POWER IN	Connect the power cord for your monitor to the [POWER IN] port on the back of the product.
HDMI IN 1 HDMI IN 2	Connect to a source device using an HDMI cable. **HDMI 1** support 3840 x 2160 @ 30 Hz **HDMI 2** support 3840 x 2160 @ 60 Hz
DP IN	Connects to a PC using a DP cable.
MINI DP IN	Connects to a PC using a MINI DP cable.
SS 1 SS 2 SS 3 SS 4	Connect to a USB device. 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.

Port	Description
SS (PC IN) 	Connects to a PC using a USB cable. Compatible with a USB cable version 3.0 or lower. This port can only connect to a PC.
	Connect to an audio output device such as headphones.
	Connect to an external device.

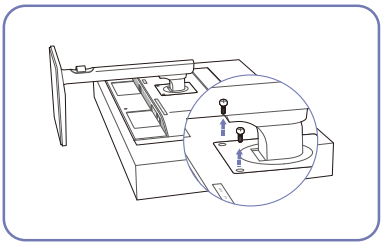
1.3 Installation

1.3.1 Removing the Stand

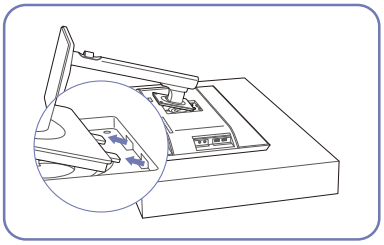
- The color and shape of parts may differ from what is shown.
  Specifications are subject to change without notice to improve quality.
- Power the product off and remove the power cable from the power socket.



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

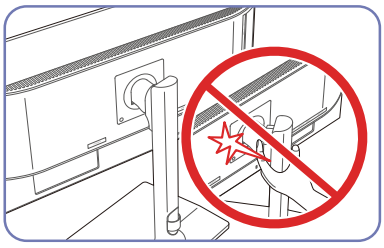


Unfasten the screw from the back of the product.



Lift and detach the stand.

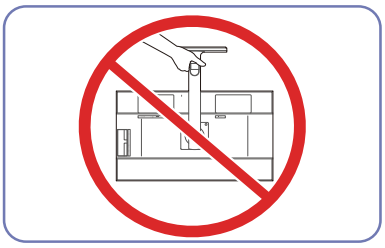
- Caution



Do not place your hands in the swiveling area.



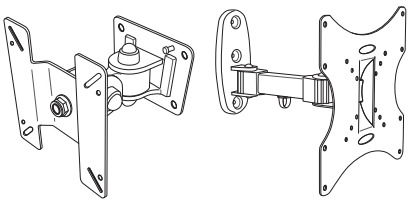
Do not put the hand below the stand body.



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

1.3.2 Installing the Wall Mount

Installing the Wall Mount Kit



The wall mount kit allows you to mount the product on the wall.

Purchase a compatible wall-mount kit to use with the product.

For detailed information on installing the wall mount, see the instructions provided with the wall mount.

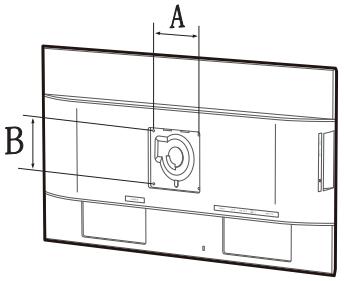
We recommend you contact a technician for assistance when installing the wall mount bracket.

Samsung Electronics is not responsible for any damage to the product or injury to yourself or others if you elect to install the wall mount on your own.

Wall Mount Kit Specifications (VESA)

Install your wall mount on a solid wall perpendicular to the floor. Before attaching the wall mount to surfaces other than plaster board, please contact your nearest dealer for additional information.
If you install the product on a slanted wall, it may fall and result in severe personal injury.
Samsung wall mount kits contain a detailed installation manual and all parts necessary for assembly are provided.

- Do not use screws that are longer than the standard length or do not comply with the VESA standard screw specifications. Screws that are too long may cause damage to the inside of the product.
- For wall mounts that do not comply with the VESA standard screw specifications, the length of the screws may differ depending on the wall mount specifications.
- Do not fasten the screws too firmly. This may damage the product or cause the product to fall, leading to personal injury. Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.
- Do not mount the product at more than a 15 degree tilt.
- Always have two people mount the product on a wall.
- Standard dimensions for wall mount kits are shown in the table below.



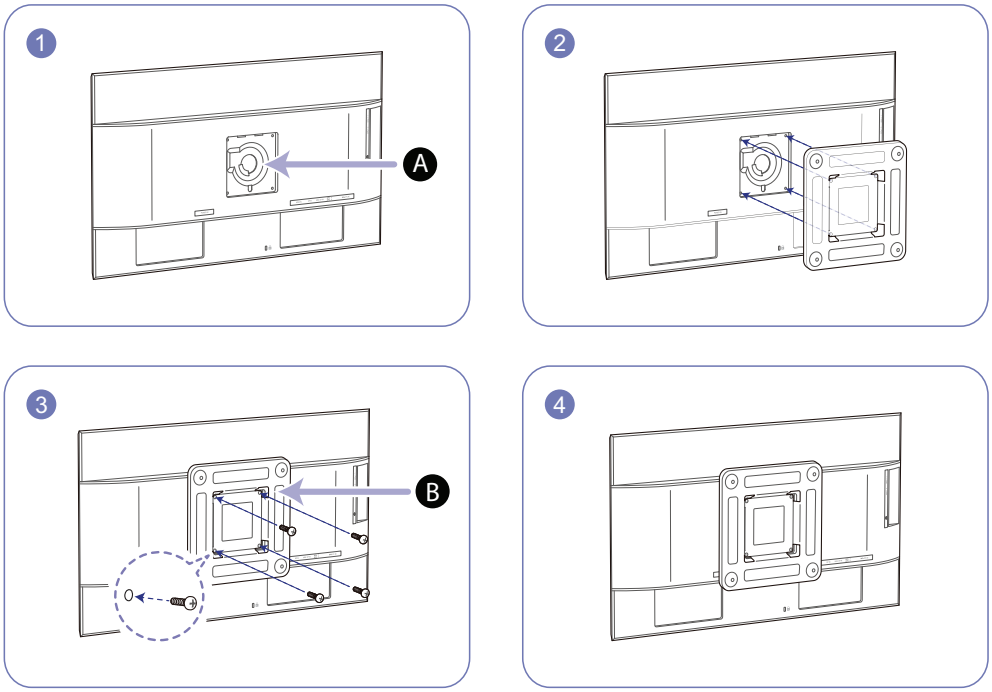
Unit: mm (inches)

Model name	VESA screw hole specs (A * B) in millimeters	Standard Screw	Quantity
U24E850R U28E850R U32E850R	100 x 100 (3.9 x 3.9)	M4	4

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

1.3.3 Installing a Wall-mount Kit or Desktop Stand

U24E850R / U28E850R / U32E850R



A Attach the wall-mount kit or desktop stand here

B Wall-mount bracket (optional)

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

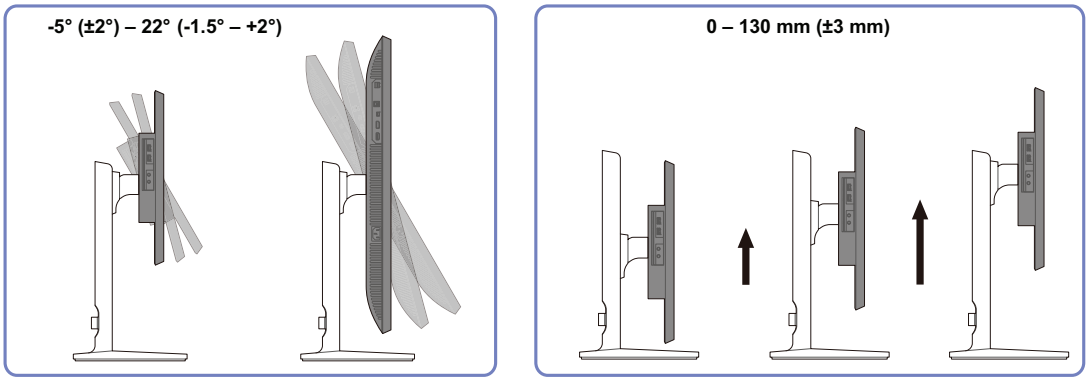
Notes

- Using a screw longer than the standard length can damage the internal components of the product.
- The length of screws required for a wall mount that does not comply with the VESA standards may vary depending on the specifications.
- Do not use screws that do not comply with the VESA standards. Do not attach the wall-mount kit or desktop stand using excessive force. The product may get damaged or fall and cause personal injury. Samsung shall not be held liable for any damage or injury caused by using improper screws or attaching the wall-mount kit or desktop stand using excessive force.
- Samsung shall not be held liable for any product damage or personal injury caused by using a wallmount kit other than the one specified or from an attempt to install the wall-mount kit on your own.
- To mount the product on a wall, ensure you purchase a wall-mount kit that can be installed 10 cm or farther away from the wall.
- Be sure to use a wall-mount kit that complies with the standards.
- To install the product on a wall using the wall-mount kit, remove the stand.

1.3.4 Adjusting the Product Tilt and Height

The color and shape of parts may differ from what is shown.

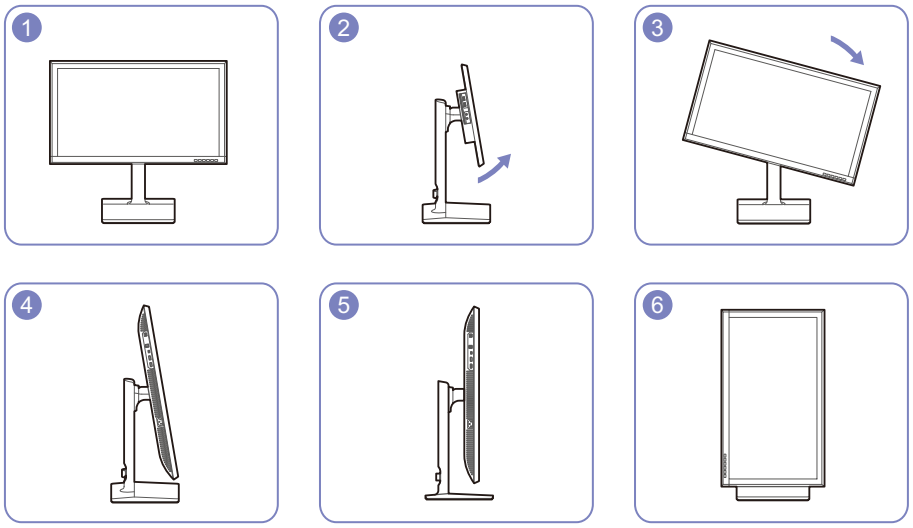
Specifications are subject to change without notice to improve quality.



- The monitor tilt and height can be adjusted.
- Hold the top center of the product and adjust the height carefully.

1.3.5 Rotating the Monitor Screen

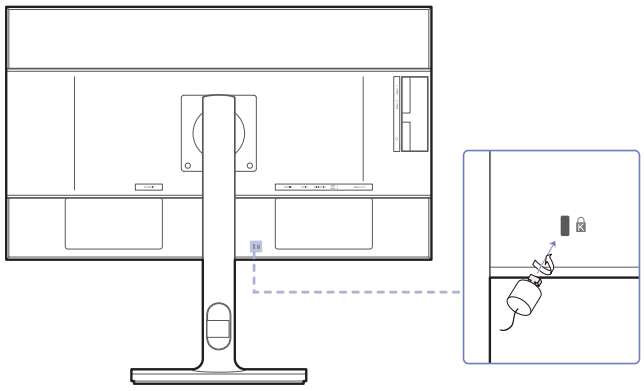
You can rotate your monitor as shown below.



- Adjust the screen following the arrow direction.
- Rotate the screen in clockwise direction till it becomes completely vertical to the desktop.
- The monitor may get damaged if you rotate the screen without tilt, or counter clockwise direction.

1.3.6 Anti-theft Lock

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



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

To lock an anti-theft locking device:

1. Fix the cable of your anti-theft locking device to a heavy object such as a desk.
2. Put one end of the cable through the loop on the other end.
3. Insert the locking device into the anti-theft lock slot at the back of the product.
4. Lock the locking device.

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

1.4 "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]

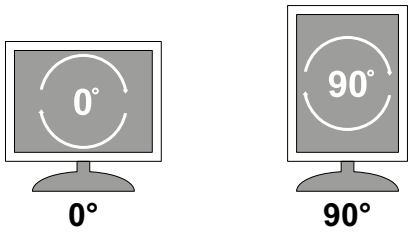
1. Compatible only with Windows 7 (32 bit or 64 bit) and Windows 8 (32 bit or 64 bit).
2. Compatible with a graphics card that complies with the DDC/CI and MS API standards

   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.

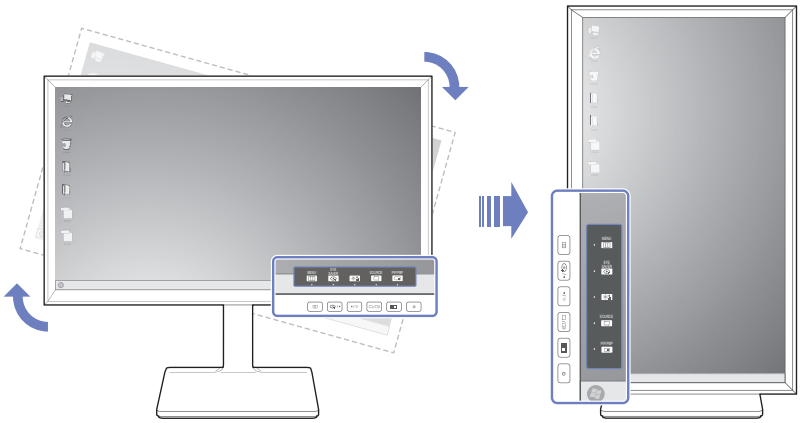
   English, Français, Deutsch, Magyar, Italiano, Polski, Português
   Русский, Español, Svenska, Türkçe, 日本語, 汉语, 한국어
5. If the orientation is set to a mode other than "Landscape" in the screen resolution menu on Windows 7, the "MagicRotation Auto" function may not work properly.
6. The OSD menu will be 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.

1.5 Rotating the monitor

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



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.

2 Connecting and Using a Source Device

2.1 Before Connecting

2.1.1 Pre-connection Checkpoints

- Before connecting a source device, read the user manual provided with it.
  The number and locations of ports on source devices may differ from device to device.
- Do not connect the power cable until all connections are completed.
  Connecting the power cable during connection may damage the product.
- Check the types of ports at the back of the product you want to connect.

2.2 Connecting and Using a PC

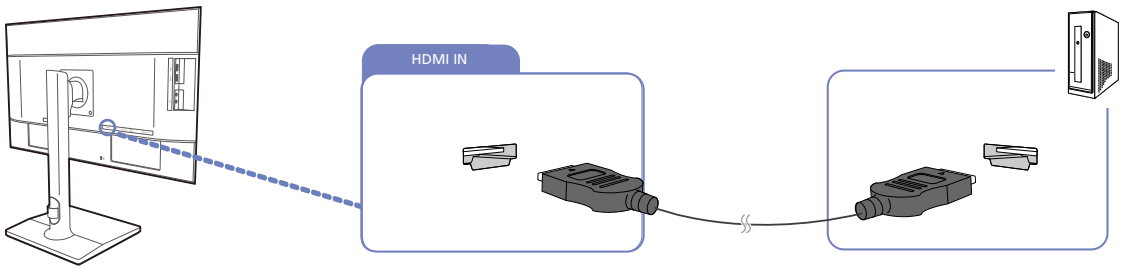
Select a connection method suitable for your PC.

- Connecting parts may differ in different products.
- To ensure the screen displays properly, do not use HDMI-to-DP, micro HDMI-to-DP or other nonstandard cables bought from a dealer. It is recommended that you use the cables that came with the product.
- If you don't use the cable that came with the components of the monitor, the monitor may not support the best resolution.

2.2.1 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.

U24E850R

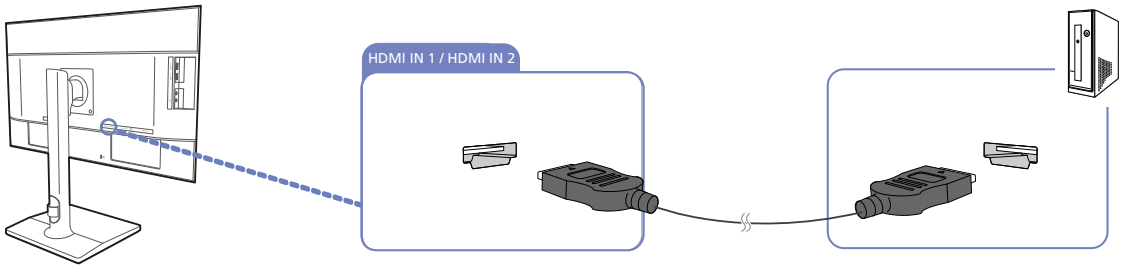


1 Connect the HDMI cable to the [HDMI IN] port on the back of the product and the HDMI port on the PC.

2 Press [⇆/⏎] to change the input source to **HDMI**.

- Provided ports may vary depending on the product.
- To display 3840 x 2160 @ 60 Hz, use an HDMI cable that supports 3840 x 2160 @ 60 Hz to connect HDMI. Make sure that the graphics card of the HDMI source supports 3840 x 2160 @ 60 Hz.
- When connecting an HDMI cable, use the cable that came with the components of the monitor. If you use an HDMI cable other than provided by Samsung, the image quality may be degraded.

U28E850R / U32E850R



1 Connect the [HDMI IN 1] or [HDMI IN 2] port on the back of the product to the HDMI port on the PC using an HDMI cable.

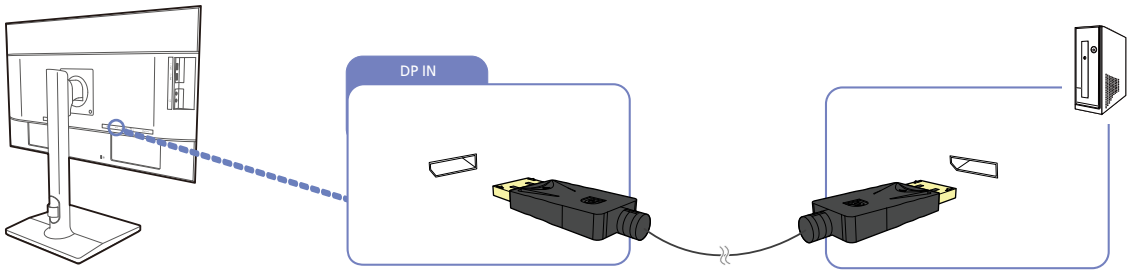
2 Press [⇆/⇨] to change the input source to **HDMI 1** or **HDMI 2**.

- Provided ports may vary depending on the product.
- To display 3840 x 2160 @ 30 Hz, use an HDMI cable that supports 3840 x 2160 @ 30 Hz to connect HDMI 1. Make sure that the graphics card of the HDMI source supports 3840 x 2160 @ 30 Hz.
- To display 3840 x 2160 @ 60 Hz, use an HDMI cable that supports 3840 x 2160 @ 60 Hz to connect HDMI 2. Make sure that the graphics card of the HDMI source supports 3840 x 2160 @ 60 Hz.
- When connecting an HDMI cable, use the cable that came with the components of the monitor. If you use an HDMI cable other than provided by Samsung, the image quality may be degraded.

2.2.2 Connection Using the DP Cable

Do not connect the power cable before connecting all other cables.

Ensure you connect a source device first before connecting the power cable.



1 Connect one end of the DP cable to the [DP IN] port on the side of the product and the other end to the DP port on the PC.

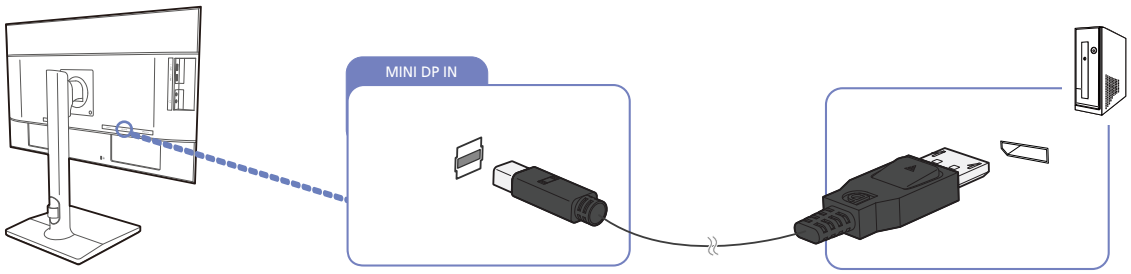
2 Press [⏍/⏎] to change the input source to **DisplayPort**.

- Provided ports may vary depending on the product.
- To display 3840 x 2160 @ 60 Hz, use a DP cable that supports 3840 x 2160 @ 60 Hz. Make sure that the graphics card of the DP source supports 3840 x 2160 @ 60 Hz.

2.2.3 Connection Using the MINI DP Cable

Do not connect the power cable before connecting all other cables.

Ensure you connect a source device first before connecting the power cable.



1 Connect one end of the MINI DP cable to the [MINI DP IN] port on the side of the product and the other end to the DP port on the PC.

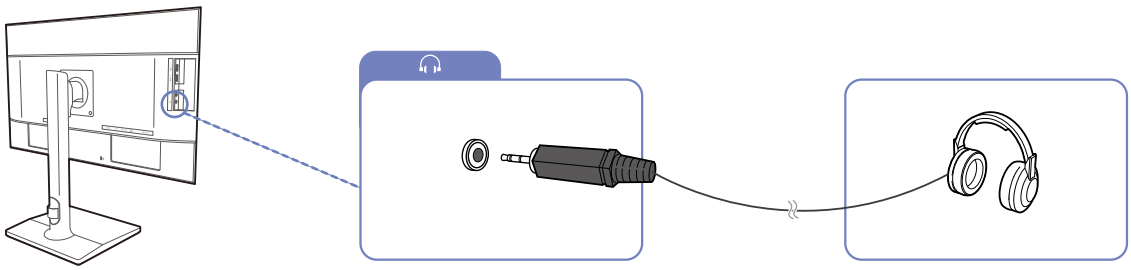
2 Press [⏍/⏎] to change the input source to **Mini DP**.

- Provided ports may vary depending on the product.
- To display 3840 x 2160 @ 60 Hz, use a MINI DP cable that supports 3840 x 2160 @ 60 Hz. Make sure that the graphics card of the MINI DP source supports 3840 x 2160 @ 60 Hz.
- The **DisplayPort** and **Mini DP** can't be identified at the same time, so if the **DisplayPort** or **Mini DP** not as a source the PC may not be able to identify.

2.2.4 Connecting to Headphones

Do not connect the power cable before connecting all other cables.

Ensure you connect a source device first before connecting the power cable.



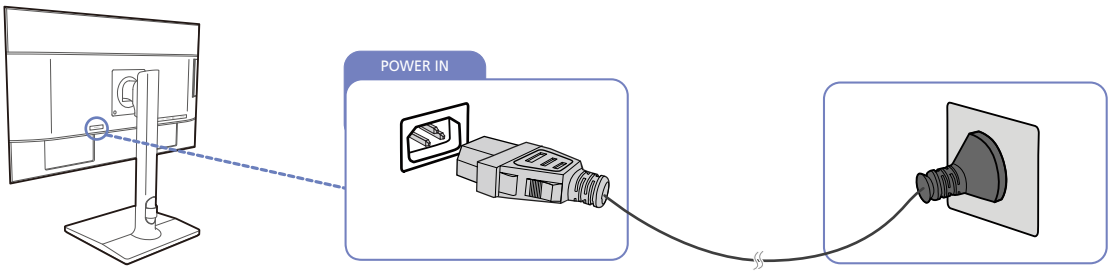
1 Connect an audio output device such as headphones to [ ] port on the product.

- The sound could only be heard when you video card's ports support audio out.
- Provided ports may vary depending on the product.

2.2.5 Connecting the Power

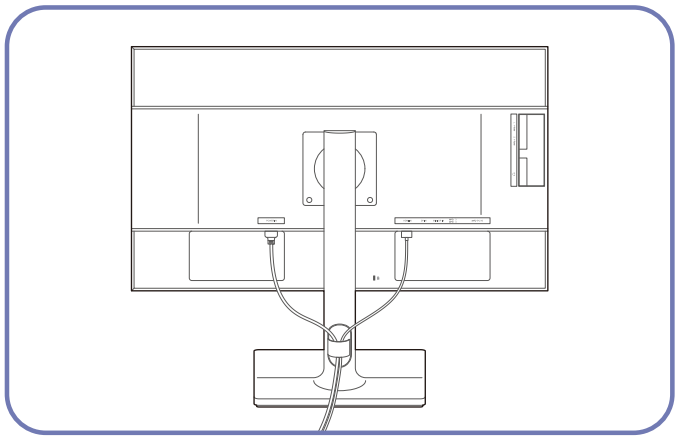
- Connecting parts may differ in different products.
- The exterior may differ depending on the product.

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



The input voltage is switched automatically.

2.2.6 Tidying Up the Connected Cables

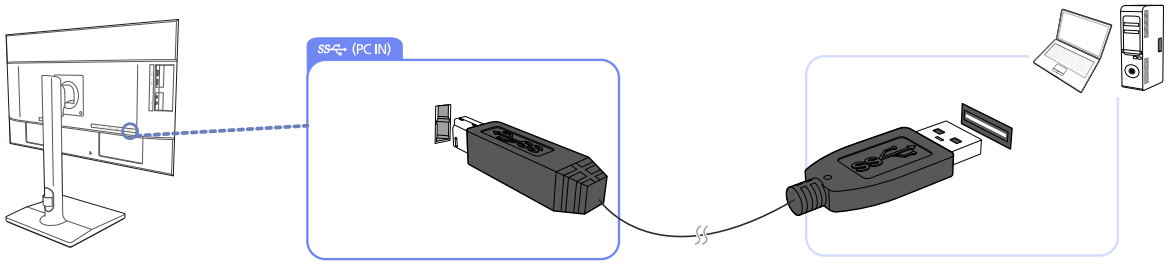


2.3 Connecting the Product to a PC as a USB HUB

2.3.1 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.



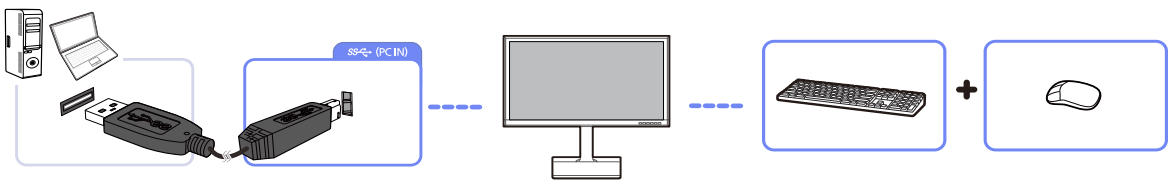
Connect the USB cable to [ ] on the back of the product and USB [ ] on the PC.

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.

2.3.2 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 1] and [SS 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.
- Battery charging is not possible if the power cable is disconnected from the power socket.
- Mobile devices should be purchased separately.

2.4 Driver Installation

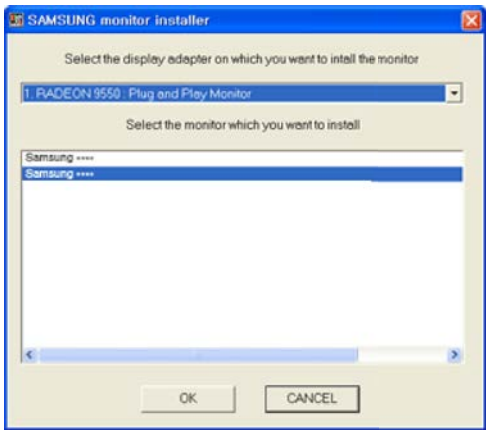
- You can set the optimum resolution and frequency for this product by installing the corresponding drivers.
- An installation driver is contained on the CD supplied with the product.
- If the file provided is faulty, visit the Samsung homepage (http://www.samsung.com/) and download the file.

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.



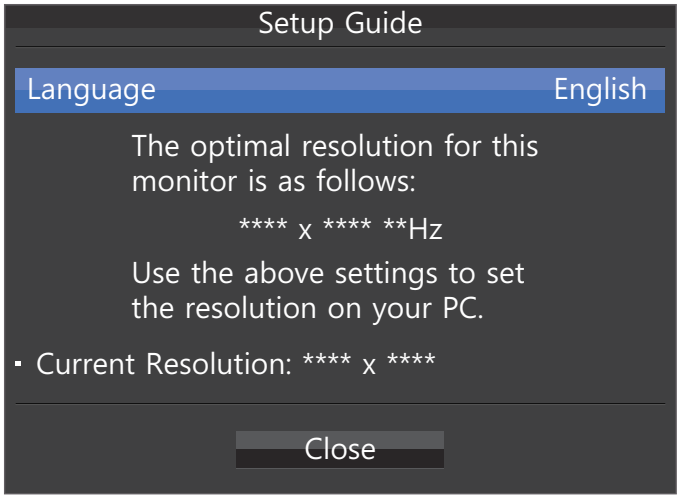
5 Go to Display Properties and check that the resolution and refresh rate are appropriate.

Refer to your Windows OS manual for further details.

2.5 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 display the language settings menu.

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.

3 Screen Setup

Configure the screen settings such as brightness.

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

3.1 SAMSUNG MAGIC Bright

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

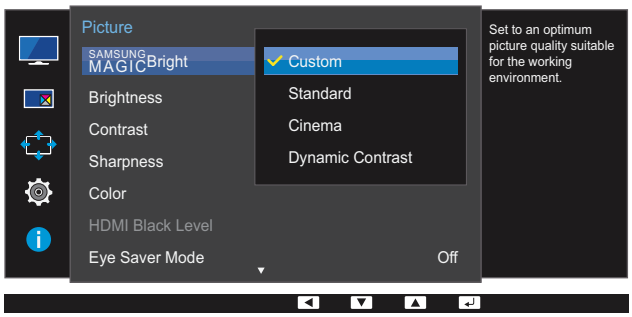
- This menu is not available when **Smart Eco Saving** is enabled.
- This menu is not available when **SAMSUNG MAGIC Angle** is enabled.
- This menu is not available when **Game Mode** is enabled.
- This menu is not available when **Eye Saver Mode** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

You can customize the brightness to suit your preferences.

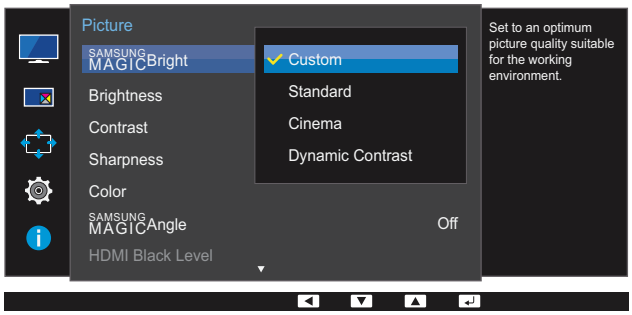
3.1.1 Configuring SAMSUNG MAGIC Bright

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 **SAMSUNG MAGIC Bright** and press [/] on the product.
   The following screen will appear.

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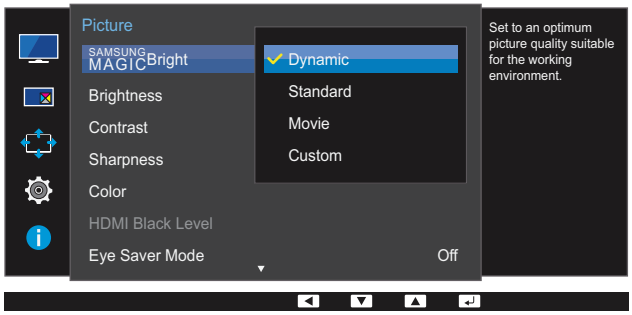


U28E850R

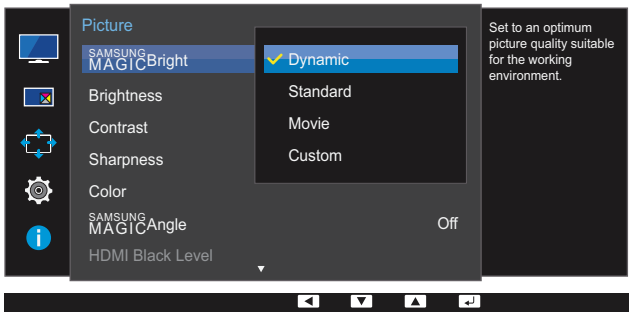


- **Custom**: Customize the contrast and brightness as required.
- **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
- **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
- **Dynamic Contrast**: Obtain balanced brightness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

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U28E850R



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

- **Dynamic**: Select this mode to view a sharper image than in **Standard** mode.
- **Standard**: Select this mode when the surroundings are bright. 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.

3.2 Brightness

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

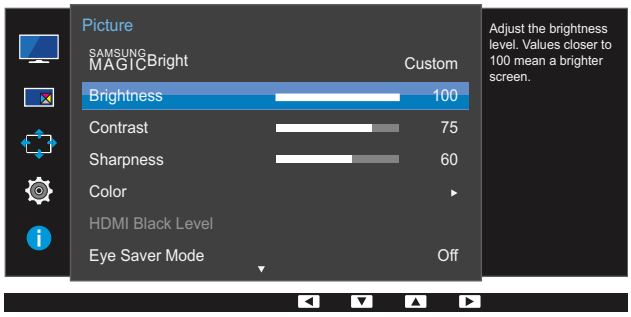
A higher value will make the picture appear brighter.

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

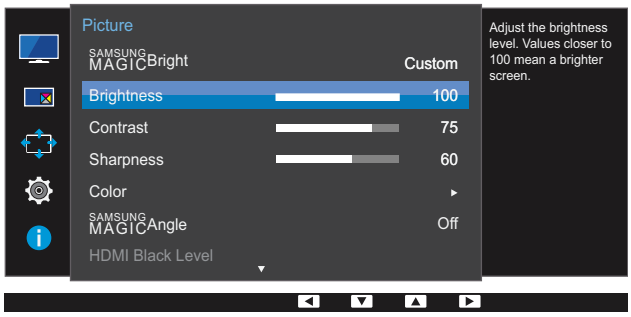
3.2.1 Configuring Brightness

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.
   The following screen will appear.

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4. Adjust the **Brightness** using the [• / •] buttons.
5. The selected option will be applied.

3.3 Contrast

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

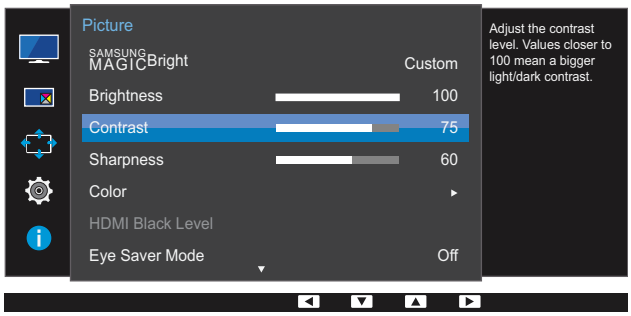
A higher value will increase the contrast to make the object appear clearer.

- This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- This menu is not available when **PIP/PBP Mode** is set to **On** and the **Size** is set to (PBP Mode).

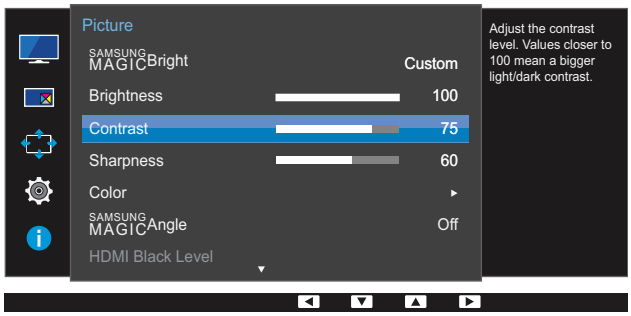
3.3.1 Configuring Contrast

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.
   The following screen will appear.

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4. Adjust the **Contrast** using the [• / •] buttons.
5. The selected option will be applied.

3.4 Sharpness

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

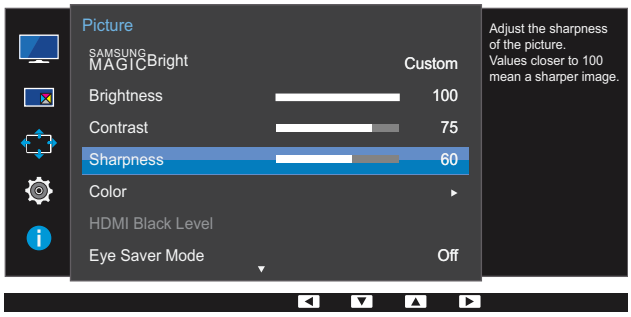
A higher value will make the outline of objects clearer.

- This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

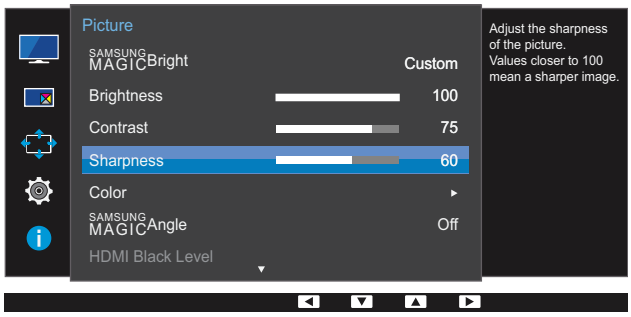
3.4.1 Configuring Sharpness

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.
   The following screen will appear.

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4. Adjust the **Sharpness** using the [• / •] buttons.
5. The selected option will be applied.

3.5 Color

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

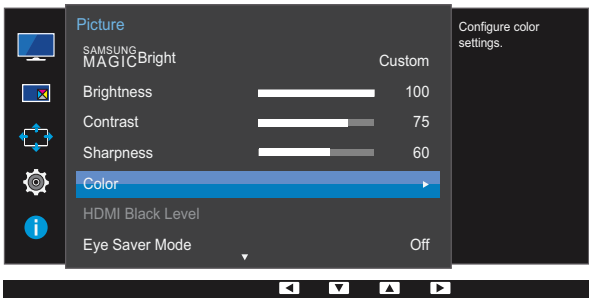
- Adjust the tint of the screen. This menu is not available when SAMSUNG MAGIC Bright is set to **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- This menu is not available when **Eye Saver Mode** is enabled.
- The **Color Tone** and **Gamma** menu is not available when SAMSUNG MAGIC Angle is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

3.5.1 Configuring Color

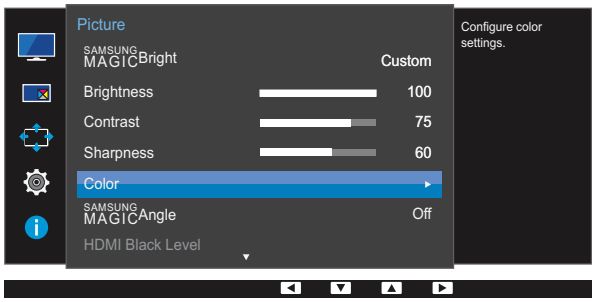
1. Press any button on the front of the product to display the Function Key Guide. Next, press [▥] to display the corresponding menu screen.
2. Press [• / •] to move to **Picture** and press [⮌/⏎] on the product.
3. Press [• / •] to move to **Color** and press [⮌/⏎] on the product.

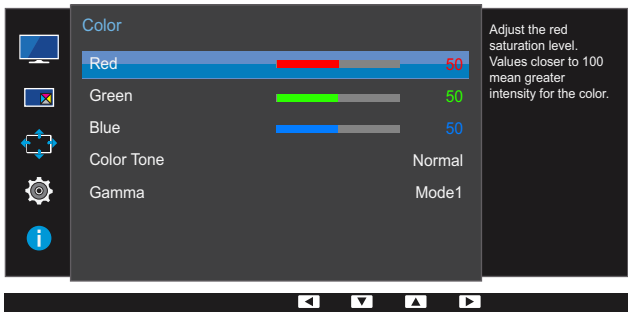
   The following screen will appear.

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

- Cool 2: Set the color temperature to be cooler than Cool 1.
- Cool 1: Set the color temperature to be cooler than Normal mode.
- Normal: Display the standard color tone.
- Warm 1: Set the color temperature to be warmer than Normal mode.
- Warm 2: Set the color temperature to be warmer than Warm 1.
- Custom: Customize the color tone.



When the external input is connected through HDMI/DP/MINI DP and PC/AV Mode is set to AV, Color Tone has four color temperature settings (Cool, Normal, Warm and Custom).

- Gamma: Adjust the middle level of luminance.
  - Mode1
  - Mode2
  - Mode3

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

5 The selected option will be applied.

3.6 SAMSUNG MAGIC Angle (U28E850R)

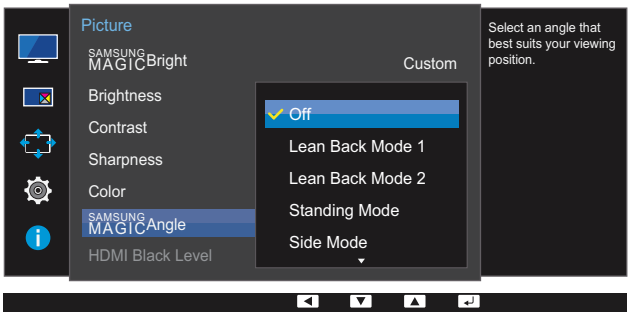
SAMSUNG MAGIC**Angle** allows you to configure the settings to obtain the optimum picture quality according to your viewing angle.

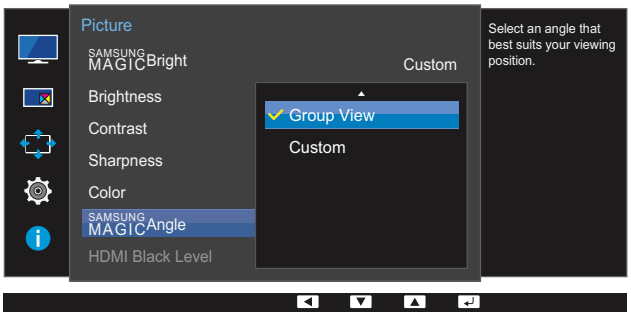
- This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- This menu is not available when **Eye Saver Mode** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

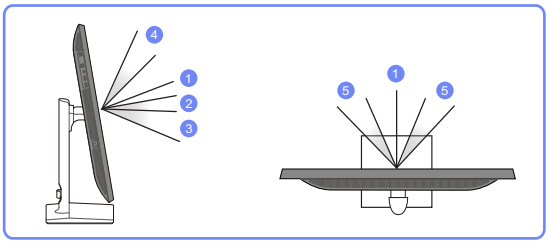
This feature provides the viewing angle, brightness, and tint to suit your preferences.

3.6.1 Configuring SAMSUNG MAGIC Angle

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 SAMSUNG MAGIC**Angle** and press [⮌/⏎] on the product.
   The following screen will appear.







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

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

5 The selected option will be applied.

3.7 HDMI Black Level

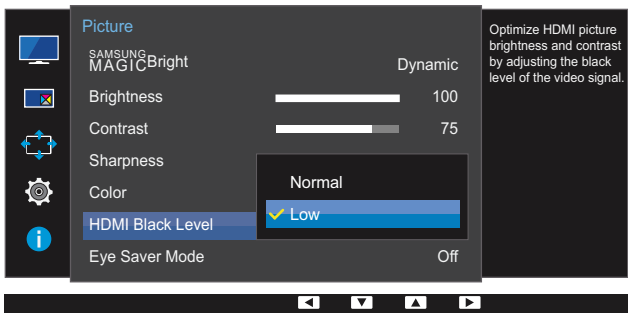
If a DVD player or set-top box is connected to the product via HDMI, image quality degradation (contrast/color degradation, black level, etc.) may occur, depending on the connected source device. In such case, **HDMI Black Level** can be used to adjust the image quality. If this is the case, correct the degraded picture quality using **HDMI Black Level**.

- This function is only available in **HDMI**, **HDMI 1** or **HDMI 2** mode.
- Not available when **PIP/PBP Mode** is set to **On**.

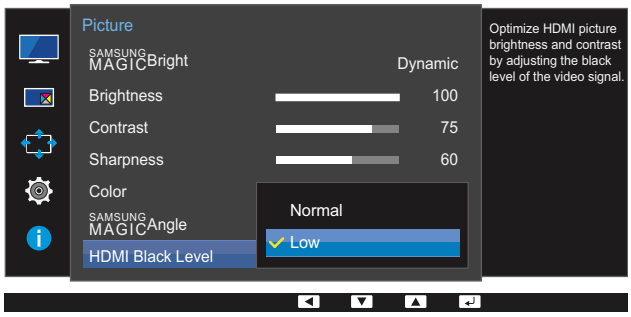
3.7.1 Configuring the HDMI Black Level Settings

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.
   The following screen will appear.

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- **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.

3.8 Eye Saver Mode

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

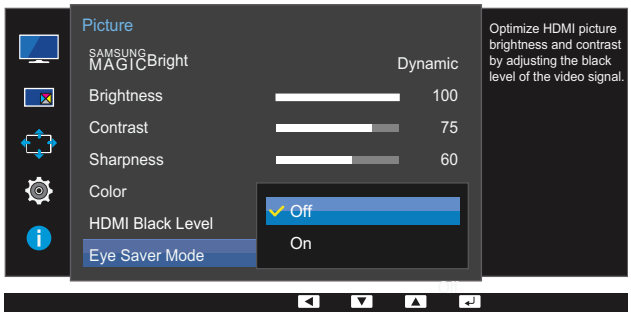
Set to an optimum picture quality suitable for eye relaxation.

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

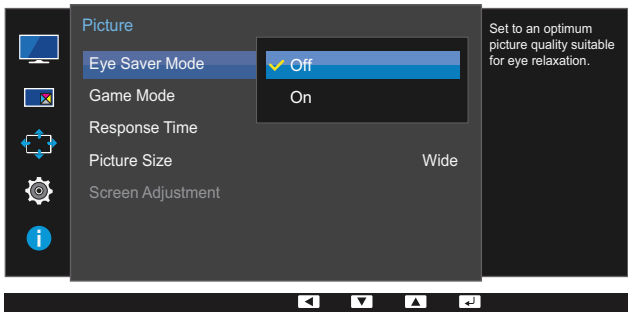
3.8.1 Configuring Eye Saver Mode

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 **Eye Saver Mode** and press [/] on the product.
   The following screen will appear.

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4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

3.9 Game Mode

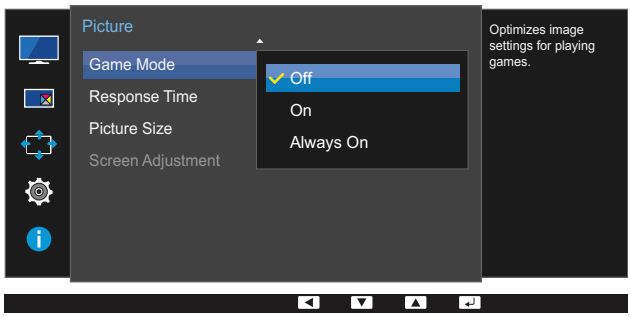
Configure the product screen settings for game mode.
Use this feature when playing games on a PC or when a game console such as PlayStation™ or Xbox™ is connected.

- This menu is not available when **Eye Saver Mode** is enabled.
- This Menu is not available when **Smart Eco Saving** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

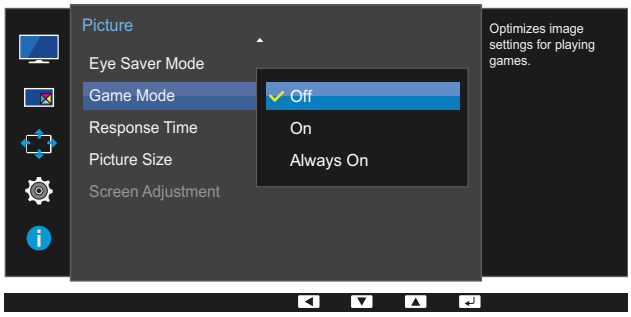
3.9.1 Configuring Game Mode

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 **Game Mode** and press [/] on the product.
   The following screen will appear.

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4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

- **Game Mode** turns **Off** when the monitor turns on, power-saving mode activates, or the input source changes.
- If you want to keep **Game Mode** enabled all the time, select **Always On**.

3.10 Response Time

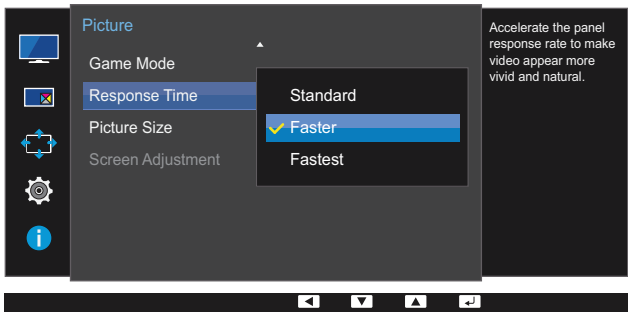
Accelerate the panel response rate to make video appear more vivid and natural.

- It is best to set **Response Time** to **Standard** or **Faster** when you are not viewing a movie.
- This menu is not available when **PIP/PBP Mode** is set to **On** and the **Size** is set to / / (PIP Mode).

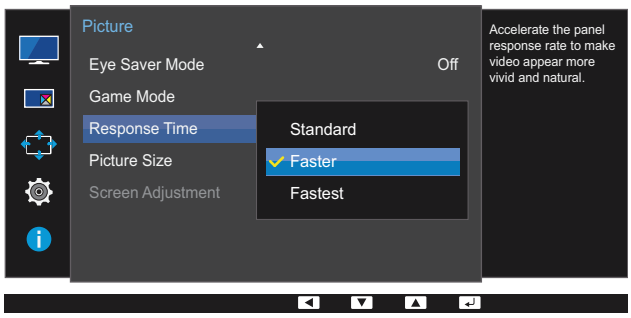
3.10.1 Configuring the Response Time

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.
   The following screen will appear.

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4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

3.11 Picture Size

Change the picture size.

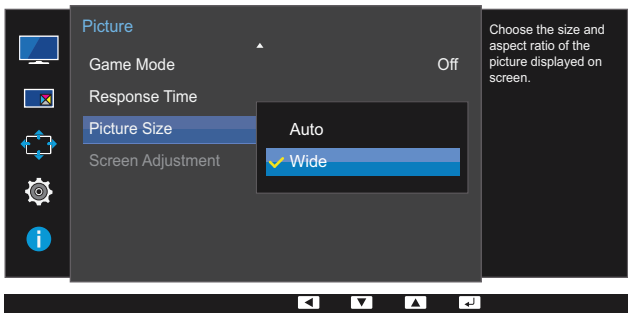
- This menu is not available when **PIP/PBP Mode** is set to **On** and the **Size** is set to (PBP Mode).
- This menu is not available when **FreeSync** is enabled.

3.11.1 Changing the Picture Size

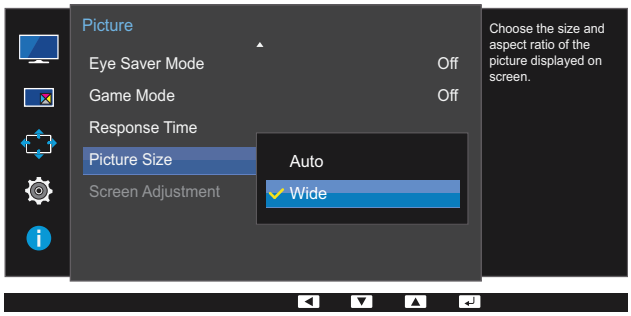
1. Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.
2. Press [• / •] to move to **Picture** and press [/] on the product.
3. Press [• / •] to move to **Picture Size** and press [/] on the product.
   The following screen will appear.

In **PC** mode

U24E850R / U32E850R



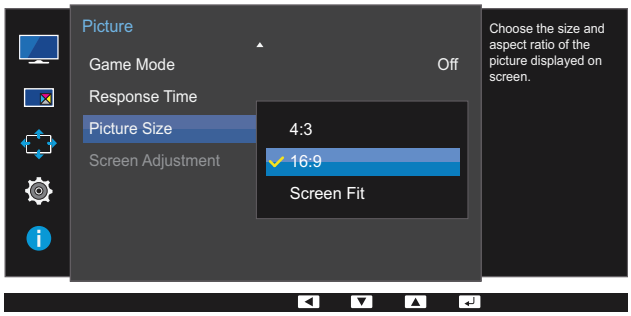
U28E850R



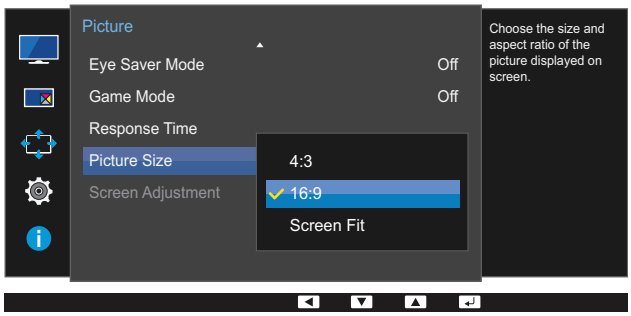
- **Auto**: Display the picture according to the aspect ratio of the input source.
- **Wide**: Display the picture in full screen regardless of the aspect ratio of the input source.

In AV mode

U24E850R / U32E850R



U28E850R



- **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 of the sub-screen with the original aspect ratio without cutting 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 HDMI/DP/MINI 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 HDMI/DP/MINI 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.

3.12 Screen Adjustment

3.12.1 Configuring H-Position & V-Position

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

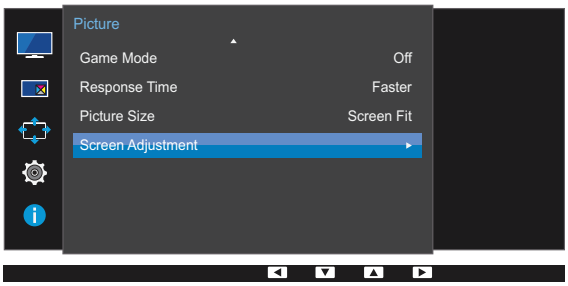
V-Position: Move the screen up or down.



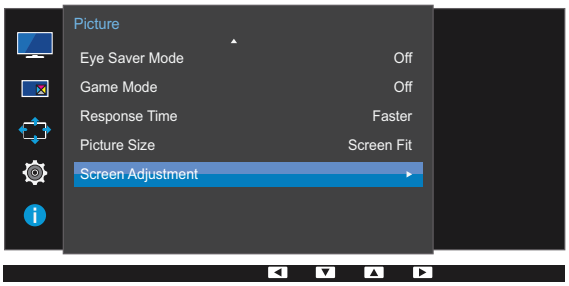
This menu is only available when **Picture Size** is set to **Screen Fit** in **AV** Mode. When a 480P or 576P or 720P or 1080P signal is input in **AV** mode and the monitor can display normally, select **Screen Fit** to adjust horizontal position in 0-6 levels.

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 **Screen Adjustment** and press [⮌/⮎] on the product.
4. Press [• / •] to move to **H-Position** or **V-Position** and press [⮌/⮎].
   The following screen will appear.

U24E850R / U32E850R



U28E850R







5. Press [• / •] to configure **H-Position** or **V-Position**.
6. The selected option will be applied.

4 Configuring the PIP/PBP Settings

4.1 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.

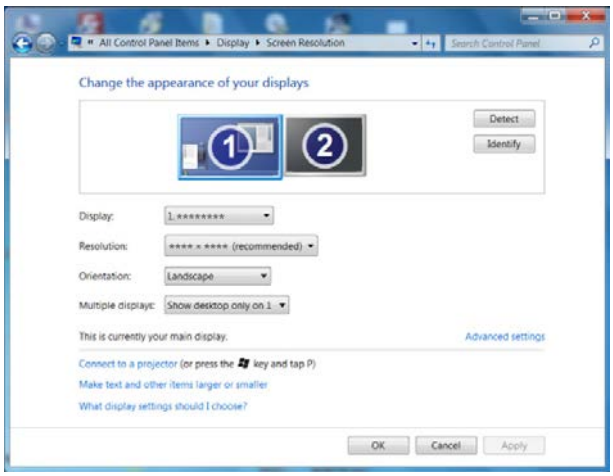
The PBP (Picture by Picture) function separates the screen in half displaying output from two different source devices simultaneously on the left and right sides of the screen.

- Compatible with Windows7 and Windows8.
- 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 optimum resolution, change the resolution to 1280 x 1024.
- The screen may flicker briefly or appear after a delay when you enable or disable the **PIP/PBP** function or when you change the screen size with the **PIP/PBP** function activated.

  This can typically arise when a PC and a monitor are connected to two or more input sources.

  It has nothing to do with the performance of a monitor.

  The issue is mainly caused when the video signals are delayed in transmission to the monitor depending on the graphics card performance.



- **U24E850R**

  To maximize the picture quality and sound can be normal output, it is recommended to use a graphics card or DVD that supports 4K (3840 x 2160 @ 60 Hz) resolution when connect **HDMI** port.

- **U28E850R / U32E850R**

  To maximize the picture quality and sound can be normal output, it is recommended to use a graphics card or DVD that supports 4K (3840 x 2160 @ 30 Hz) resolution when connect **HDMI 1** port.

  To maximize the picture quality and sound can be normal output, it is recommended to use a graphics card or DVD that supports 4K (3840 x 2160 @ 60 Hz) resolution when connect **HDMI 2** port.

Configuring the PIP/PBP Settings

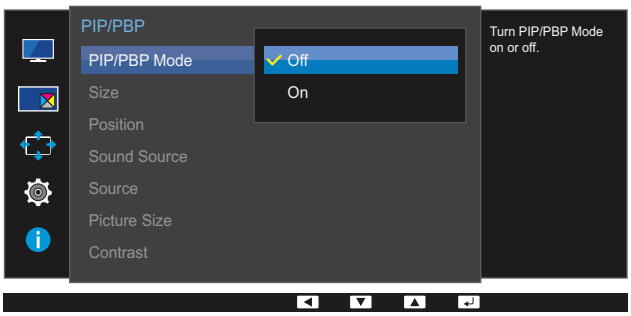
- When the **PIP/PBP** function is enabled, the resolution will not be able to automatically switch to the optimum resolution due to a compatibility issue between the graphics card and the Windows system. Set **PIP/PBP Mode** to **Off**. Alternatively, restart the monitor,then set the resolution to the optimum setting using the Windows interface.

4 Configuring the PIP/PBP Settings

4.1.1 Configuring PIP/PBP Mode

Enable or disable the **PIP/PBP** 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 **PIP/PBP** and press [/] on the product.
3. Press [• / •] to move to **PIP/PBP Mode** and press [/] on the product.
   The following screen will appear.



- **Off** / **On**

4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

4.1.2 Configuring Size

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

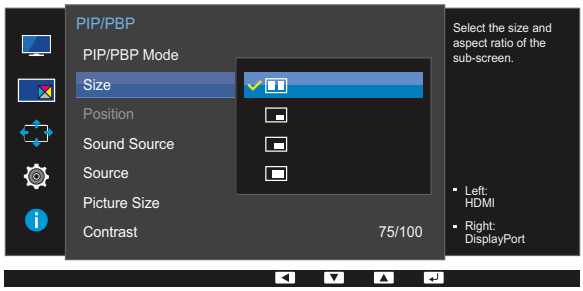
1 Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.

2 Press [• / •] to move to **PIP/PBP** and press [/] on the product.

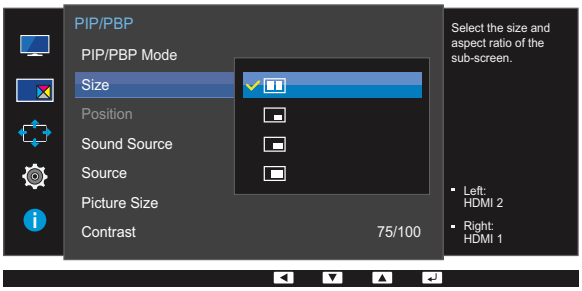
3 Press [• / •] to move to **Size** and press [/] on the product.

The following screen will appear.

U24E850R



U28E850R / U32E850R



- : 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).

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

5 The selected option will be applied.

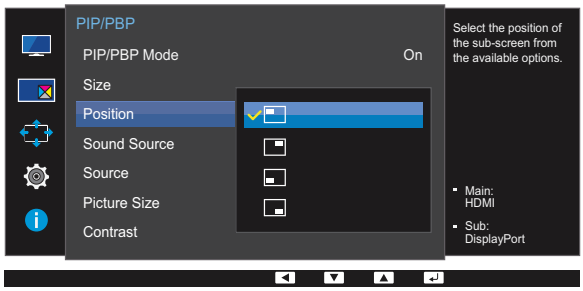
4.1.3 Configuring Position

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

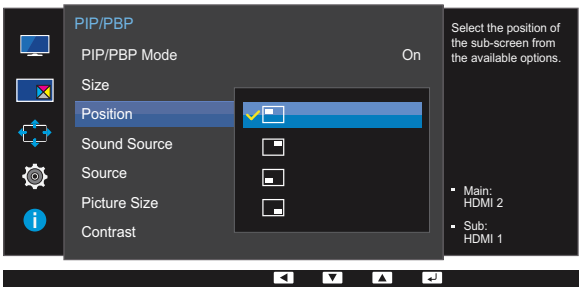
1. Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.
2. Press [• / •] to move to **PIP/PBP** and press [/] on the product.
3. Press [• / •] to move to **Position** and press [/] on the product.

   The following screen will appear.

U24E850R



U28E850R / U32E850R



- / / /

4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

- Not available when PBP is selected.
- The screen may flicker if the input signal is unstable.

4.1.4 Configuring Sound Source

Set which screen you want to hear the sound for.

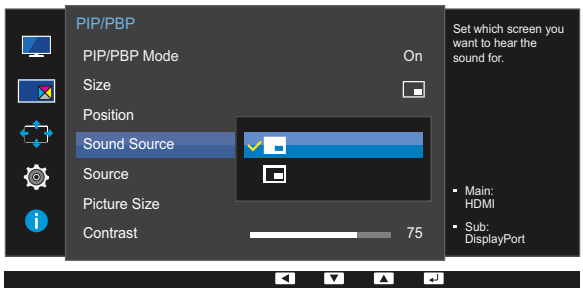
1. Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.
2. Press [• / •] to move to **PIP/PBP** and press [/] on the product.
3. Press [• / •] to move to **Sound Source** and press [/] on the product.

   The following screen will appear.

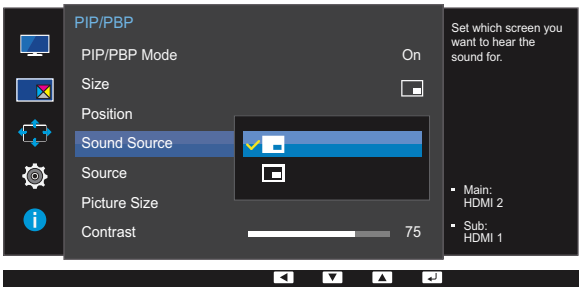
   The white area of the icon means that the **Sound Source** comes from the main screen/sub-screen or the left/right screen.

PIP

U24E850R



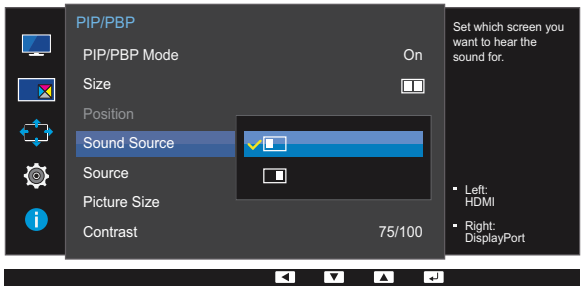
U28E850R / U32E850R



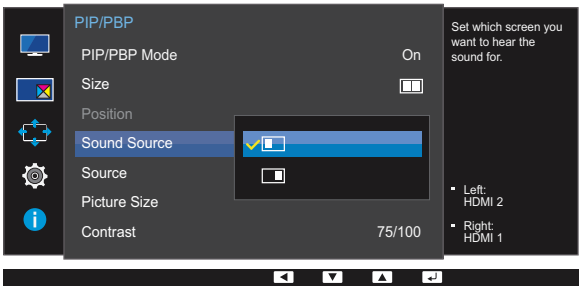
- /

PBP

U24E850R



U28E850R / U32E850R



- /

4. Press [• / •] to move to the option you want and press [/].
5. The selected option will be applied.

4.1.5 Configuring Source

Select the source for each screen.

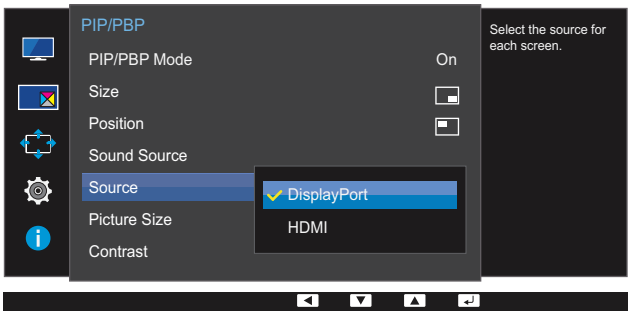
Due to **DisplayPort** and **Mini DP** can't be identified at the same time, if **DisplayPort** and **Mini DP** as the source at the same time ,the '**Apply**' is not available.

PIP

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 **PIP/PBP** and press [/] on the product.
3. Press [• / •] to move to **Source** and press [/] (available in PIP mode (**Size** / /)).
   The following screen will appear.

U24E850R

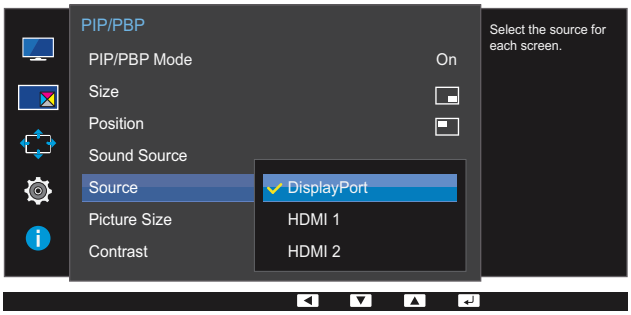
If the function button description page appears, press [/].
The main screen will switch in the order **DisplayPort** → **Mini DP** → **HDMI**.



- **DisplayPort**
- **Mini DP**
- **HDMI**

U28E850R / U32E850R

If the function button description page appears, press [⮌/⏎].
The main screen will switch in the order DisplayPort → Mini DP → HDMI 1 → HDMI 2.



- DisplayPort
- Mini DP
- HDMI 1
- HDMI 2

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

5 The selected option will be applied.

- The input source for the main screen changes.
- With the exception of the current input source, the other two input sources can be selected.
- The screen may flicker if the input signal is unstable.

PBP

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

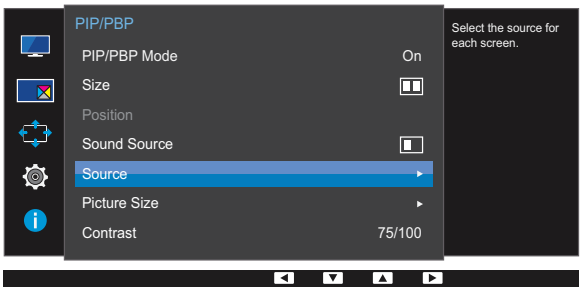
2 Press [• / •] to move to **PIP/PBP** and press [/] on the product.

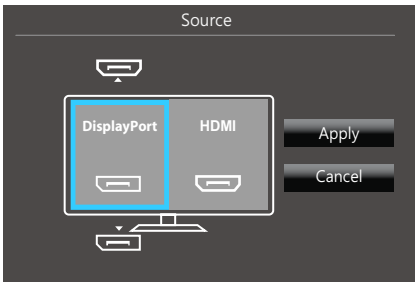
3 Press [• / •] to move to **Source** and press [/] (available in PBP mode (**Size**)).

The following screen will appear.

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If the function button description page appears, press [/].
The main screen will switch in the order **DisplayPort** → **Mini DP** → **HDMI**.

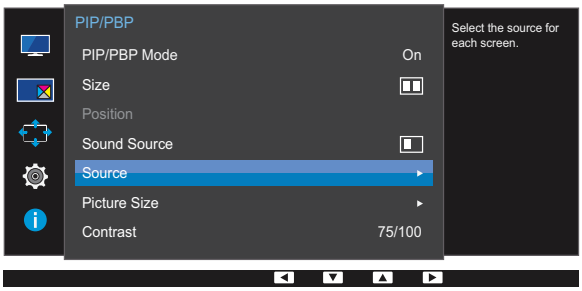


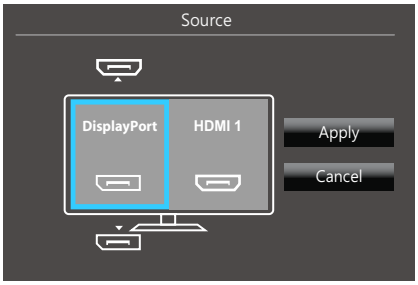


- **DisplayPort**
- **Mini DP**
- **HDMI**

U28E850R / U32E850R

If the function button description page appears, press [⇆/⏎].
The main screen will switch in the order **DisplayPort** → **Mini DP** → **HDMI 1** → **HDMI 2**.





- **DisplayPort**
- **Mini DP**
- **HDMI 1**
- **HDMI 2**

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

5 Press [⇆/⏎] to move to **Apply** and press [⇆/⏎] on the product. Pressing [• / •] when **Cancel** is selected will clear the **Source** settings and display the **PIP/PBP** control menu page.

- The input source for the main screen changes.
- 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.

4.1.6 Configuring Picture Size

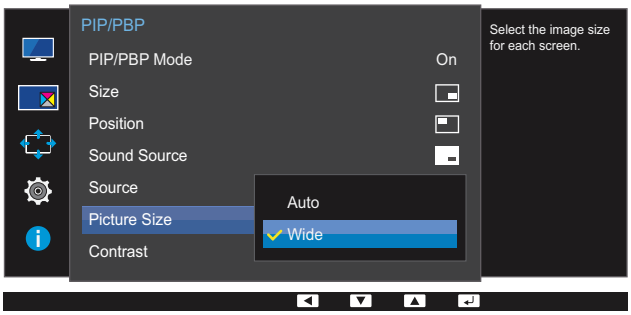
Select the image size for sub-screen.

PIP

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 **PIP/PBP** and press [/] on the product.
3. Press [• / •] to move to **Picture Size** and press [/] (available in PIP mode (**Size** / /)).

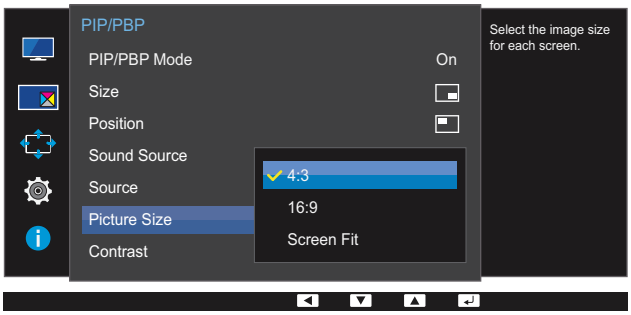
   The following screen will appear.

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 HDMI/DP/MINI 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 HDMI/DP/MINI 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.

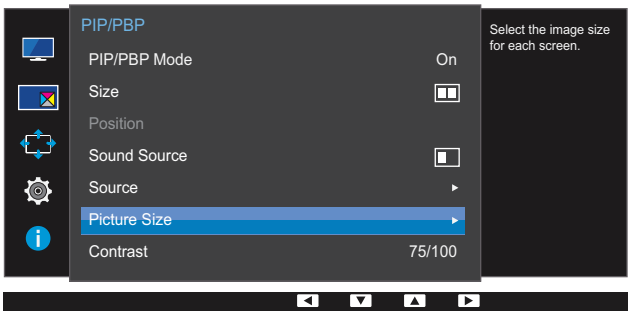
PBP

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

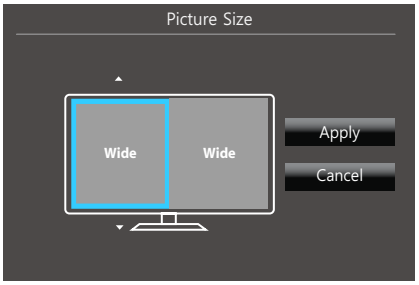
2 Press [• / •] to move to **PIP/PBP** and press [/] on the product.

3 Press [• / •] to move to **Picture Size** and press [/] (available in PBP mode (**Size**)).

The following screen will appear.

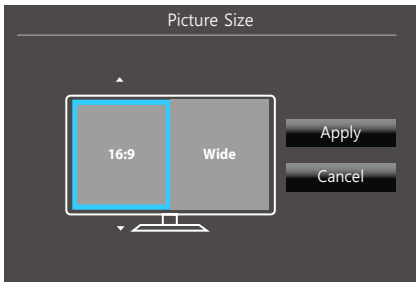


In **PC** mode



- **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 HDMI/DP/MINI 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 HDMI/DP/MINI 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.

4.1.7 Configuring Contrast

PIP

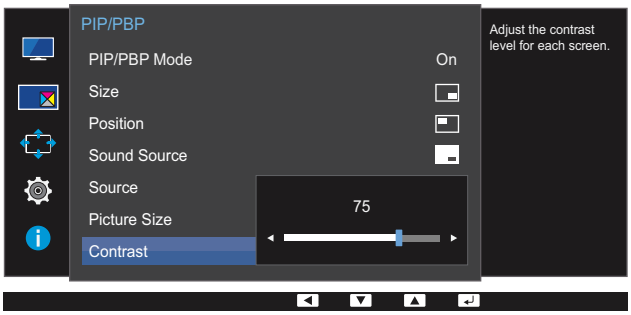
Adjust the contrast level for sub-screen.

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 **PIP/PBP** and press [/] on the product.

3 Press [• / •] to move to **Contrast** and press [/] (available in PIP mode (**Size** / /)).

The following screen will appear.



4 Adjust the **Contrast** using the [• / •] buttons.

5 The selected option will be applied.

PBP

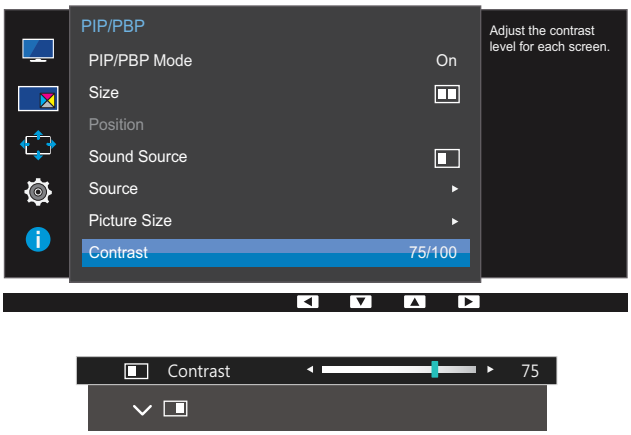
Adjust the contrast level for each screen.

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 **PIP/PBP** and press [/] on the product.

3 Press [• / •] to move to **Contrast** and press [/] (available in PBP mode (**Size**)).

The following screen will appear.



4 Adjust the **Contrast** using the [• / •] buttons.

5 The selected option will be applied.

5 Coordinating OSD

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

5.1 Transparency

Set the transparency for the menu windows.

5.1.1 Changing Transparency

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 **OnScreen Display** and press [⮌/⮎] on the product.

3 Press [• / •] to move to **Transparency** and press [⮌/⮎] on the product.

The following screen will appear.



4 Press [• / •] to move to the language you want and press [⮌/⮎].

5 The selected option will be applied.

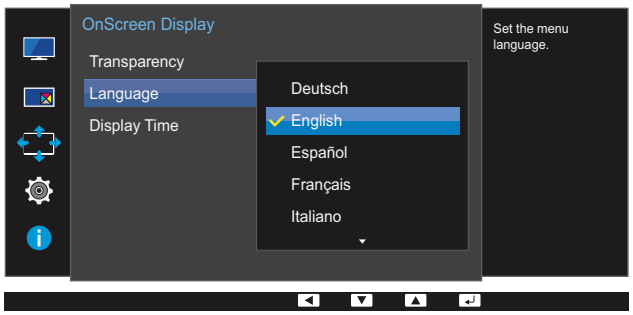
5.2 Language

Set the menu language.

- A change to the language setting will only be applied to the onscreen menu display.
- It will not be applied to other functions on your PC.

5.2.1 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 **OnScreen Display** and press [/] on the product.
3. Press [• / •] to move to **Language** and press [/] on the product.
   The following screen will appear.



4. Press [• / •] to move to the language you want and press [/].
5. The selected option will be applied.

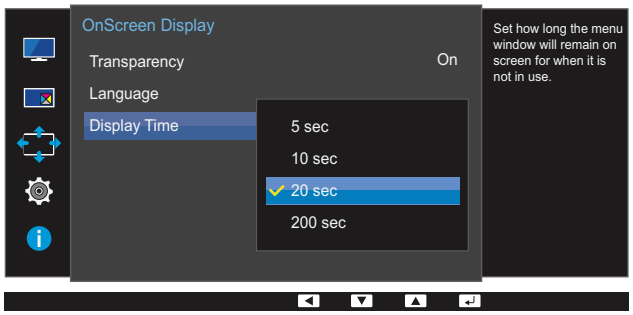
5.3 Display Time

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

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

5.3.1 Configuring Display Time

1. Press any button on the front of the product to display the Function Key Guide. Next, press [▥] to display the corresponding menu screen.
2. Press [• / •] to move to **OnScreen Display** and press [⮌/⏎] on the product.
3. Press [• / •] to move to **Display Time** and press [⮌/⏎] on the product.
   The following screen will appear.



4. Press [• / •] to move to the option you want and press [⮌/⏎].
5. The selected option will be applied.

6 Setup and Reset

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

6.1 FreeSync

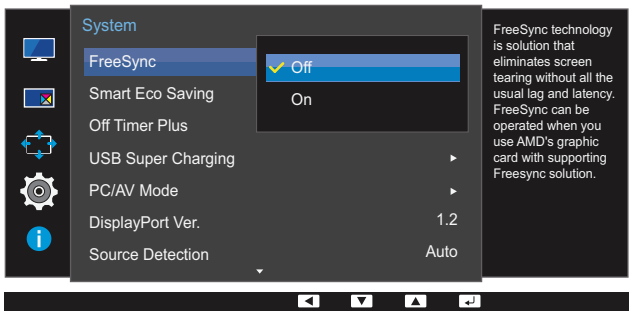
- The functions available on the monitor may vary depending on the model. Refer to the actual product.
- **FreeSync** is a DisplayPort 1.2 function, so the choice of the **DisplayPort Ver.1.1** in OSD, or when the access of HDMI signal, the **FreeSync** function is not available. Make sure to use a Samsung DP cable. DP cables not supplied by Samsung may not be compatible with the product.
- The sound quality of the monitor may decrease if **FreeSync** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

6.1.1 Configuring FreeSync

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 **System** and press [⮌/⏎] on the product.
3. Press [• / •] to move to **FreeSync** and press [⮌/⏎] on the product.

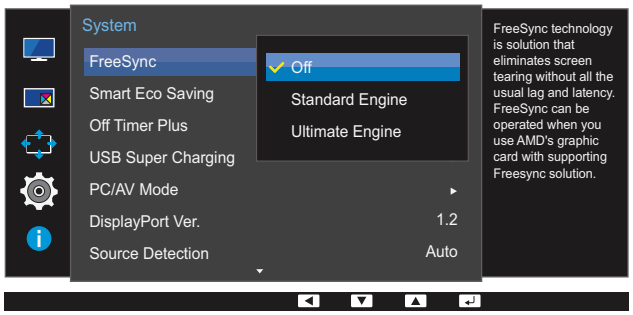
   The following screen will appear.

U28E850R



- **Off**: Disable **FreeSync**.
- **On**: Enable the basic **FreeSync** functions of the AMD graphics card.

U24E850R / U32E850R



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

If the **FreeSync** function is enabled, the screen may flicker when you play games.

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

5 The selected option will be applied.

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

FreeSync can be operated when you use AMD's graphic card with supporting **FreeSync** solution.

FreeSync is only supported by AMD graphics cards.
Select **FreeSync Off** if you are using a graphics card from a different manufacturer.

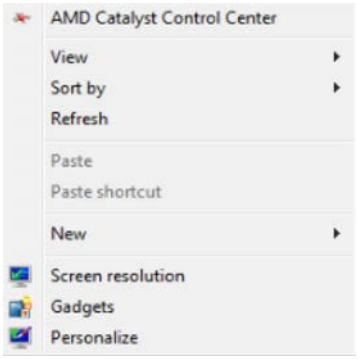
Please refer to the AMD's official website related situation.

Only a few of the following types of AMD graphics card can support **FreeSync**, and need to install the AMD's latest official FreeSync driver.

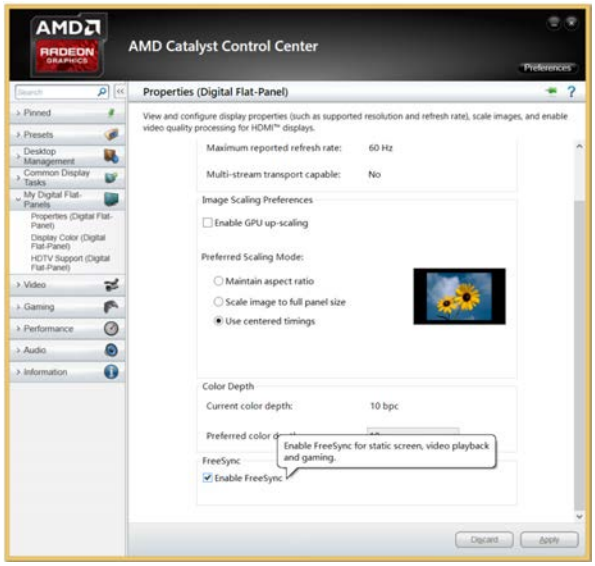
- Radeon R9 290X/290
- Radeon R9 285
- Radeon R7 260X/260
- AMD A10 “Kaveri” APU (ex. A10 7850K)

- For additional AMD graphics card models that support the **FreeSync** feature, visit the official AMD website.
- If the **FreeSync** function is enabled, the response rate during the game may fluctuate depending on the resolution.
  A higher resolution generally decreases the response rate.
- If the **FreeSync** function is enabled, the screen can flicker depending on the game option settings. Decreasing the game setting values might help to remove the flicker. Installing the latest drivers from the AMD website may also fix this issue.

Point the right mouse button, select the **AMD Catalyst Control Center**.







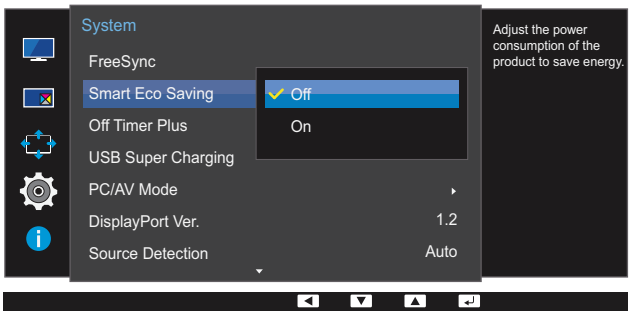
6.2 Smart Eco Saving

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

- This menu is not available when **Eye Saver Mode** is enabled.
- Not available when **PIP/PBP Mode** is set to **On**.

6.2.1 Configuring Smart 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 **System** and press [⮌/⮎] on the product.
3. Press [• / •] to move to **Smart Eco Saving** and press [⮌/⮎] on the product.
   The following screen will appear.



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

4. Press [• / •] to move to the option you want and press [⮌/⮎].
5. The selected option will be applied.

6.3 Off Timer Plus

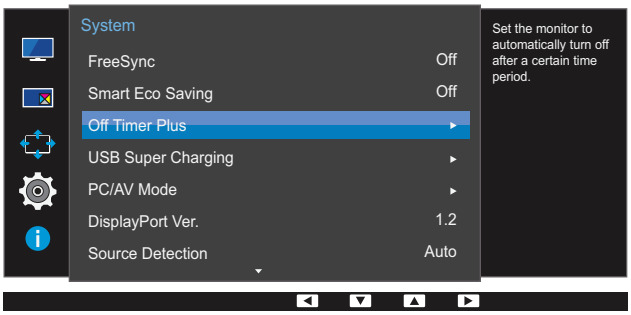
You can set the product to automatically turn off.

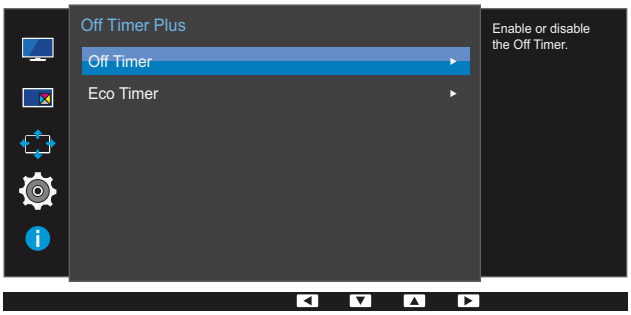
6.3.1 Configuring Off Timer

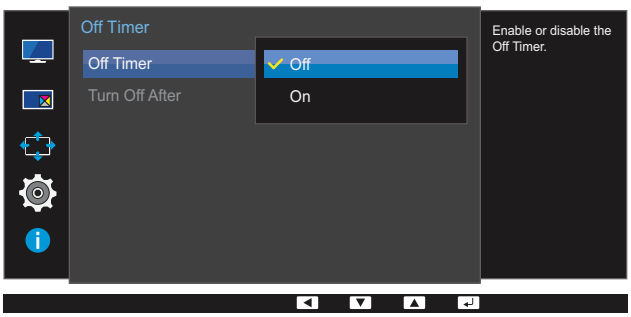
Off Timer

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 **System** and press [/] on the product.
3. Press [• / •] to move to **Off Timer Plus** and press [/] on the product.
4. Press [• / •] to move to **Off Timer** and press [/] on the product.
5. Press [• / •] to move to **Off Timer** and press [/] on the product.

   The following screen will appear.







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

6 Press [• / •] to move to the option you want and press [⏎].

7 The selected option will be applied.

Turn Off After

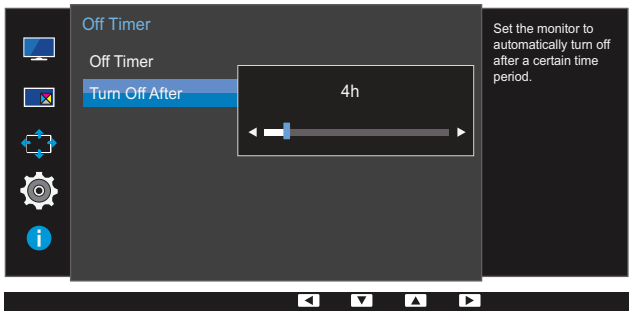
1 Press any button on the front of the product to display the Function Key Guide. Next, press [☰] to display the corresponding menu screen.

2 Press [• / •] to move to **System** and press [⏎] on the product.

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

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

5 Press [• / •] to move to **Turn Off After** and press [⏎] on the product.
The following screen will appear.



6 Press [• / •] to configure **Turn Off After**.

7 The selected option will be applied.

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

6.3.2 Configuring Eco Timer

Eco 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.

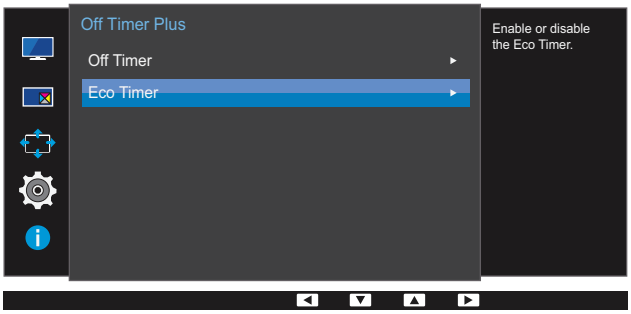
2 Press [• / •] to move to **System** and press [⮌/⏎] on the product.

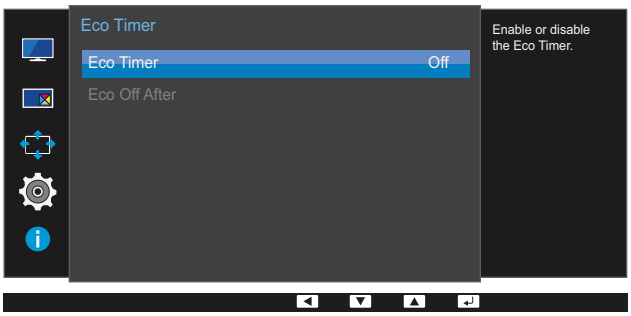
3 Press [• / •] to move to **Off Timer Plus** and press [⮌/⏎] on the product.

4 Press [• / •] to move to **Eco Timer** and press [⮌/⏎] on the product.

5 Press [• / •] to move to **Eco Timer** and press [⮌/⏎] on the product.

The following screen will appear.





- **Off**: Deactivate the eco timer to disable the automatic power off feature. The product will not power off while in power-saving mode if this feature is deactivated.
- **On**: Activate the eco timer so that the product powers off automatically when it has been in power-saving mode for a specified period of time.

6 Press [• / •] to move to the option you want and press [⮌/⏎].

7 The selected option will be applied.

Eco Off After

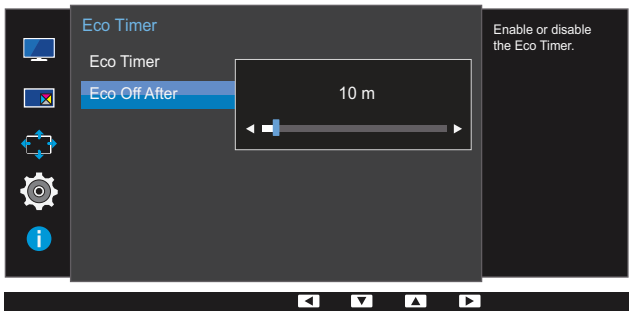
1 Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.

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

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

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

5 Press [• / •] to move to **Eco Off After** and press [/] on the product.
The following screen will appear.



6 Press [• / •] to configure **Eco Off After**.

7 The selected option will be applied.

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

6.4 USB Super Charging

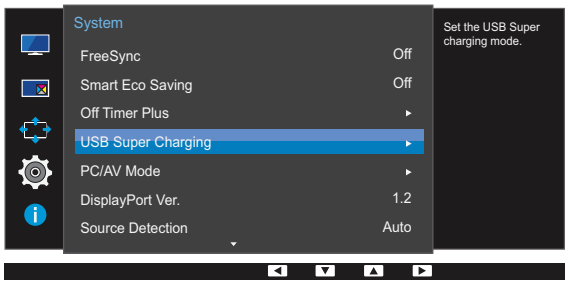
Charge the battery of a connected source device quickly using the USB 3.0 port on the product.

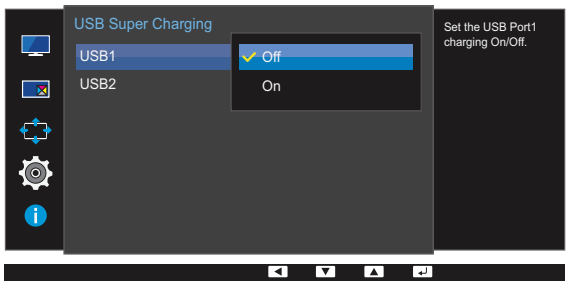
- Setting **USB Super Charging** to **On** during a data transfer will stop the data transfer. If you set **USB Super Charging** to **Off**, the standard charging and data transfer feature will be available.
- High-speed charging is possible using the [SS 1] and [SS 2] ports only. These ports charge devices faster than typical USB ports. The speed depends on the connected devices.

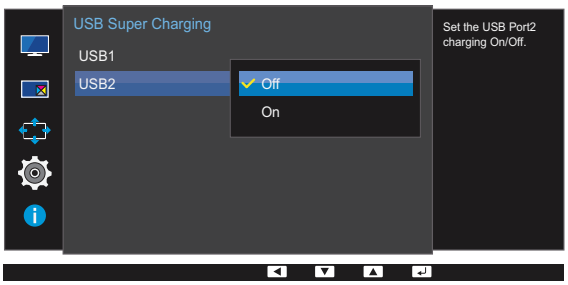
6.4.1 Configuring USB Super Charging

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 **System** and press [/] on the product.
3. Press [• / •] to move to **USB Super Charging** and press [/] on the product.
4. Press [• / •] to move to **USB1** or **USB2** and press [/] on the product.

   The following screen will appear.







- **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.

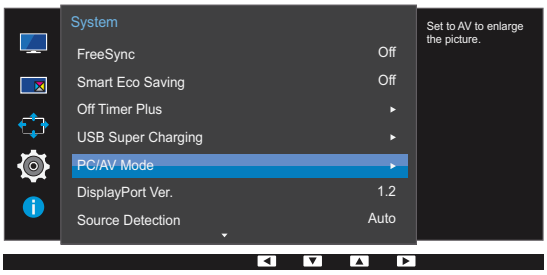
6.5 PC/AV Mode

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

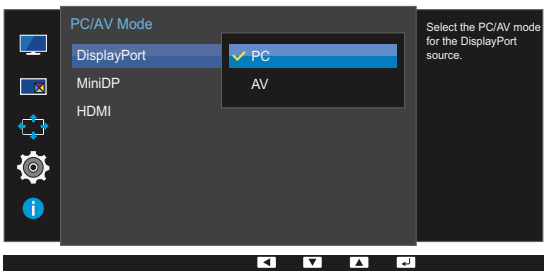
- Supplied for the wide models only such as 16:9 or 16:10.
- If the monitor (when set to **HDMI**, **DisplayPort**, **Mini DP**(**U24E850R**) or **HDMI 1**, **HDMI 2**, **DisplayPort**, **Mini DP**(**U28E850R / U32E850R**)) is in power saving mode or is displaying the message
  Check Signal Cable, press the [▥] button to display the On Screen Display(OSD). You can select **PC** or **AV**.

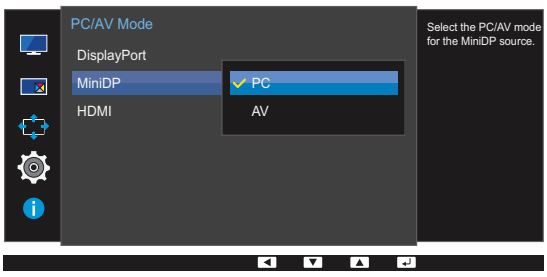
6.5.1 Configuring PC/AV Mode

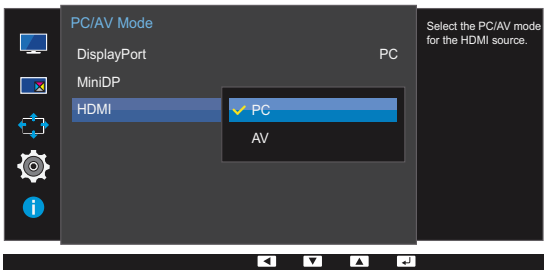
1. Press any button on the front of the product to display the Function Key Guide. Next, press [▥] to display the corresponding menu screen.
2. Press [• / •] to move to **System** and press [⮌/⏎] on the product.
3. Press [• / •] to move to **PC/AV Mode** and press [⮌/⏎] on the product.
4. Press [• / •] to move to **HDMI**, **DisplayPort**, **Mini DP**(**U24E850R**) or **HDMI 1**, **HDMI 2**, **DisplayPort**, **Mini DP**(**U28E850R / U32E850R**) and press [⮌/⏎] on the product.
   The following screen will appear.



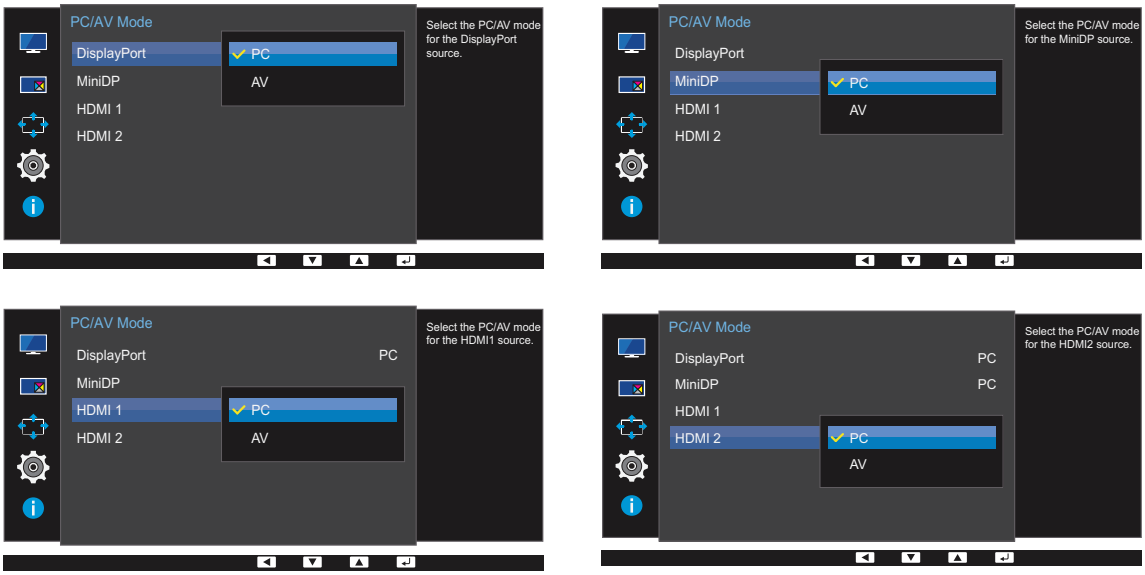
U24E850R







U28E850R / U32E850R



5 Press [• / •] to move to the option you want and press [⮌/⮐].

6 The selected option will be applied.

6.6 DisplayPort Ver.

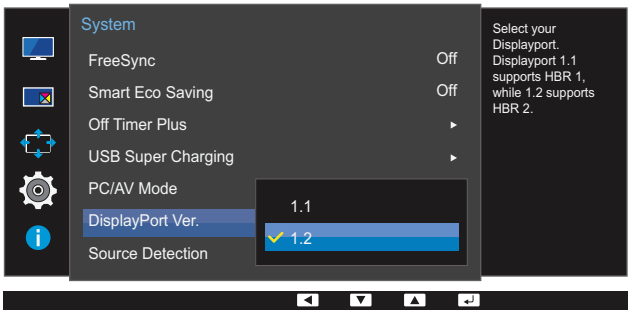
Select your Displayport. Displayport 1.1 supports High Bit Rate 1, while 1.2 supports High Bit Rate 2.

- Incorrect settings may cause the screen to go blank. If this occurs, check the device specifications.
- If the monitor (when set to **HDMI**, **DisplayPort**, **Mini DP**(**U24E850R**) or **HDMI 1**, **HDMI 2**, **DisplayPort**, **Mini DP**(**U28E850R / U32E850R**)) 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**.
- If you select **1.1**, the maximum resolution of your screen drops to 2560 x 1440 due to the limitations in HBR1 transmission speeds.

6.6.1 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 **System** and press [⮌/⏎] on the product.
3. Press [• / •] to move to **DisplayPort Ver.** and press [⮌/⏎] on the product.

   The following screen will appear.



   - **1.1** / **1.2**

4. Press [• / •] to move to the option you want and press [⮌/⏎].
5. The selected option will be applied.

6.7 Source Detection

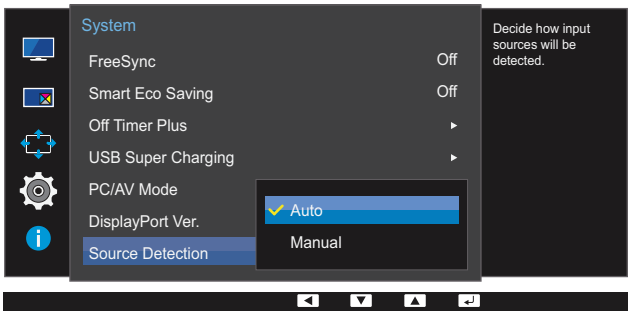
You can activate **Source Detection**.

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

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

   The following screen will appear.



- **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.

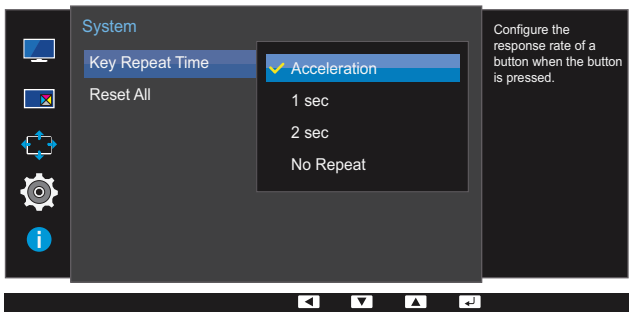
6.8 Key Repeat Time

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

6.8.1 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 **System** and press [⮌/⮐] on the product.
3. Press [• / •] to move to **Key Repeat Time** and press [⮌/⮐] on the product.

   The following screen will appear.



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

4. Press [• / •] to move to the option you want and press [⮌/⮐].
5. The selected option will be applied.

6.9 Reset All

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

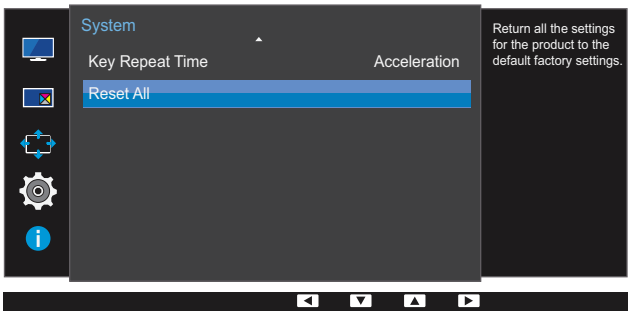
6.9.1 Initializing Settings (Reset All)

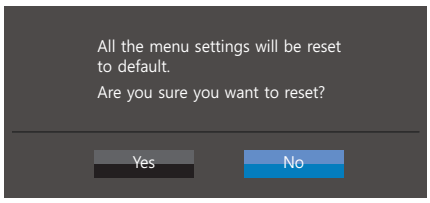
1 Press any button on the front of the product to display the Function Key Guide. Next, press [ ] to display the corresponding menu screen.

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

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

The following screen will appear.





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

5 The selected option will be applied.

7 Information Menu and Others

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

7.1 Information

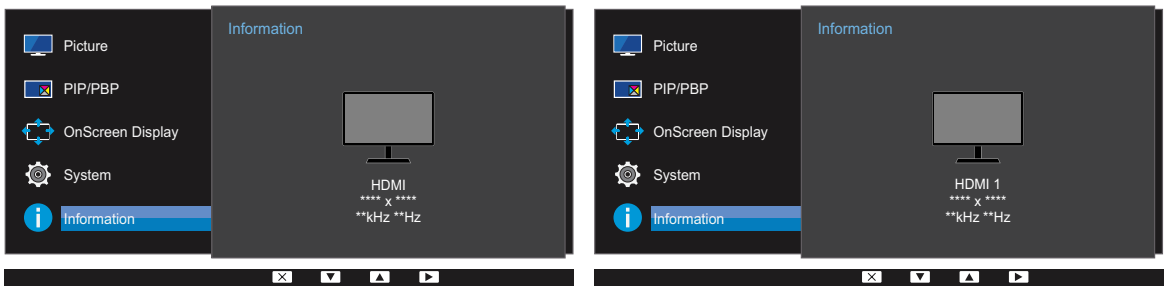
View the current input source, frequency and resolution.

7.1.1 Displaying Information

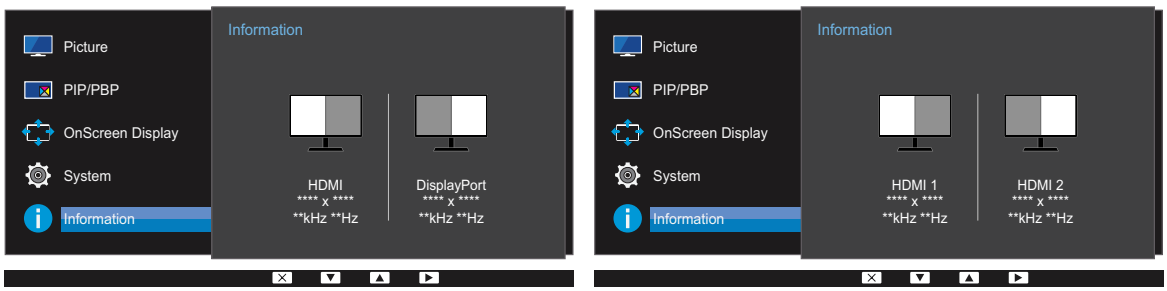
1. Press any button on the front of the product to display the Function Key Guide. Next, press [▥] to display the corresponding menu screen.
2. Press [• / •] to move to **Information**. The current input source, frequency and resolution will appear.

   The following screen will appear.

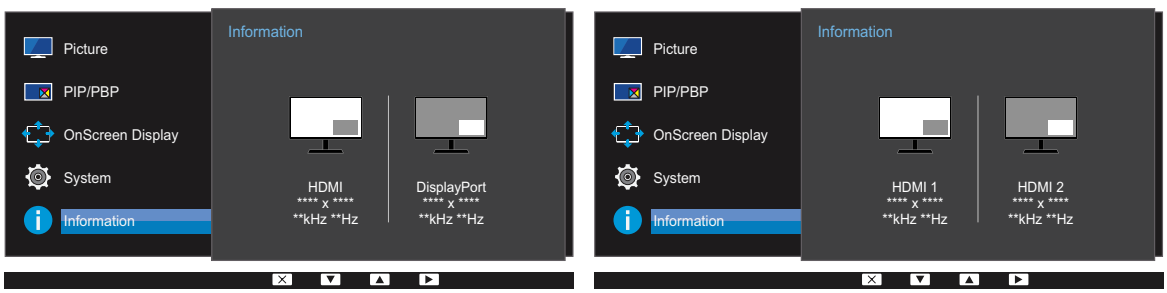
U24E850R | **U28E850R / U32E850R**



PBP



PIP



7.2 Configuring Brightness, Contrast and Volume from the Initial Screen

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

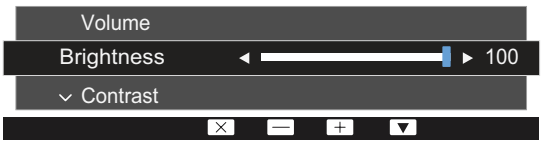
Brightness

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

Contrast

- This option is not available when SAMSUNG MAGIC**Bright** is in **Cinema** or **Dynamic Contrast** mode.
- This menu is not available when **Game Mode** is enabled.
- 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 [☼]. The following screen will appear.



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

3 Adjust the **Brightness**, **Contrast**, **Volume** using the [∙ / ∙] buttons.

8.1 Easy Setting Box



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

8.1.1 Installing the Software

1. Insert the installation CD into the CD-ROM drive.
2. Select the "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 XP 32Bit/64Bit
- Windows Vista 32Bit/64Bit
- Windows 7 32Bit/64Bit
- Windows 8 32Bit/64Bit

Hardware

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

8.1.2 Removing the Software

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

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

9 Troubleshooting Guide

9.1 Requirements Before Contacting Samsung Customer Service Center

9.1.1 Testing the Product

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

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

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

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

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

9.1.2 Checking the Resolution and Frequency

For a mode that exceeds the supported resolution (refer to "10.3 Standard Signal Mode Table"), the message **Not Optimum Mode** will appear for a short time.

9.1.3 Check the following.

Installation issue (PC mode)

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

Screen issue

Issues	Solutions
The power LED is off. The screen will not switch on.	Check that the power cable is connected properly. (Refer to "2.2 Connecting and Using a PC")
The message **Check Signal Cable** appears.	Check that the cable is properly connected to the product. (Refer to "2.2 Connecting and Using a PC")
	Check that the device connected to the product is powered on.
Not Optimum Mode is displayed.	This message appears when the signal from the graphics card exceeds the maximum resolution or frequency for the product.
	Change the maximum resolution and frequency to suit the product performance, referring to Standard Signal Mode Table (page 108).
The images on the screen look distorted.	Check the cable connection to the product. (Refer to "2.2 Connecting and Using a PC")
The screen appears unstable and shaky.	Check that the resolution and frequency for the PC are within the range of resolution and frequency compatible with the product. Next, if required, change the settings, referring to Standard Signal Mode Table (page 108) in this manual and the **Information** menu on the product.
There are shadows or ghost images left on the screen.	
The screen is too bright. The screen is too dark.	Adjust **Brightness** (page 47) and **Contrast** (page 48).
Screen color is inconsistent.	Change the **Color** settings. (Refer to "3.5 Color")
The colors on the screen have a shadow and are distorted.	Change the **Color** settings. (Refer to "3.5 Color")
White does not really look white.	Change the **Color** settings. (Refer to "3.5 Color")
There is no image on the screen and the power LED blinks every 0.5 to 1 second.	The product is operating in power-saving mode.
	Press any key on the keyboard or move the mouse to return to normal operating mode.

Sound issue

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

Source device issue

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

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

9.2 Q & A

Question	Answer
How can I change the frequency?	Set the frequency on your graphics card. • Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings** → **Advanced** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows ME/2000: Go to **Control Panel** → **Display** → **Settings** → **Advanced** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalization** → **Display Settings** → **Advanced Settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Screen Resolution** → **Advanced settings** → **Monitor**, and adjust **Refresh rate** under **Monitor settings**. • Windows 10: Go to **Settings** → **System** → **Display** → **Advanced display settings** → **Display adapter properties** → **Monitor**, and adjust **Screen refresh rate** under **Monitor settings**.

Question	Answer
How can I change the resolution?	• Windows XP: Go to **Control Panel** → **Appearance and Themes** → **Display** → **Settings**, and adjust the resolution. • Windows ME/2000: Go to **Control Panel** → **Display** → **Settings**, and adjust the resolution. • Windows Vista: Go to **Control Panel** → **Appearance and Personalization** → **Personalize** → **Display Settings**, and adjust the resolution. • Windows 7: Go to **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution. • Windows 8: Go to **Settings** → **Control Panel** → **Appearance and Personalization** → **Display** → **Adjust Resolution**, and adjust the resolution. • Windows 10: Go to **Settings** → **System** → **Display** → **Advanced display settings**, and adjust the resolution.
How do I set power-saving mode?	• Windows XP: Set power-saving mode in **Control Panel** → **Appearance and Themes** → **Display** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC. • Windows ME/2000: Set power-saving mode in **Control Panel** → **Display** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC. • Windows Vista: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC. • Windows 7: Set power-saving mode in **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC. • Windows 8: Set power-saving mode in **Settings** → **Control Panel** → **Appearance and Personalization** → **Personalize** → **Screen Saver Settings** → **Power options** or BIOS SETUP on the PC. • Windows 10: Set power-saving mode in **Settings** → **Personalization** → **Lock screen** → **Screen timeout settings** → **Power & sleep** or BIOS SETUP on the PC.

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

10 Specifications

10.1 General

Model Name		U24E850R	U28E850R
Panel	Size	23.5 Inches (59 cm)	28 Inches (70 cm)
	Display area	521.28 mm (H) x 293.22 mm (V) 20.5 Inches (H) x 11.5 Inches (V)	620.93 mm (H) x 341.28 mm (V) 24.4 Inches (H) x 13.4 Inches (V)
	Pixel Pitch	0.4525 mm (H) x 0.13575 mm (V) 0.017815 Inches (H) x 0.005344 Inches (V)	0.16 mm (H) x 0.16 mm (V) 0.006299 Inches (H) x 0.006299 Inches (V)
Power Supply		AC 100 - 240 V ~ (+/- 10 %), 50/60 Hz ± 3 Hz Refer to the label at the back of the product as the standard voltage can vary in different countries.	
Dimensions (W x H x D) / Weight	Without Stand	561.0 x 336.1 x 59.3 mm 22.1 x 13.2 x 2.3 Inches	661.1 x 384.5 x 60.7 mm 26.0 x 15.1 x 2.4 Inches
	With Stand	MAX : 561.0 x 527.2 x 260.6 mm / 6.69 kg 22.1 x 20.8 x 10.3 Inches / 14.75 lbs MIN : 561.0 x 397.2 x 260.6 mm / 6.69 kg 22.1 x 15.6 x 10.3 Inches / 14.75 lbs	MAX : 661.1 x 551.5 x 260.6 mm / 7.43 kg 26.0 x 21.7 x 10.3 Inches /16.38 lbs MIN : 661.1 x 421.5 x 260.6 mm / 7.43 kg 26.0 x 16.6 x 10.3 Inches / 16.38 lbs
VESA Mounting Interface		100 x 100 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)	
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10 % – 80 %, non-condensing	
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) Humidity : 5 % – 95 %, non-condensing	

10 Specifications

Model Name		U32E850R
Panel	Size	31.5 Inches (80 cm)
	Display area	696.96 mm (H) x 392.04 mm (V) 27.4 Inches (H) x 15.4 Inches (V)
	Pixel Pitch	0.1815 mm (H) x 0.0605 mm (V) 0.007146 Inches (H) x 0.002382 Inches (V)
Power Supply		AC 100 - 240 V ~ (+/- 10 %), 50/60 Hz ± 3 Hz Refer to the label at the back of the product as the standard voltage can vary in different countries.
Dimensions (W x H x D) / Weight	Without Stand	740.3 x 439.8 x 67.7 mm 29.1 x 17.3 x 2.7 Inches
	With Stand	MAX : 740.3 x 623.5 x 278.6 mm / 9.61 kg 29.1 x 24.5 x 11.0 Inches / 21.19 lbs MIN : 740.3 x 493.5 x 278.6 mm / 9.61 kg 29.1 x 19.4 x 11.0 Inches / 21.19 lbs
VESA Mounting Interface		100 x 100 mm 3.9 Inches x 3.9 Inches (For use with Specialty(Arm) Mounting hardware.)
Environmental considerations	Operating	Temperature : 50 °F – 104 °F (10 °C – 40 °C) Humidity : 10 % – 80 %, non-condensing
	Storage	Temperature : -4 °F – 113 °F (-20 °C – 45 °C) Humidity : 5 % – 95 %, non-condensing

Plug-and-Play

This monitor can be installed and used with any Plug-and-Play compatible systems.
Two-way data exchange between the monitor and PC system optimizes the monitor settings.
Monitor installation takes place automatically. However, you can customize the installation settings if desired.

Panel Dots (Pixels)

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

The above specifications are subject to change without notice to improve quality.

This device is a Class B digital apparatus.

10 Specifications

(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

10.2 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 functions only when the product is connected to a PC that has a power-saving function.

U24E850R

PowerSaver	Energy Star Test Condition	Power saving mode	Power off (Power button)
Power Indicator	On	Blinking	Off
Power Consumption	Typical 28.6 W	Typical 0.3 W	Less than 0.3 W

U28E850R

PowerSaver	Energy Star Test Condition	Power saving mode	Power off (Power button)
Power Indicator	On	Blinking	Off
Power Consumption	Typical 27.1 W	Typical 0.3 W	Less than 0.3 W

U32E850R

PowerSaver	Energy Star Test Condition	Power saving mode	Power off (Power button)
Power Indicator	On	Blinking	Off
Power Consumption	Typical 42.1 W	Typical 0.3 W	Less than 0.3 W

- The displayed power consumption level can vary in different operating conditions or when settings are changed.
- ENERGY STAR® is a US registered mark of the United States Environmental Protection Agency.

  Energy Star power is measured with the test method in the current Energy Star® Standard.
- To reduce the power consumption to 0, disconnect the power cord. Be sure to disconnect the power cable when you will not be using the product for an extended period of time. To reduce the power consumption to 0 watts when the power switch is not available, disconnect the power cable.

10.3 Standard Signal Mode Table

- This product can be set to only one resolution for each screen size to obtain the optimum picture quality due to the nature of the panel. Therefore, a resolution other than the specified resolution may degrade the picture quality. To avoid this, it is recommended that you select the optimum resolution specified for the screen size of your product.
- Check the frequency when you exchange a CDT monitor (connected to a PC) for an LCD monitor. If the LCD monitor does not support 85Hz, change the vertical frequency to 60Hz using the CDT monitor before you exchange it with the LCD monitor.

Model Name		U24E850R
Synchronization	Horizontal Frequency	30 – 135 kHz (DisplayPort / MINI DP / HDMI)
	Vertical Frequency	56 – 75 Hz (DisplayPort / MINI DP) 24 – 75 Hz (HDMI)
Resolution	Optimum Resolution	3840 x 2160 @ 60 Hz (DisplayPort / MINI DP / HDMI)
	Maximum Resolution	3840 x 2160 @ 60 Hz (DisplayPort / MINI DP / HDMI)

Model Name		U28E850R / U32E850R
Synchronization	Horizontal Frequency	30 – 135 kHz (DisplayPort / MINI DP) 30 – 90 kHz (HDMI1) 30 – 135 kHz (HDMI2)
	Vertical Frequency	56 – 75 Hz (DisplayPort / MINI DP) 24 – 75 Hz (HDMI1 / HDMI2)
Resolution	Optimum Resolution	3840 x 2160 @ 60 Hz (DisplayPort / MINI DP) 3840 x 2160 @ 30 Hz (HDMI1) 3840 x 2160 @ 60 Hz (HDMI2)
	Maximum Resolution	3840 x 2160 @ 60 Hz (DisplayPort / MINI DP) 3840 x 2160 @ 30 Hz (HDMI1) 3840 x 2160 @ 60 Hz (HDMI2)

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

U24E850R (Displayport / MINI DP / HDMI)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	31.469	59.940	25.175	-/-
MAC, 640 x 480	35.000	66.667	30.240	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900RB	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+
VESA, 2560 x 1440RB	88.787	59.951	241.500	+/-
VESA, 3840 x 2160RB	133.313	59.997	533.250	+/-

U28E850R / U32E850R (HDMI1)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	31.469	59.940	25.175	-/-
MAC, 640 x 480	35.000	66.667	30.240	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900RB	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+
VESA, 2560 x 1440RB	88.787	59.951	241.500	+/-
VESA, 3840 x 2160	67.500	30.000	297.000	+/+

U28E850R / U32E850R (HDMI2 / Displayport / MINI DP)

Resolution	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
VESA, 640 x 480	31.469	59.940	25.175	-/-
MAC, 640 x 480	35.000	66.667	30.240	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900RB	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+
VESA, 2560 x 1440RB	88.787	59.951	241.500	+/-
VESA, 3840 x 2160RB	133.313	59.997	533.250	+/-

- Horizontal Frequency

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

- Vertical Frequency

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

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

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.

Extended warranty

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

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

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

After 5 years, in the event that the Samsung's service center has run out of replacement parts and cannot repair the product, Samsung will replace your product at no additional charge. If the model you purchased is no longer available, Samsung replace it with the current equivalent model.

Terminology

OSD (On Screen Display)

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

Gamma

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

Grey scale

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

Scanning rate

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

Horizontal Frequency

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

Vertical Frequency

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

Resolution

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

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

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

E.g. A resolution of 1920 x 1200 consists of 1920 horizontal pixels (horizontal resolution) and 1200 vertical lines (vertical resolution).

Plug & Play

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

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

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