

# Monitor

## User Manual

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.



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# 1 Major Safety Precautions

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## 1-1 Before You Start

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### Icons used in this manual

ICON	NAME	MEANING
	Caution	Indicates cases where the function may not work or the setting may be canceled.
	Note	Indicates a hint or tip to operate a function.

### Using this Manual

- Make yourself fully aware of the safety precautions before using this product.
- If a problem occurs, refer to the 'Troubleshooting' section.

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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 centre 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.

## 1-2 Custody and Maintenance

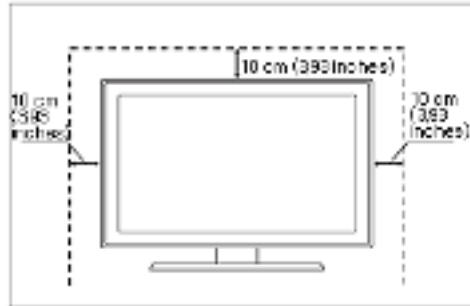
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### Securing the Installation Space

- Keep the required distances between the product and other objects (e.g. walls) to ensure proper ventilation. Failing to do so may result in fire or a problem with the product due to an increase in the internal temperature. Install the product so the required distances shown in the figure are kept.

 The appearance may differ depending on the product.

When installing the product with a stand



### About persistent images

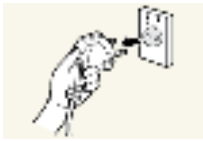
- Displaying a still image for a long time may create a persistent image or stain on the screen. If you do not use the product for a long time, set the power-saving mode or screen saver.

## 1-3 Cleaning the Monitor

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### Cleaning the Monitor

- The panel and exterior of the cutting-edge monitor scratch easily and require careful attention. Clean the monitor according to the following steps.



1. Power off the monitor and PC.
2. Disconnect the power cable from the monitor.



To avoid electric shock, be sure you disconnect the cable by gripping the plug and do not touch the cable with wet hands.



3. Wipe the monitor using a soft, slightly damp cloth that has been squeezed .



- Do not use a cleaning agent that contains alcohol or solvents, or that is surface active. Otherwise, the exterior may discolor or crack or the panel coating may come off.



- Do not spray water or cleaning agent directly onto the monitor. Otherwise, the liquid may sink into the monitor and cause a fire, electric shock, or failure.



4. Clean the exterior of the monitor using a soft cloth dampened with a small amount of water.



5. Connect the power cable to the monitor after you have finished cleaning.
6. Power on the monitor and PC.

### Precautions for Storage



- Using an ultrasonic humidifier may cause white stains on a highly glossy product.



Be sure you contact the nearest service center (paid service) for cleaning the inside of the monitor.

## 1-4 Safety Precautions

### Icons used for safety precautions

ICON	NAME	MEANING
	Warning	Failing to follow the precautions marked with this sign, may result in a serious injury or even a fatality.
	Caution	Failing to follow the precautions marked with this sign, may result in a personal injury or property damage.

### Meaning of Signs



Do not perform.



Do not disassemble.



Do not touch.



Must be followed.




The power plug must be unplugged from the wall outlet.



Must be grounded to prevent electric shock.

### Power Related

 The product image used in the following pictures for your reference may look different from the actual product.



#### Warning



Avoid using a damaged power cord or plug or a loose power outlet.

- Otherwise, it may result in electric shock or fire.



Avoid plugging in or unplugging the power supply with wet hands.

- Otherwise, it may result in electric shock.



Make sure to connect the power cord to a grounded wall outlet (for insulation class 1 equipment only).

- Otherwise, it may result in electric shock or injury.



Keep the power cord and the product away from a heater.

- Otherwise, it may result in electric shock or fire.



Avoid connecting multiple electric appliances to a single wall outlet.

- Otherwise, it may result in fire due to overheating of the wall outlet.



Plug the power plug in firmly.

- Otherwise, it may result in fire.



Avoid bending or twisting the power cord excessively and avoid placing heavy objects on the cord.

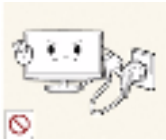
- Otherwise, it may result in electric shock or fire due to a damaged power cord.



If the pins of the power plug or the wall outlet are covered in dust, clean it using a dry cloth.

- Otherwise, it may result in fire.

## Caution



Avoid unplugging the power plug while the product is operating.

- Otherwise, it may damage the product due to electric shock.



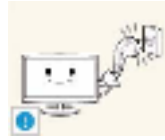
When unplugging the power plug from the wall outlet, make sure to hold it by the plug and not by the cord.

- Otherwise, it may result in electric shock or fire.



Make sure to use only the power cord supplied by our company. In addition, do not use the power cord of another electric appliance.

- Otherwise, it may result in electric shock or fire.



Connect the power plug to a wall outlet that can be easily reached.

- When a problem occurs with the product, you must unplug the power plug to cut the power off completely. You cannot cut the power off completely using only the power button on the product.

## Installation Related

### Warning



AVOID PLACING BURNING CANDLES, MOSQUITO-REPELLENT OR CIGARETTES ON THE PRODUCT AND INSTALLING THE PRODUCT NEAR A HEATER.

- Otherwise, it may result in fire.



Ask an installation engineer or relevant company to install the product onto the wall.

- Otherwise, it may result in injury.
- Make sure to use the specified wall mount.



Avoid installing the product in a badly-ventilated location such as inside a bookshelf or closet.

- Otherwise, it may result in fire due to internal over-heating.



Keep a distance of at least 10 cm from the wall when installing the product for ventilation.

- Otherwise, it may result in fire due to internal over-heating.



Keep the plastic bags used to pack the product away from children.

- If children place the plastic bags over their heads, they may suffocate.



Avoid installing the product in a location that is unstable or exposed to excessive vibrations such as on an unstable or slanted shelf.

- The product may fall and this may result in damage to the product or injury.
- If you use the product in a location exposed to excessive vibrations, it may result in a problem with the product or fire.



Avoid installing the product in a location exposed to dust, moisture (sauna), oil, smoke or water (rain drops) and installing it within a vehicle.

- This may result in electric shock or fire.



Avoid installing the product in a location exposed to direct sunlight and installing the product near a heat source such as a fire or heater.

- This may shorten the product life cycle or cause fire.



Avoid installing the product at an easily reachable height where children may reach it.

- If a child touches the product, the product may fall and this may result in injury.
- Since the front part is heavier, install the product on a flat and stable surface.



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

## Caution



Do not let the product drop while moving it.

- This may result in a problem with the product or injury.



When installing the product on a console or shelf, make sure that the front of the product does not protrude out of the console or shelf.

- Otherwise, this may cause the product to fall off and result in a malfunction or injury.
- Make sure to use a cabinet or shelf suitable to the size of the product.



If the product is installed in a location where the operating conditions vary considerably, a serious quality problem may occur due to the surrounding environment. In this case, install the product only after consulting one of our service engineers about the matter.

- Places exposed to microscopic dust, chemicals, too high or low temperature, high humidity, such as airports or stations where the product is continuously used for a long time and so on.



Do not place the product face down on the floor.

- This may damage the panel of the product.



When putting the product down, handle it gently.

- Otherwise, it may result in a problem with the product or injury.

## Usage Related

### Warning



Since a high voltage runs through the product, never disassemble, repair or modify the product yourself.

- Otherwise, it may result in fire or electric shock.
- If the product needs to be fixed, contact a service center.



Before moving the product, turn off the power switch and disconnect the power cable and all other connected cables.

- 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, unplug the power plug immediately and contact a service center.

- Otherwise, it may result in electric shock or fire.



Avoid letting children to hang or climb onto the product.

- Otherwise, it may result in the product falling and this may result in injury or death.



If you drop the product or the case is damaged, turn the power off and unplug the power cord. Contact a service center.

- Otherwise, it may result in fire or electric shock.



Avoid placing objects such as toys and cookies on top of the product.

- If a child hangs over the product to grab an object, the object or the product may fall and this may result in injury or even death.



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

- A fire or electric shock may result.



Avoid dropping an object over the product or cause impact to the product.

- Otherwise, it may result in electric shock or fire.





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

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.



Avoid lifting up or move the product by holding only the power cord or signal cable.

- Otherwise, it may result in electric shock, fire or a problem with the product due to damage to the cable.



Take care not to block the vent by a table cloth or curtain.

- Otherwise, it may result in fire due to internal overheating.



Avoid placing a liquid container such as a vase, flowerpot, beverage, cosmetics or drugs, or a metal object over the product.

- If water or an alien substance enters the product, turn the power off, unplug the power cord and contact a service center.
- Otherwise, it may result in a problem with the product, electric shock or fire.

## **Caution**



Displaying a still image for a long time may create a persistent image or stain on the screen.

- If you do not use the product for a long time, use the power-saving mode or set the screensaver to the moving picture mode.



Set the appropriate resolution and frequency for the product.

- Otherwise, it may result in eye strain.



Do not place the adapter on top of another adapter.

- Otherwise, it may result in fire.



Remove the vinyl cover of the adapter before using the adaptor.

- Otherwise, it may result in fire.



When a gas leak occurs, do not touch the product or the power plug and ventilate immediately.

- A spark may result in an explosion or fire.



Avoid using or placing inflammable spray or objects near the product.

- This may result in an explosion or fire.



Avoid inserting metal objects such as a chopsticks, coins or hairpins, or inflammable objects into the product (the vents, ports, etc).

- If water or an alien substance enters the product, turn the power off, unplug the power cord and contact a service center.
- Otherwise, it may result in a problem with the product, electric shock or fire.



When not using the product for a long time such as leaving your home, unplug the power cord from the wall outlet.

- Otherwise, it may cause dust accumulation and result in fire caused by overheating or short circuit or result in an electric shock.



Avoid turning the product upside down or move the product holding only the stand.

- This may cause the product to fall resulting in damage to the product or injury.



Keep power adaptor away from any other heat source.

- Otherwise, it may result in fire.



Always keep power adaptor in well-ventilated area.



Be careful that adaptor should not be in contact with water and therefore not be wet.

- This may cause a malfunction, electric shock or fire. Do not use adaptor by the waterside or outside particularly when it rains or snows. Be careful that adaptor should not be wet while cleaning floor with water.



Watching the product from too close a distance continuously may damage your eyesight.



Avoid using a humidifier or cooker near the product.

- Otherwise, it may result in electric shock or fire.



It is important to give your eyes some rest (5 minutes every hour) when viewing the product screen for long periods of time.

- This will alleviate any eye strain.



Since the display panel is hot after using it for a long time, do not touch the product.



Keep small accessories away from the children.



Take care when adjusting the angle of the product or the height of the stand.

- If your hand or finger is caught, you may be injured.
- If the product is tilted excessively, the product may fall and this may result in injury.



Avoid placing a heavy object over the product.

- Otherwise, it may result in a problem with the product or injury.

## Maintaining the Correct Posture when Using this Product




Maintain the correct posture when using this product.

- Straighten your back.
- Keep a distance of 45~50 cm from your eyes to the screen. Look down at the screen and face the screen forwards.
- Adjust the angle of the product so that light is not reflected onto the screen.
- Keep your elbow at a right angle and keep your arm level with the back of your hand.
- Keep your elbow at a right angle.
- Place your heels flat on the ground while keeping your knees at an angle of 90 degrees or higher and maintain the position of your arm so that your arm is below your heart.









# 2 Installing the Product

## 2-1 Package Contents

- 
- Unpack the product and check if all of the following contents have been included.
  - Store the packaging box in case you need to move the Product at a later stage.



Monitor

Contents			
			
Quick Setup Guide	Warranty Card (Not available in all locations)	User Manual	Stand Connector
			
Power Cord	DC-Adapter	Stand	
Option			
			
D-Sub Cable			

- 
- The cables provided may vary depending on the product you purchase.

## 2-2 Installing the Stand

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 Before assembling the product, put the product down on a flat and stable surface (table, etc.) with the screen facing down.



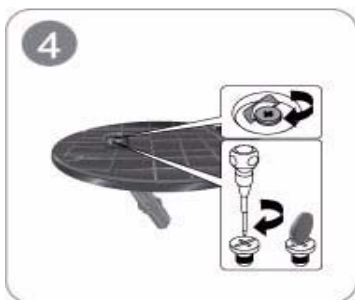
Lay a soft blanket on the table for protection. Next, place the product with the screen facing down onto the blanket.



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



Check if the Stand Connector is firmly connected.



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



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

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



- Caution

Never lift the product by holding only the stand.



More force may be required to detach the stand from the product than when it was attached.

## 2-3 Connecting the monitor

### Connecting with a PC

 The connecting part may differ depending on the product model.

1. Connect the product to a PC depending on the video output supported by the PC.
  - When the graphics card provides D-Sub (<Analog>) output
    - Connect the [RGB IN] port of the product to the [D-Sub] port of the PC with the D-Sub cable.



2. Connect the power adapter to [DC] jack on the rear of the product and wall socket.  
(The input voltage is switched automatically.)



 When the product is connected to a PC, you can turn the product on and use it.

## 2-4 Kensington Lock

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A Kensington Lock is an anti-theft device that enables users to lock the product so that they can safely use it in public locations. Since the shape and usage of the locking device may differ depending on the model and the manufacturer, for more information, refer to the User Manual supplied with the locking device for more information.

 You must purchase the Kensington Lock separately.



**To lock the product, follow these steps:**

1. Wrap the Kensington lock cable around a large, stationary object such as a desk or chair.
2. Slide the end of the cable with the lock attached through the looped end of the Kensington lock cable.
3. Insert the locking device into the Kensington slot on the Monitor(**B**).
4. Lock the lock(**A**).

-  • These are general instructions. For exact instructions, see the User Manual supplied with the locking device.
- You can purchase the locking device from an electronics store, an online shop, or our service center.

## 3 Using the product

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### 3-1 Setting the Optimal Resolution

---

If you turn the power on after purchasing the product, a message regarding the optimal resolution setting appears on the screen. Select a language and the optimal resolution.



▲/▼ : You can select a language with these buttons.

MENU : If you press this button, the message disappears.

- The message appears up to 3 times if the resolution has not been set to the optimal resolution.
- To set the resolution to the optimal resolution
  - When the PC is turned off, connect the product and the PC and turn the power on.
  - Right-click over the Desktop and select 'Properties' from the pop-up menu.
  - In the 'Settings' tab, set the resolution to the optimal resolution.
- For the optimal resolution, refer to the Specifications.



## 3-2 Standard Signal Mode Table

 This product delivers the best picture quality when viewed under the optimal resolution setting. The optimal resolution is dependent on the screen size.

Therefore, the visual quality will be degraded if the optimal resolution is not set for the panel size. It is recommended setting the resolution to the optimal resolution of the product.

If the signal from the PC is one of the following standard signal modes, the screen is set automatically. However, if the signal from the PC is not one of the following signal modes, a blank screen may be displayed or only the Power LED may be turned on.

Therefore, configure it as follows referring to the User Manual of the graphics card.

 For the optimal resolution, refer to the Specifications.

S19B150N

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/ V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
VESA, 640x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1366 x 768	47.712	59.790	85.500	+/+

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/ V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	35.000	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	57.284	-/-
MAC, 1152 x 870	68.681	75.062	100.000	-/-
VESA, 640 x 480	31.469	59.940	25.175	-/-
VESA, 640 x 480	37.861	72.809	31.500	-/-
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

DISPLAY MODE	HORIZONTAL FREQUENCY (KHZ)	VERTICAL FREQUENCY (HZ)	PIXEL CLOCK (MHZ)	SYNC POLARITY (H/ V)
IBM, 720 x 400	31.469	70.087	28.322	-/+
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MAC, 832 x 624	49.726	74.551	57.284	-/-
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VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 800 x 600	35.156	56.250	36.000	+/+
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78.750	+/+
VESA, 1152 x 864	67.500	75.000	108.000	+/+
VESA, 1280 x 720	45.000	60.000	74.250	+/+
VESA, 1280 x 800	49.702	59.810	83.500	-/+
VESA, 1280 x 1024	63.981	60.020	108.000	+/+
VESA, 1280 x 1024	79.976	75.025	135.000	+/+
VESA, 1440 x 900	55.935	59.887	106.500	-/+
VESA, 1600 x 900	60.000	60.000	108.000	+/+
VESA, 1680 x 1050	65.290	59.954	146.250	-/+
VESA, 1920 x 1080	67.500	60.000	148.500	+/+

### Horizontal Frequency

The time taken to scan one line from the left-most position to the right-most position on the screen is called the horizontal cycle and the reciprocal of the horizontal cycle is called the horizontal frequency. The horizontal frequency is represented in kHz.

### Vertical Frequency

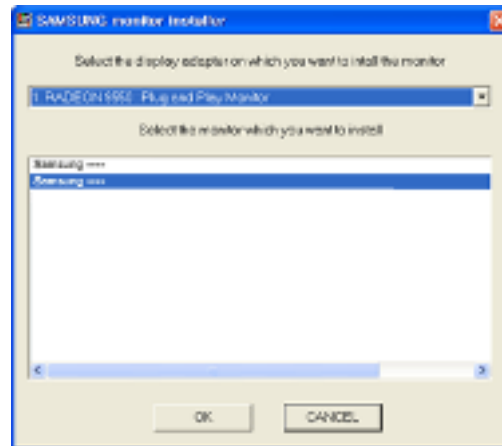
A panel must display the same picture on the screen tens of times every second so that humans can see the picture. This frequency is called the vertical frequency. The vertical frequency is represented in Hz.

### 3-3 Installing the Device Driver

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 If the device driver is installed, you can set the resolution and frequency to the optimal configuration for the product. The device driver is included on the CD-ROM supplied with the product. If the supplied drive file is corrupted, please visit a service center or Samsung Electronics website(<http://www.samsung.com/>), and download the driver.

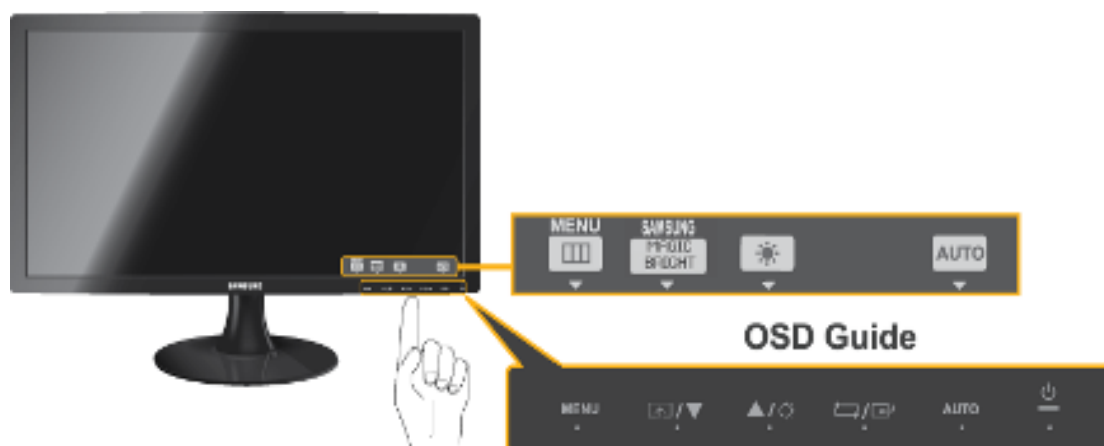
1. Insert the driver installation CD-ROM into the CD-ROM drive.
2. Click on "Windows Driver".
3. Complete the remaining installation steps according to the instructions displayed on the screen.
4. Select the model of your product from the model list.



5. Check if the appropriate resolution and screen refresh rate are displayed in the Control Panel settings. For more information, refer to the document about the Windows operating system.





## 3-4 Product Operating Buttons

### Product Operating Buttons










- Press one of the buttons on the monitor. OSD Guide will appear on the screen.
- If you press a button on the front of the monitor, an OSD Guide will display showing the function of the button before the menu for the pressed button appears.
- To go to the menu, press the button on the front of the monitor again.
- To activate a button on the product, tap the area on the bottom of the panel. Tapping around the button label on the front will not activate the button.
- OSD Guide may vary according to functions and models. Please refer to actual product.

ICON	DESCRIPTION
MENU	<p>Press this button to view the On Screen Display (OSD).</p> <p>This button is also used to exit the OSD or to return to a higher-level OSD menu</p> <p>* OSD Adjustment Lock</p> <p>This function locks the OSD in order to maintain the current settings or to prevent the settings from being changed by another person</p> <p>On: If you press and hold the MENU button down for 10 seconds, the OSD Adjustment Lock function is activated.</p> <p>Off: If you press and hold the MENU button down for 10 seconds again, the OSD Adjustment Lock function is disabled.</p> <p>Even if the OSD Adjustment Lock function is activated, users can adjust the brightness and contrast and can set up the adjustment function assigned to the [MAGIC].</p>
[MAGIC]	<p>Users can set the &lt;Customized Key&gt; to one of the following functions. If the user presses the Customized Key [MAGIC] after setting it, the configured function will be performed</p> <ul style="list-style-type: none"><li>• &lt;SAMSUNG Bright&gt; - &lt;Eco Saving&gt; - &lt;Image Size&gt;</li></ul> <p>You can set the function of the Customized Key by selecting &lt;SETUP&amp;RESET &gt; -&gt; &lt;Customized Key&gt; in the OSD.</p> <p>The function of the customized key can be changed by pressing the ► button in the customized key window.</p>
▲/▼	Use these buttons to navigate the menu or to adjust a value in the OSD.
[BRIGHT]	Use this button to control the brightness of the screen.

ICON	DESCRIPTION
	Use this button to select a function.
<b>AUTO</b>	<p>Press [AUTO] button to adjust the screen settings automatically</p> <p>If the resolution settings are changed in the Display Properties, the AUTO adjustment function is performed.</p>
	<p>Press this button to turn the product on or off</p> <ul style="list-style-type: none"> <li> The buttons on the right of the product are touch-type buttons.</li> <li>Touch the buttons lightly with your finger.</li> </ul> <p><b>Power LED</b></p> <p>This LED is turned on when the product works normally.</p> <ul style="list-style-type: none"> <li> For more information on the power-saving function, refer to the power saving function in More Information. When not using the product for a long time, unplugging the power cord is recommended to minimize power consumption.</li> </ul>

## 3-5 Using the Screen Adjustment Menu (OSD: On Screen Display)




### The Screen Adjustment Menu (OSD: On Screen Display) Structure



Top Menu	Sub Menus				
 PICTURE	Brightness	Contrast	Sharpness	 Bright	Coarse
	Fine				
 COLOR	 Color	Red	Green	Blue	Color Tone
	Gamma				
 SIZE & POSITION	H-Position	V-Position	Image Size	Menu H-Position	Menu V-Position
 SETUP&RESET	Reset	Language	Eco Saving	Off Timer On/Off	Off Timer Setting
	Key Repeat Time	Customized Key	Display Time	Menu Transparency	
 INFORMATION					

 Monitor functions may vary according to models. Please refer to actual product.

### PICTURE








Menu	Description
Brightness	Controls the screen brightness. <ul style="list-style-type: none"> <li> This menu is unavailable when &lt;SAMSUNG MAGIC Bright&gt; is set to &lt;Dynamic Contrast&gt; mode.</li> <li>This menu is unavailable when &lt;Eco Saving&gt; is set.</li> </ul>
Contrast	Controls the contrast of the pictures displayed on the screen <ul style="list-style-type: none"> <li> This menu is unavailable when &lt;SAMSUNG MAGIC Bright&gt; is set to &lt;Dynamic Contrast&gt; or &lt;Cinema&gt; mode.</li> <li>This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</li> </ul>
Sharpness	Controls the clarity of details of pictures displayed on the screen <ul style="list-style-type: none"> <li> This menu is unavailable when &lt;SAMSUNG MAGIC Bright&gt; is set to &lt;Dynamic Contrast&gt; or &lt;Cinema&gt; mode.</li> <li>This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</li> </ul>

Menu	Description
	<p>Provides preset picture settings optimized for various user environments such as editing a document, surfing the Internet, playing games, or movies and so on.</p> <ul style="list-style-type: none"> <li>• &lt;Custom&gt; If the preset picture modes are not sufficient, users can configure the &lt;brightness&gt; and &lt;Contrast&gt; directly using this mode.</li> <li>• &lt;Standard&gt; This mode provides the picture setting appropriate for editing a document and surfing the Internet (text + picture).</li> <li>• &lt;Game&gt; This mode provides the picture setting appropriate for playing games that include lots of graphics and that require a fast screen refresh rate.</li> <li>• &lt;Cinema&gt; This mode provides brightness and sharpness settings similar to those of a TV for the best entertainment environment (movie, DVD, etc.).</li> <li>• &lt;Dynamic Contrast&gt; Controls the picture contrast automatically so that bright and dark pictures are balanced overall.</li> </ul> <p> This menu is unavailable when &lt;Eco Saving&gt; is set.</p>
Coarse	<p>Removes vertical noise lines (line pattern) from the screen.</p> <p>The location of the screen may be changed after the adjustment. In this case, move the screen so that the screen is displayed at the center of the display panel using the &lt;H-Position&gt; menu.</p>
Fine	<p>Removes horizontal noise lines (line pattern) from the screen.</p> <p>If you cannot remove the noise completely with the &lt;Fine&gt; function, adjust the &lt;Coarse&gt; and then use the &lt;Fine&gt; function again.</p>

## COLOR







Menu	Description
 Color	<p>Expresses natural colors more clearly without changing the picture quality using proprietary digital picture quality improvement technology developed by Samsung Electronics.</p> <ul style="list-style-type: none"> <li>• &lt;Off&gt; - Turns the &lt;SAMSUNG MAGIC Color&gt; function off.</li> <li>• &lt;Demo&gt; - You can compare the pictures processed by &lt;SAMSUNG MAGIC Color&gt; with the original pictures.</li> <li>• &lt;Full&gt; - Provides a clearer picture including areas corresponding to skin color.</li> <li>• &lt;Intelligent&gt; - Improves the chroma of pictures except for areas corresponding to skin color.</li> </ul>
Red	<p>You can adjust the red color value of pictures according to your preference.</p> <p> This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</p>
Green	<p>You can adjust the green color value of pictures according to your preference.</p> <p> This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</p>
Blue	<p>You can adjust the blue color value of pictures according to your preference.</p> <p> This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</p>
Color Tone	<p>You can set the color temperature according to your preference.</p> <ul style="list-style-type: none"> <li>• &lt;Cool 2&gt; - Sets the color temperature of the screen to very cool.</li> <li>• &lt;Cool 1&gt;- Sets the color temperature of the screen to cool.</li> <li>• &lt;Normal&gt; - Sets the color temperature of the screen to the standard color temperature.</li> <li>• &lt;Warm 1&gt; - Sets the color temperature of the screen to warm.</li> <li>• &lt;Warm 2&gt; - Sets the color temperature of the screen to very warm.</li> <li>• &lt;Custom&gt; - Select this menu to set the color temperature manually.</li> </ul> <p>If you do not like the preset color temperatures, you can manually adjust the value of RGB.</p> <p> This menu is unavailable when &lt;SAMSUNG MAGIC Color&gt; is set to &lt;Full&gt; mode or &lt;Intelligent&gt; mode.</p>
Gamma	<p>Using this menu, you can change the intensity of the colors of medium brightness.</p> <ul style="list-style-type: none"> <li>• &lt;Mode1&gt; - &lt;Mode2&gt; - &lt;Mode3&gt;</li> </ul>

 (This is unavailable when <SAMSUNG MAGIC Bright> is set to <Dynamic Contrast> and <Cinema> mode.)

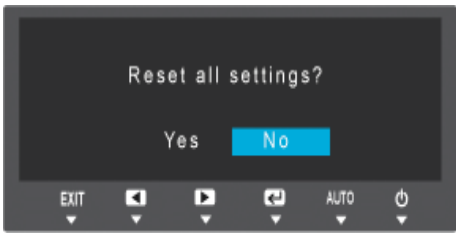

## SIZE & POSITION





Menu	Description
H-Position	Moves the position of the display area on the screen horizontally.
V-Position	Moves the position of the display area on the screen vertically.
Image Size	<p> Supplied for the wide models only such as 16:9 or 16:10.</p> <ul style="list-style-type: none"> <li>• &lt;Auto&gt; - The picture is displayed at the aspect ratio of the input signal.</li> <li>• &lt;Wide&gt; - The picture is displayed in full screen regardless of the aspect ratio of the input signal.</li> </ul> <p> • A signal not in the standard mode table is not supported.</p> <ul style="list-style-type: none"> <li>• If the resolution is set to the optimal resolution, the aspect ratio does not change whether the &lt;Image Size&gt; is set to &lt;Auto&gt; or &lt;Wide&gt;.</li> </ul>
Menu H-Position	You can adjust the horizontal position of the OSD.
Menu V-Position	You can adjust the vertical position of the OSD.

## SETUP&RESET



Menu	Description
Reset	<p>Use this function to restore the visual quality and color settings to the factory defaults.</p> <ul style="list-style-type: none"> <li>• &lt;Yes&gt; - &lt;No&gt;</li> </ul> 
Language	<p>Select a language for the OSD.</p> <ul style="list-style-type: none"> <li>• <b>Deutsch, English, Español, Français, Italiano, Magyar, Polski, Português, Русский, Svenska, Türkçe, 日本語, 한국어, 汉语</b></li> </ul> <p> The selected language is only applied to the product OSD. This setting does not affect the other functions of the PC.</p>

Menu	Description
Eco Saving	<p>This function provides user a low power mode which is realized by lowering the current of the display panel.</p> <ul style="list-style-type: none"> <li>&lt;75%&gt; When &lt;75%&gt; is selected, the power consumption is about 75% of default setting.</li> <li>&lt;50%&gt; When &lt;50%&gt; is selected, the power consumption is about 50% of default setting.</li> <li>&lt;Off&gt; When &lt;Off&gt; is selected, the function is turned Off .</li> </ul> <p> This menu is unavailable when &lt;SAMSUNG MAGIC Bright&gt; is set to &lt;Dynamic Contrast&gt; mode.</p>
Off Timer On/Off	<p>You can turn the Off Timer on or off.</p> <ul style="list-style-type: none"> <li>&lt;Off&gt; - &lt;On&gt;</li> </ul>
Off Timer Setting	<p>Turns the power off automatically when the configured time is reached.</p> <p> When &lt;On&gt; of &lt;Off Timer On/Off&gt; is selected, This function is available only.</p>
Key Repeat Time	<p>Controls the repeat delay of a button.</p> <p>You can set to &lt;Acceleration&gt;, &lt;1 sec&gt; or &lt;2 sec&gt;. If &lt;No Repeat&gt; is selected, the button only responds once.</p>
Customized Key	<p>You can set the function of the Customized Key to one of the following.</p> <ul style="list-style-type: none"> <li>&lt;SAMSUNG MAGIC Bright&gt; - &lt;Eco Saving&gt; - &lt;Image Size&gt;</li> </ul>
Display Time	<p>The OSD automatically disappears if no action is taken by the user.</p> <p>You can determine the time to wait before the OSD is hidden.</p> <ul style="list-style-type: none"> <li>&lt;5 sec&gt; - &lt;10 sec&gt; - &lt;20 sec&gt; - &lt;200 sec&gt;</li> </ul>
Menu Transparency	<p>You can select the transparency of the OSD.</p> <ul style="list-style-type: none"> <li>&lt;Off&gt; - &lt;On&gt;</li> </ul>

## INFORMATION



Menu	Description
INFORMATION	Shows the frequency and resolution set on the PC.

## 3-6 Configuring Brightness and Contrast in the Initial Screen

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Adjust the Brightness or Contrast setting using the [⚙️] buttons in the initial screen (where no OSD menu is displayed).

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



2. Press the [↔️] button to alternate between the Brightness and Contrast settings.
3. Adjust the Brightness or Contrast setting using the [▲/▼] buttons.

## 4 Installing the Software

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### 4-1 Natural Color

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#### What is Natural Color ?

This software works only for Samsung products and enables adjusting the displayed colors on the product and matches the colors on the product with the colors of the printed pictures. For more information, refer to the online help of the software (F1).

The Natural Color is provided online. You can download it from the website below and install;

[http://www.samsung.com/us/consumer/learningresources/monitor/naturalcolorexpert/pop\\_download.html](http://www.samsung.com/us/consumer/learningresources/monitor/naturalcolorexpert/pop_download.html)

### What is MagicTune?



MagicTune is a software program that helps with monitor adjustments by providing comprehensive descriptions of monitor functions and easy-to-understand guidelines.


Users can adjust the product with the mouse and the keyboard without using the operating buttons of the product.

### Installing the Software

1. Insert the installation CD into the CD-ROM drive.
2. Select the MagicTune setup program.

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

3. Select the installation language and click [Next].
4. Complete the remaining software installation steps according to the instructions displayed on the screen.

-  • The software may not work properly if you do not restart the computer after the installation.
- The MagicTune 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 (MagicTune™)

The installation of MagicTune™ may be affected by the graphics card, motherboard and the networking environment.

#### System Requirements

##### OS


- Windows XP, Windows Vista, Windows 7, Windows 8

### Removing the Software

You can only remove MagicTune™ through [Add or Remove Programs] in Windows.

To remove MagicTune™, complete the following steps.

1. Click [Start] select [Settings], and select [Control Panel] from the menu.  
For Windows XP, click [Start], and select [Control Panel] from the menu.
2. Double-click the [Add or Remove Programs] icon in the Control Panel.
3. In the [Add/Remove] window, find and select MagicTune™ so that it is highlighted.
4. Click [Change or Remove Programs] to remove the software.
5. Select [Yes] to start removing MagicTune™.
6. Wait until a message box appears informing you that the software has been removed completely.

 For technical support, the FAQ (frequently asked questions) or information about the software upgrade for MagicTune™, please visit our website.

### What is MultiScreen ?




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

### Installing the Software

1. Insert the installation CD into the CD-ROM drive.
2. Select the MultiScreen setup program.

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

3. When the Installation Wizard appears, click [Next].
4. Complete the remaining software installation steps according to the instructions displayed on the screen.

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

### Restrictions and Problems with the Installation (MultiScreen)

The MultiScreen installation may be affected by the graphics card, motherboard and the networking environment.

#### Operating System

##### OS

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

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

##### Hardware

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

### Removing the Software

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


Select MultiScreen from the program list and click the [Add/Delete] button.

# 5 Troubleshooting

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## 5-1 Monitor Self-Diagnosis

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-  • You can check if the product is working properly using the Self-Diagnosis function.
  - If a blank screen is displayed and the Power LED blinks even if the product and the PC are properly connected, perform the self-diagnosis function according to the procedures below.
1. Turn the product and the PC off.
  2. Separate the signal cable from the product .
  3. Turn the product on.
  4. If the product is working properly, the <Check Signal Cable> message appears.  
In this case, if a blank screen is displayed again, make sure that there is no problem with the PC and the connection. The product is working properly.



## 5-2 Before Requesting Service

 Please check the following before requesting After-Sales service. If the problem continues, please contact your nearest Samsung Electronics Service Center.

A blank screen appears / I cannot turn the product on	
Is the power cord connected properly?	Check the connection status of the power cord.
Is the <Check Signal Cable> message displayed on the screen?	(Connected using the D-sub cable) Check the cable connecting the PC and the product.
Is the <Not Optimum Mode> message displayed on the screen?	This occurs when the signal from the graphics card exceeds the maximum resolution or the maximum frequency of the product.  In this case, set up the appropriate resolution and the frequency for the product.
Is a blank screen displayed and does the power LED blink at a 1 second interval?	<ol style="list-style-type: none"> <li>1. This occurs when the power saving function is running. If you click the mouse or press any key, the screen will be turned on.</li> <li>2. If the "Check Signal Cable" condition persists for more than five minutes, the power saving function will be activated.</li> </ol>
THE IMAGE IS TOO LIGHT OR TOO DARK.	
Adjust the <Brightness> and <Contrast>. (Refer to the <Brightness>, <Contrast>)  If <SAMSUNG MAGIC Bright> is set to <Dynamic Contrast>, the display brightness can differ according to the input signal.	
The on screen adjustment menu (OSD) does not appear.	
Did you cancel the screen adjustment?	Check if the OSD Adjustment Lock function is set to Off.
The color is weird / The picture is displayed in black and white	
Is the entire screen displayed in the same color as if viewing the screen through a cellophane paper?	Check the cable connection to the computer. Reinsert the graphics card into the computer completely.
Is the graphics card configured correctly?	Set up the graphics card referring to the user manual.
The display area suddenly moves to an edge or to the center.	
Did you change the graphics card or the driver?	Please press the [AUTO] button to run the auto adjustment function.
Did you change the resolution and frequency appropriate to the product?	Set the resolution and the frequency to the appropriate values in the graphics card refer to the (Standard Signal Mode Table)
Is the graphics card configured correctly?	Set up the graphics card referring to the user manual.
The pictures are out-of-focus.	
Did you change the resolution and the frequency appropriate to the product?	Set the resolution and the frequency to the appropriate values in the graphics card refer to the (Standard Signal Mode Table)

**The color is displayed in 16 bit (16 colors). The color has been changed after changing the graphics card.**

Did you install the device driver for the product?	<p>Windows XP : Set the color again by selecting Control Panel → Appearance and Themes → Display → Settings.</p> <p>Windows ME/2000 : Set the color again by selecting Control Panel → Display → Settings.</p> <p>Windows Vista : Change the color settings by selecting Control Panel → Appearance and Personalization → Personalization → Display settings.</p> <p>Windows 7 : Change the color settings by selecting Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor.</p> <p>Windows 8 : Change the color settings by selecting Settings → Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor.</p> <p>(For more information, refer to the Windows user manual for the computer.)</p>
Is the graphics card configured correctly?	Configure the color again in accordance with the new graphics card driver.

**When I connect the monitor, the 'Unknown monitor, Plug&Play (VESA DDC) monitor found' message is displayed.**

Did you install the device driver for the product?	Install the device driver referring to the descriptions about the driver installation.
Check if all the Plug&Play (VESA DDC) functions are supported referring to the User Manual of the graphics card.	Install the device driver referring to the descriptions about the driver installation.

**When I look at the exterior edges of the product, small alien substances appear on it.**

Since this product is designed so that the color has a soft appearance by coating it with a transparent material over the black edges, such things may be seen. This is not a defect of the product.

**A “beep, beep” sound is heard when booting the computer.**

If the beep sound is generated 3 or more times when booting up the computer, please request service for the computer.

FAQ!	PLEASE TRY THE FOLLOWING!
How can I change the frequency?	<p>Set the frequency on your graphics card.</p> <ul style="list-style-type: none"> <li>• Windows XP: Go to <b>Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor</b>, and adjust <b>Refresh rate</b> under <b>Monitor settings</b>.</li> <li>• Windows ME/2000: Go to <b>Control Panel → Display → Settings → Advanced → Monitor</b>, and adjust <b>Refresh rate</b> under <b>Monitor settings</b>.</li> <li>• Windows Vista: Go to <b>Control Panel → Appearance and Personalization → Personalization → Display Settings → Advanced Settings → Monitor</b>, and adjust <b>Refresh rate</b> under <b>Monitor settings</b>.</li> <li>• Windows 7: Go to <b>Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor</b>, and adjust <b>Refresh rate</b> under <b>Monitor settings</b>.</li> <li>• Windows 8: Go to <b>Settings → Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor</b>, and adjust <b>Refresh rate</b> under <b>Monitor settings</b>.</li> </ul>
How can I change the resolution?	<ul style="list-style-type: none"> <li>• Windows XP: Go to <b>Control Panel → Appearance and Themes → Display → Settings</b>, and adjust the resolution.</li> <li>• Windows ME/2000: Go to <b>Control Panel → Display → Settings</b>, and adjust the resolution.</li> <li>• Windows Vista: Go to <b>Control Panel → Appearance and Personalization → Personalize → Display Settings</b>, and adjust the resolution.</li> <li>• Windows 7: Go to <b>Control Panel → Appearance and Personalization → Display → Adjust Resolution</b>, and adjust the resolution.</li> <li>• Windows 8: Go to <b>Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution</b>, and adjust the resolution.</li> </ul>
How do I set power-saving mode?	<ul style="list-style-type: none"> <li>• Windows XP: Set power-saving mode in <b>Control Panel → Appearance and Themes → Display → Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows ME/2000: Set power-saving mode in <b>Control Panel → Display → Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows Vista: Set power-saving mode in <b>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows 7: Set power-saving mode in <b>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</b> or BIOS SETUP on the PC.</li> <li>• Windows 8: Set power-saving mode in <b>Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</b> or BIOS SETUP on the PC.</li> </ul>

## 6 More Information

### 6-1 Specifications

S19B150N

MODEL NAME		S19B150N
Panel	Size	18.5 inches (47 cm)
	Display area	409.8 mm (H) x 230.4 mm (V)
	Pixel Pitch	0.300 mm (H) x 0.300 mm (V)
Synchroniza- tion	Horizontal	30 ~ 81 kHz
	Vertical	56 ~ 75 Hz
Display Color		16.7 M
Resolution	Optimum resolution	1366 x 768@60Hz
	Maximum resolution	1366 x 768@60Hz
Input Signal, Terminated		RGB Analog 0.7 Vp-p $\pm$ 5% separate H/V sync, Composite, SOG TTL level (V high $\geq$ 2.0V, V low $\leq$ 0.8V)
Maximum Pixel Clock		95MHz (Analog)
Power Supply		This product supports 100-240 V. Since the standard voltage may differ from country to country, please check the label on the back of the product.
Signal Cable		15pin-to-15pin D-sub cable, Detachable
Dimensions (WxHxD) / Weight		445 × 273 × 53 mm (17.5 x 10.7 x 2.1 inches) (Without Stand) 445 × 348 × 177 mm (17.5 x 13.7 x 7.0 inches) (With Stand) / 2.1 kg (4.6 lbs)
Environmen- tal consider- ations	Operating	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 %, non-condensing
	Storage	Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing
Tilt		-1.0° ( $\pm$ 2.0°) ~ 20.0° ( $\pm$ 2.0°)

MODEL NAME		S22B150N
Panel	Size	21.5 inches (54 cm)
	Display area	476.6mm (H) × 268.1mm (V)
	Pixel Pitch	0.24825 mm (H) x 0.24825 mm (V)
Synchroniza- tion	Horizontal	30 ~ 81 kHz
	Vertical	56 ~ 75 Hz
Display Color		16.7 M
Resolution	Optimum resolution	1920 x 1080 @ 60Hz
	Maximum resolution	1920 x 1080 @ 60Hz
Input Signal, Terminated		RGB Analog 0.7 Vp-p ± 5% separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)
Maximum Pixel Clock		185MHz (Analog)
Power Supply		This product supports 100-240 V. Since the standard voltage may differ from country to country, please check the label on the back of the product.
Signal Cable		15pin-to-15pin D-sub cable, Detachable
Dimensions (WxHxD) / Weight		512 × 311 × 53 mm (20.2 x 12.2 x 2.1 inches) (Without Stand) 512 × 385 × 197 mm (20.2 x 15.2 x 7.8 inches) (With Stand) / 2.7 kg (6.0 lbs)
Environmen- tal consider- ations	Operating	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 %, non-condensing
	Storage	Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing
Tilt		-1.0° (± 2.0°) ~ 20.0° (± 2.0°)

MODEL NAME		S24B150NL
Panel	Size	23.6 inches (59 cm)
	Display area	521.28 mm (H) × 293.22 mm (V)
	Pixel Pitch	0.2715 mm (H) × 0.2715 mm (V)
Synchroniza- tion	Horizontal	30 ~ 81 kHz
	Vertical	56 ~ 75 Hz
Display Color		16.7 M
Resolution	Optimum resolution	1920 x 1080 @ 60Hz
	Maximum resolution	1920 x 1080 @ 60Hz
Input Signal, Terminated		RGB Analog 0.7 Vp-p ± 5% separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)
Maximum Pixel Clock		164MHz (Analog)
Power Supply		This product supports 100-240 V. Since the standard voltage may differ from country to country, please check the label on the back of the product.
Signal Cable		15pin-to-15pin D-sub cable, Detachable
Dimensions (WxHxD) / Weight		569 × 342 × 53 mm (22.4 x 13.5 x 2.1 inches) (Without Stand) 569 × 416 × 197 mm (22.4 x 16.4 x 7.8 inches) (With Stand) / 3.8 kg (8.4 lbs)
Environmen- tal consider- ations	Operating	Operating Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 %, non-condensing
	Storage	Storage Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing
Tilt		-1.0° (± 2.0°) ~ 20.0° (± 2.0°)

 Design and specifications are subject to change without prior notice.

 This device is a Class B digital apparatus.

 Panel Dots (Pixels)

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

(USA ONLY)

Dispose unwanted electronics through an approved recycler.

To find the nearest recycling location, go to our website,  
[www.samsung.com/recyclingdirect](http://www.samsung.com/recyclingdirect), or call (877) 278 - 0799

## 6-2 Power Saving Function

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor to low-power mode when it has not been used for a certain amount of time. The monitor automatically returns to normal operation when you press a key on the keyboard. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods. The PowerSaver system operates with a VESA DPM compliant video card installed in your computer. Use the software utility installed on your computer to set up this feature.

STATE	NORMAL OPERATION	POWER SAVING MODE	POWER OFF
Power Indicator	On	Blinking	Off
Power Consumption (S19B150N)	20 watts	Typical 0.3 watts	Typical 0.3 watts
Power Consumption (S22B150N)	30 watts	Typical 0.3 watts	Typical 0.3 watts
Power Consumption (S24B150NL)	30 watts	Typical 0.3 watts	Typical 0.3 watts

 If there is no power cut-off switch, the power consumption is "0" only when the power cord is disconnected.

## 6-3 Contact SAMSUNG WORLDWIDE

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

NORTH AMERICA		
U.S.A	1-800-SAMSUNG (726-7864)	<a href="http://www.samsung.com">http://www.samsung.com</a>
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## 6-4 Responsibility for the Pay Service (Cost to Customers)

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

### Not a product defect

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

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

### A Product damage caused by customer's fault


Product damage caused by customer's mishandling or wrong repair

If a product damage is caused by;

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

### Others

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

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

## 6-5 Correct Disposal of This Product (Waste Electrical & Electronic Equipment)

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(Applicable in the European Union and other European 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.