User Manual

S24C230BL
S24C230JL
S24C230JY
S27C230B
S27C230J

The color and the appearance may differ depending on the product, and the specifications are subject to change without prior notice to improve the performance.
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>BEFORE USING THE PRODUCT</strong></td>
<td></td>
</tr>
<tr>
<td>Copyright</td>
<td>6</td>
</tr>
<tr>
<td>Icons used in this manual</td>
<td></td>
</tr>
<tr>
<td>Cleaning</td>
<td>7</td>
</tr>
<tr>
<td>Cleaning</td>
<td>7</td>
</tr>
<tr>
<td>Precautions for Storage</td>
<td>7</td>
</tr>
<tr>
<td>Securing the Installation Space</td>
<td>8</td>
</tr>
<tr>
<td>Precautions for storage</td>
<td>8</td>
</tr>
<tr>
<td>Safety Precautions</td>
<td>9</td>
</tr>
<tr>
<td>Symbols</td>
<td>9</td>
</tr>
<tr>
<td>Electricity and Safety</td>
<td>10</td>
</tr>
<tr>
<td>Installation and Safety</td>
<td>11</td>
</tr>
<tr>
<td>Operation and Safety</td>
<td>13</td>
</tr>
<tr>
<td>Correct posture to use the product</td>
<td>17</td>
</tr>
<tr>
<td><strong>PREPARATIONS</strong></td>
<td></td>
</tr>
<tr>
<td>Checking the Contents</td>
<td>18</td>
</tr>
<tr>
<td>Removing the Packaging</td>
<td>18</td>
</tr>
<tr>
<td>Checking the Components</td>
<td>19</td>
</tr>
<tr>
<td>Parts</td>
<td>21</td>
</tr>
<tr>
<td>Frontal Buttons</td>
<td>21</td>
</tr>
<tr>
<td>Reverse Side</td>
<td>22</td>
</tr>
<tr>
<td>Installation</td>
<td>23</td>
</tr>
<tr>
<td>Attaching the Stand</td>
<td>23</td>
</tr>
<tr>
<td>Removing the Stand</td>
<td>25</td>
</tr>
<tr>
<td>Adjusting the Product Tilt and Height</td>
<td>26</td>
</tr>
<tr>
<td>Anti-theft Lock</td>
<td>27</td>
</tr>
<tr>
<td><strong>CONNECTING AND USING A SOURCE DEVICE</strong></td>
<td></td>
</tr>
<tr>
<td>Before Connecting</td>
<td>28</td>
</tr>
<tr>
<td>Pre-connection Checkpoints</td>
<td>28</td>
</tr>
<tr>
<td>Connecting the Power</td>
<td>28</td>
</tr>
</tbody>
</table>
Table Of Contents

29 Connecting and Using a PC
   Connecting a Computer to S24C230BL and S27C230B.
   Connecting a Computer to S24C230JL, S24C230JY and S27C230J
31 Driver Installation
32 Changing the Resolution Using a PC

USING THE OSD MENU ON S24C230BL AND S27C230B

36 SAMSUNG MAGIC Bright
   Configuring SAMSUNG MAGIC Bright
37 Brightness
   Configuring Brightness
38 Contrast
   Configuring Contrast
39 Gamma
   Configuring Gamma
40 Auto Adjustment
   Using Auto Adjustment
41 PC/AV Mode
   Configuring PC/AV Mode
42 Image Size
   Changing the Image Size
44 Language
   Configuring Language
45 Source
   Configuring Source
46 Exit
   Viewing the Product Information
   Exiting from the OSD Menu
## Table Of Contents

### USING THE OSD MENU ON S24C230JL, S24C230JY AND S27C230J
- SAMSUNG MAGIC Bright: Configuring SAMSUNG MAGIC Bright
- Brightness: Configuring Brightness
- Contrast: Configuring Contrast
- SAMSUNG MAGIC Upscale: Configuring SAMSUNG MAGIC Upscale
- Gamma: Configuring Gamma
- PC/AU Mode: Configuring PC/AU Mode
- Image Size: Changing the Image Size
- Language: Configuring Language
- Exit: Viewing the Product Information, Exiting from the OSD Menu

### TROUBLESHOOTING GUIDE
- Requirements Before Contacting Samsung Customer Service Center
- Testing the Product
- Checking the Resolution and Frequency
- Check the following.

### Q & A

### SPECIFICATIONS
- General
- PowerSaver
- Standard Signal Mode Table
## APPENDIX

67  Contact SAMSUNG WORLD WIDE

73  Responsibility for the Pay Service (Cost to Customers)

73  Not a product defect

73  A Product damage caused by customer’s fault

73  Others

74  Correct Disposal

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

75  Terminology

## INDEX
Copyright

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

© 2013 Samsung Electronics

Samsung Electronics owns the copyright for this manual.

Use or reproduction of this manual in parts or entirety without the authorization of Samsung Electronics is prohibited.

Microsoft and Windows are registered trademarks of Microsoft Corporation.

VESAA, DPM and DDC are registered trademarks of the Video Electronics Standards Association.

- 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.

Icons used in this manual

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

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 screen using 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.

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.
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 (page 67) if the inside of the monitor needs cleaning. (A service fee will be charged.)
## Safety Precautions

<table>
<thead>
<tr>
<th>Caution</th>
<th>RISK OF ELECTRIC SHOCK DO NOT OPEN</th>
</tr>
</thead>
<tbody>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

![Warning Symbol] 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.

![Caution Symbol] This symbol alerts you that important literature concerning operation and maintenance has been included with this product.

### Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>⚠️ Warning</td>
<td>A serious or fatal injury may result if instructions are not followed.</td>
</tr>
<tr>
<td>⚠️ Caution</td>
<td>Personal injury or damage to properties may result if instructions are not followed.</td>
</tr>
<tr>
<td>⚠️ Caution</td>
<td>Activities marked by this symbol are prohibited.</td>
</tr>
<tr>
<td>⚠️ Caution</td>
<td>Instructions marked by this symbol must be followed.</td>
</tr>
</tbody>
</table>
Before Using the Product

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.

Ensure you 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 REPELLENTS 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.
Before Using the Product

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.
Before Using the Product

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 particles, chemical substances or extreme temperatures, or an airport or train station where the product should operate continuously for an extended period of time) may seriously affect its performance.

- Be sure to consult Samsung Customer Service Center (page 67) before installation if you want to install the product at such a place.

Operation and Safety

⚠️ 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 (page 67) for repair.

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, remove the power cord immediately and contact Samsung Customer Service Center (page 67).

- 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 (page 67).

- 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.
If there is a thunderstorm or lightning strike, turn off the power and disconnect 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 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 pulling the power cord or any cable.
- Otherwise, the 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 (page 67).
- 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 (page 67).
- Product failure, an electric shock or fire may result.
Before Using the Product

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.

- Otherwise, your eyesight may deteriorate.

Do not put DC power adapters together.

- Otherwise, a fire may result.

Remove the plastic bag from the DC power adapter before you use it.

- Otherwise, a fire may result.

Do not let water enter the DC power device or get the device wet.

- An electric shock or fire may result.
- Avoid using the product outdoors where it can be exposed to rain or snow.
- Be careful not to get the DC power adapter wet when you wash the floor.

Do not put the DC power adapter near to any heating apparatus.

- Otherwise, a fire may result.

Keep the DC power adapter in a well-ventilated area.

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 injury may result.
Correct posture to use the product

Use the product in the correct posture as follows:

- Straighten your back.
- Allow a distance of 45 to 50cm between your eye and the screen, and look slightly downward at the screen.
  
  Keep your eyes directly in front of the screen.
- Adjust the angle so light does not reflect on the screen.
- Keep your forearms perpendicular to your upper arms and level with the back of your hands.
- Keep your elbows at about a right angle.
- Adjust the height of the product so you can keep your knees bent at 90 degrees or more, your heels attached to the floor, and your arms lower than your heart.
1.1 Checking the Contents

1.1.1 Removing the Packaging

1. Open the packaging box. Be careful not to damage the product when you open the packaging with a sharp instrument.

2. Remove the styrofoam from the product.

3. Check the components and remove the styrofoam and plastic bag.

   This image is for reference only.

4. Store the box in a dry area so that it can be used when moving the product in the future.
1.1.2 Checking the Components

- Contact the dealer from whom you purchased the product if any item is missing.
- The appearance of the components and items sold separately may differ from the image shown.

Components - S24C230BL, S27C230B

- Quick setup guide
- Warranty card (Not available in some locations)
- User manual
- Power cable
- DC power adapter
- D-SUB cable (optional)
- DVI cable (optional)
- HDMI-DVI cable (optional)
- Stand
- Stand Connector
- headphone holder (optional)
- screws (optional)

Components may vary depending on the country.
Preparations

Components - S24C230JL, S24C230JY, S27C230J

Quick setup guide
Warranty card (Not available in some locations)
User manual
Power cable
DC power adapter
DVI cable (optional)
Stand
Stand Connector
headphone holder (optional)
screws (optional)

Components may vary depending on the country.
# Preparations

## 1.2 Parts

### 1.2.1 Frontal Buttons

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

<table>
<thead>
<tr>
<th>Icons</th>
<th>Description</th>
</tr>
</thead>
</table>
| ![MENU/▼] | - Press this button to display the On Screen Display (OSD).  
- When in the menu, press this button to move down to the option below, or adjust values in the OSD.  
- 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 [MENU/▼] button for 10 seconds.  
  
  Disable: To unlock the OSD control, press and hold the [MENU/▼] button for more than 10 seconds.  
  
  Even if the OSD Adjustment Lock function is activated, users can still use that function key to adjust the brightness, contrast and also can exit the OSD. |
| ![POWER] | - When OSD is not displayed, press this button to power on/off the product.  
- When OSD is displayed, press this button to access sub OSD, or activate the OSD menu. |
| ![Power LED] | This LED is turned on when the product works normally.  
To reduce power consumption, it is best to remove the power cable when you will not be using the product for an extended period of time. |
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.

### About ports

<table>
<thead>
<tr>
<th>Port</th>
<th>About ports</th>
</tr>
</thead>
<tbody>
<tr>
<td>DC 14V</td>
<td>Connects to the DC power adapter.</td>
</tr>
<tr>
<td>DVI IN</td>
<td>Connect to a source device using an DVI cable.</td>
</tr>
<tr>
<td>RGB IN</td>
<td>Connect to a PC using the D-SUB cable.</td>
</tr>
</tbody>
</table>
1.3 Installation

1.3.1 Attaching the Stand

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

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

Check that the stand neck is firmly connected.

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

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

Put the headphone holder in the place shown by figure.

Turn the connecting screws fully so that it is completely fixed.
Preparations

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

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

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

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

- Disassembly is the reverse order of assembly.
- The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.

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

While holding the top of the monitor with one hand, grasp and detach the stand with the other hand.

Remove the headphone holder.

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

Remove the stand neck from the stand base by pulling it in the direction of the arrow as shown in the figure.
1.3.3 Adjusting the Product Tilt and Height

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

The color and shape of parts may differ from what is shown. Specifications are subject to change without notice to improve quality.
1.3.4 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.
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 the Power

- Connect the power adapter to [DC 14V] jack on the rear of the product. Connect the power cord to the adapter and wall socket. (The input voltage is switched automatically.)
2.3 Connecting and Using a PC

2.3.1 Connecting a Computer to S24C230BL and S27C230B.

- Select a connection method suitable for your PC.
- Connecting parts may differ in different products.

Connection Using the DVI Cable

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

1. Connect the DVI cable to the [DVI IN] port on the back of the product and the DVI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to “2.2 Connecting the Power”.)
3. From the OSD menu, change the input source to **DVI**.
   (Refer to “3.9 Source” for further details on how to change the input source.)

Connection Using the D-SUB Cable (Analog Type)

- 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 the D-SUB cable to the [RGB IN] port on the back of the product and the RGB port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to “2.2 Connecting the Power”.)
3. From the OSD menu, change the input source to **Analog**.
   (Refer to “3.9 Source” for further details on how to change the input source.)
2 Connecting and Using a Source Device

Connection Using the HDMI-DVI Cable

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

1. Connect the HDMI-DVI cable to the [DVI IN] port on the back of the product and the HDMI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to “2.2 Connecting the Power”.
3. From the OSD menu, change the input source to DVI. (Refer to “3.9 Source” for further details on how to change the input source.)

2.3.2 Connecting a Computer to S24C230JL, S24C230JY and S27C230J

- Select a connection method suitable for your PC.
- Connecting parts may differ in different products.

Connection Using the DVI Cable

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

1. Connect the DVI cable to the [DVI IN] port on the back of the product and the DVI port on the PC.
2. Connect the DC power adapter to the product and a power socket. Next, turn on the power switch on the PC. (For details, refer to “2.2 Connecting the Power”.)

2.3.3 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.
2.3.4 Changing the Resolution Using a PC

- Adjust the resolution and refresh rate in Control Panel on your PC to obtain optimum picture quality.
- The picture quality of TFT-LCDs may degrade if the optimum resolution is not selected.

Changing the Resolution on Windows XP

Go to Control Panel → Display → Settings and change the resolution.
Changing the Resolution on Windows Vista

Go to **Control Panel → Personalization → Display Settings** and change the resolution.
Connecting and Using a Source Device

Changing the Resolution on Windows 7

Go to Control Panel → Display → Screen Resolution and change the resolution.

1. Go to Control Panel
2. Select Display
3. Open Screen Resolution
4. Adjust resolution settings
Changing the Resolution on Windows 8

Go to Settings → Control Panel → Display → Screen Resolution and change the resolution.
3.1 SAMSUNG MAGIC Bright

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

You can customize the brightness to suit your preferences.

3.1.1 Configuring SAMSUNG MAGIC Bright

2. Press [▼] to move to Bright and press [OK] on the product.
   The following screen will appear.

   - **Custom**: Customize the contrast and brightness as required.
   - **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
   - **Game**: Obtain a picture quality suitable for playing games that involve many graphic effects and dynamic movements.
   - **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
   - **Dynamic Contrast**: Obtain balanced brightness through automatic contrast adjustment.
3. Press [▼] to move to the option you want and press [OK].
4. 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 Bright is set to Dynamic Contrast mode.

3.2.1 Configuring Brightness

   The following screen will appear.

3. Adjust the Brightness using the [▼] buttons.
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 Bright is in Cinema or Dynamic Contrast mode.

3.3.1 Configuring Contrast


The following screen will appear.

3. Adjust the Contrast using the [▼] buttons.
3.4 Gamma

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

This option is not available when *Bright* is in *Cinema* or *Dynamic Contrast* mode.

3.4.1 Configuring Gamma

2. Press [▼] to move to Gamma and press [△/○] on the product.

The following screen will appear.

3. Press [▼] to move to the option you want and press [△/○].
4. The selected option will be applied.
3.5 Auto Adjustment

You can adjust the screen settings automatically.

This function is only available in Analog mode.

3.5.1 Using Auto Adjustment

2. Press [▼] to move to Auto Adjustment and press [▼/△] on the product.

The following screen will appear.

<table>
<thead>
<tr>
<th>Auto Adjustment</th>
<th>60%</th>
</tr>
</thead>
</table>
3.6 **PC/AV Mode**

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

- This function does not support Analog mode.
- Supplied for the wide models only such as 16:9 or 16:10.

### 3.6.1 Configuring PC/AV Mode

2. Press [▼] to move to **PC/AV Mode** and press [△/▼] on the product. The following screen will appear.

3. Press [▼] to move to the option you want and press [△/▼].
4. The selected option will be applied.
3.7 **Image Size**

Change the picture size.

### 3.7.1 Changing the Image Size

1. Press \[\text{MENU/\downarrow}\] on the product.
2. Press \[\downarrow\] to move to \textbf{Image Size} and press \[\text{\text{\uparrow/\downarrow}}\] on the product. The following screen will appear.

**In PC mode**

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

**In AV mode**

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

Changing the screen size is available when the following conditions are satisfied.

- A digital output device is connected using the DVI cable.
3 Using the OSD Menu on S24C230BL and S27C230B

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

3 Press [▼] to move to the option you want and press [Ο/Ο].
4 The selected option will be applied.
3.8 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.

3.8.1 Configuring Language

2. Press [▼] to move to Language and press [.entries] on the product.
   The following screen will appear.

3. Press [▼] to move to the language you want and press [entries].
4. The selected option will be applied.
3.9 Source

Using this menu, you can change the input signal (Analog/DVI).

If the monitor is in power saving mode or is displaying the message Check Signal Cable, press [MENU/▼] to display the OSD. In this OSD press [▲/▼] and [MENU/▼] to change the input signal (Analog/DVI).

3.9.1 Configuring Source

2. Press [▼] to move to Source and press [▲/▼] on the product.
   The following screen will appear.

3. Press [▼] to move to the Source you want and press [▲/▼].
4. The selected option will be applied.
3.10 Exit

You can exit the OSD.

View the current input source, frequency and resolution.

3.10.1 Viewing the Product Information

2. Press [▼] to move to Exit.
   The following screen will appear.

 intéressant
   The displayed menu items may vary depending on the model.

3.10.2 Exiting from the OSD Menu

2. Press [▼] to move to Exit and press [●/O] on the product.
3. This will close the OSD menu.
4.1 SAMSUNG MAGIC Bright

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

You can customize the brightness to suit your preferences.

4.1.1 Configuring SAMSUNG MAGIC Bright

2. Press [▼] to move to [SAMSUNG MAGIC Bright] and press [▲/▼] on the product.
   The following screen will appear.

   - **Custom**: Customize the contrast and brightness as required.
   - **Standard**: Obtain a picture quality suitable for editing documents or using Internet.
   - **Game**: Obtain a picture quality suitable for playing games that involve many graphic effects and dynamic movements.
   - **Cinema**: Obtain the brightness and sharpness of TVs suitable for enjoying video and DVD content.
   - **Dynamic Contrast**: Obtain balanced brightness through automatic contrast adjustment.
3. Press [▼] to move to the option you want and press [▲/▼].
4. The selected option will be applied.
4.2 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 Bright is set to Dynamic Contrast mode.

4.2.1 Configuring Brightness

   The following screen will appear.

3. Adjust the Brightness using the [▼] buttons.
4.3 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 MagicBright is in Cinema or Dynamic Contrast mode.

4.3.1 Configuring Contrast

   The following screen will appear.

3. Adjust the Contrast using the [▼] buttons.
4.4 SAMSUNG MAGIC Upscale

The SAMSUNG MAGIC Upscale function can enhance the layers of the picture details and the vividness of the picture. The function has more obvious effects on low-resolution pictures.

4.4.1 Configuring SAMSUNG MAGIC Upscale

2. Press [▼] to move to SAMSUNG MAGIC Upscale and press [▼/▲] on the product.
   The following screen will appear.

   Comparing with Mode1, Mode2 has a stronger effect.
3. Press [▼] to move to the option you want and press [▼/▲].
4. The selected option will be applied.
4.5 Gamma

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

This option is not available when Bright is in Cinema or Dynamic Contrast mode.

4.5.1 Configuring Gamma

2. Press [▼] to move to Gamma and press [□/○] on the product.
   The following screen will appear.

3. Press [▼] to move to the option you want and press [□/○].
4. The selected option will be applied.
4.6 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.

4.6.1 Configuring PC/AV Mode

   The following screen will appear.

3. Press [▼] to move to the option you want and press [▼/▲].
4. The selected option will be applied.
4.7 **Image Size**

Change the picture size.

### 4.7.1 Changing the Image Size


   The following screen will appear.

   **In PC mode**

   ![Screen Shot of PC Mode](image.png)

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

   **In AV mode**

   ![Screen Shot of AV Mode](image.png)

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

   Changing the screen size is available when the following conditions are satisfied.
Using the OSD Menu on S24C230JL, S24C230JY and S27C230J

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

3. Press [▼] to move to the option you want and press [OK].

4. The selected option will be applied.
4.8 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.

4.8.1 Configuring Language

   The following screen will appear.

3. Press [▼] to move to the language you want and press [◆/ ●].
4. The selected option will be applied.
4.9 Exit

You can exit the OSD.

View the current input source, frequency and resolution.

4.9.1 Viewing the Product Information

1. Press [MENU/\] on the product.
2. Press [\] to move to Exit.
   The following screen will appear.

   ![Image of OSD menu]

   The displayed menu items may vary depending on the model.

4.9.2 Exiting from the OSD Menu

1. Press [MENU/\] on the product.
2. Press [\] to move to Exit and press [\(\)] on the product.
3. This will close the OSD menu.
5.1 Requirements Before Contacting Samsung Customer Service Center

5.1.1 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.

5.1.2 Checking the Resolution and Frequency

For a mode that exceeds the supported resolution (refer to “6.3 Standard Signal Mode Table”), the message Not Optimum Mode will appear for a short time.

5.1.3 Check the following.

<table>
<thead>
<tr>
<th>Installation issue (PC mode)</th>
<th>Screen issue</th>
</tr>
</thead>
<tbody>
<tr>
<td>The screen keeps switching on and off.</td>
<td>Check that the device connected to the product is powered on.</td>
</tr>
<tr>
<td>Check the cable connection between the product and PC, and ensure the connectors are locked. (Refer to “2.3 Connecting and Using a PC”)</td>
<td>Check that the cable is properly connected to the product. (Refer to “2.3 Connecting and Using a PC”)</td>
</tr>
<tr>
<td>Check that the power cable is connected properly. (Refer to “2.3 Connecting and Using a PC”)</td>
<td></td>
</tr>
<tr>
<td>The message Check Signal Cable appears.</td>
<td></td>
</tr>
</tbody>
</table>
### Screen issue

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Not Optimum Mode</strong> is displayed.</td>
<td>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 65).</td>
</tr>
<tr>
<td>The images on the screen look distorted.</td>
<td>Check the cable connection to the product (Refer to &quot;2.3 Connecting and Using a PC&quot;)</td>
</tr>
<tr>
<td>The screen is not clear. The screen is blurry.</td>
<td>Remove any accessories (video extension cable, etc.) and try again.</td>
</tr>
<tr>
<td>The screen appears unstable and shaky.</td>
<td>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 65) in this manual and the Exit menu on the product.</td>
</tr>
<tr>
<td>There are shadows or ghost images left on the screen.</td>
<td></td>
</tr>
<tr>
<td>The screen is too bright. The screen is too dark.</td>
<td>Adjust <strong>Brightness</strong> (page 37, page 48) and <strong>Contrast</strong> (page 38, page 49).</td>
</tr>
<tr>
<td>There is no image on the screen and the power LED blinks every 0.5 to 1 second.</td>
<td>The product is operating in power-saving mode. Press any key on the keyboard or move the mouse to return to normal operating mode.</td>
</tr>
</tbody>
</table>

### Source device issue

<table>
<thead>
<tr>
<th>Problem</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>A beeping sound is heard when my PC is booting.</td>
<td>If a beeping sound is heard when your PC is booting, have your PC serviced.</td>
</tr>
</tbody>
</table>
## 5.2 Q & A

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How can I change the frequency?</td>
<td>Set the frequency on your graphics card.</td>
</tr>
<tr>
<td></td>
<td>- Windows XP: Go to Control Panel → Appearance and Themes → Display → Settings → Advanced → Monitor, and adjust Refresh rate under Monitor settings.</td>
</tr>
<tr>
<td></td>
<td>- Windows Vista: Go to Control Panel → Appearance and Personalization → Personalization → Display Settings → Advanced Settings → Monitor, and adjust Refresh rate under Monitor settings.</td>
</tr>
<tr>
<td></td>
<td>- Windows 7: Go to Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor, and adjust Refresh rate under Monitor settings.</td>
</tr>
</tbody>
</table>
|                                  | - Windows 8: Go to Settings → Control Panel → Appearance and Personalization → Display → Screen Resolution → Advanced settings → Monitor, and adjust Refresh rate under Monitor settings. }
<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>How can I change the resolution?</td>
<td>- Windows XP: Go to <strong>Control Panel → Appearance and Themes → Display → Settings</strong>, and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows ME/2000: Go to <strong>Control Panel → Display → Settings</strong>, and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows Vista: Go to <strong>Control Panel → Appearance and Personalization → Personalize → Display Settings</strong>, and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows 7: Go to <strong>Control Panel → Appearance and Personalization → Display → Adjust Resolution</strong>, and adjust the resolution.</td>
</tr>
<tr>
<td></td>
<td>- Windows 8: Go to <strong>Settings → Control Panel → Appearance and Personalization → Display → Adjust Resolution</strong>, and adjust the resolution.</td>
</tr>
<tr>
<td>How do I set power-saving mode?</td>
<td>- Windows XP: Set power-saving mode in <strong>Control Panel → Appearance and Themes → Display → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows ME/2000: Set power-saving mode in <strong>Control Panel → Display → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows Vista: Set power-saving mode in <strong>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows 7: Set power-saving mode in <strong>Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
<tr>
<td></td>
<td>- Windows 8: Set power-saving mode in <strong>Settings → Control Panel → Appearance and Personalization → Personalize → Screen Saver Settings</strong> or BIOS SETUP on the PC.</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model Name</th>
<th>S24C230BL</th>
<th>S24C230JL</th>
<th>S24C230JY</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Size</td>
<td>23.6 inches (59 cm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Display area</td>
<td>521.28 mm x 293.22 mm</td>
<td>20.52 x 11.54 inches</td>
<td></td>
</tr>
<tr>
<td>Pixel Pitch</td>
<td>0.2715 x 0.2715 mm</td>
<td>0.010689 x 0.010689 inches</td>
<td></td>
</tr>
<tr>
<td>Maximum Pixel Clock</td>
<td>148 MHz (Analog, Digital)</td>
<td>148 MHz (Digital)</td>
<td></td>
</tr>
<tr>
<td>Signal connectors</td>
<td>15pin-to-15pin D-sub cable, Detachable</td>
<td>DVI-D to DVI-D connector, Detachable</td>
<td></td>
</tr>
<tr>
<td>Input Signal, Terminated</td>
<td>RGB Analog, DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)</td>
<td>DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)</td>
<td></td>
</tr>
<tr>
<td>Dimensions (WxHxD) / Weight</td>
<td>Without Stand 558.5 × 361.2 × 49.4 mm / 3.4 Kg 22.0 x 14.2 x 1.9 Inches / 7.5 lbs</td>
<td>With Stand 558.5 × 432.1 × 242.0 mm / 3.95 Kg 22.0 x 17.0 x 9.5 Inches / 8.7 lbs</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Model Name</th>
<th>S27C230B</th>
<th>S27C230J</th>
</tr>
</thead>
<tbody>
<tr>
<td>Panel Size</td>
<td>27 inches (68 cm)</td>
<td></td>
</tr>
<tr>
<td>Display area</td>
<td>597.6 mm (H) x 336.15 mm (V)</td>
<td>23.53 Inches (H) x 13.23 Inches (V)</td>
</tr>
<tr>
<td>Pixel Pitch</td>
<td>0.31125 mm (H) x 0.31125 mm (V)</td>
<td>0.012254 Inches (H) x 0.012254 Inches (V)</td>
</tr>
<tr>
<td>Maximum Pixel Clock</td>
<td>148 MHz (Analog, Digital)</td>
<td>148 MHz (Digital)</td>
</tr>
</tbody>
</table>
## Specifications

<table>
<thead>
<tr>
<th>Model Name</th>
<th>S27C230B</th>
<th>S27C230J</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Signal connectors</strong></td>
<td>15pin-to-15pin D-sub cable, Detachable DVI-D to DVI-D connector, Detachable</td>
<td>DVI-D to DVI-D connector, Detachable</td>
</tr>
<tr>
<td><strong>Input Signal, Terminated</strong></td>
<td>RGB Analog, DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)</td>
<td>DVI(Digital Visual Interface) Compliant Digital RGB 0.7 Vp-p ± 5% Separate H/V sync, Composite, SOG TTL level (V high ≥ 2.0V, V low ≤ 0.8V)</td>
</tr>
<tr>
<td><strong>Dimensions (WxHxD) / Weight</strong></td>
<td>Without Stand 644.8 x 414.2 x 50.7 mm / 4.05 Kg 25.4 x 16.3 x 2.0 Inches / 8.9 lbs</td>
<td>644.8 x 414.2 x 50.7 mm / 4.15 Kg 25.4 x 16.3 x 2.0 Inches / 9.1 lbs</td>
</tr>
<tr>
<td></td>
<td>With Stand 644.8 x 485.2 x 242.0 mm / 4.6 kg 25.4 x 18.0 x 9.5 Inches / 10.1 lbs</td>
<td>644.8 x 485.2 x 242.0 mm / 4.7 kg 25.4 x 18.0 x 9.5 Inches / 10.4 lbs</td>
</tr>
</tbody>
</table>


<table>
<thead>
<tr>
<th>Synchronization</th>
<th>Horizontal Frequency</th>
<th>30 ~ 81 kHz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Vertical Frequency</td>
<td>56 ~ 75 Hz</td>
</tr>
<tr>
<td><strong>Display Color</strong></td>
<td></td>
<td>16.7 M</td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>Optimum Resolution</td>
<td>1920 x 1080 @ 60 Hz</td>
</tr>
<tr>
<td></td>
<td>Maximum Resolution</td>
<td>1920 x 1080 @ 60 Hz</td>
</tr>
<tr>
<td><strong>Tilt</strong></td>
<td>-1.0°(±2.0°) ~ 20.0°(±2.0°)</td>
<td></td>
</tr>
<tr>
<td><strong>Power Supply</strong></td>
<td>This product uses 100 to 240V. Refer to the label at the back of the product as the standard voltage can vary in different countries.</td>
<td></td>
</tr>
<tr>
<td><strong>Environmental considerations</strong></td>
<td>Operating</td>
<td>Temperature : 50°F ~ 104°F (10°C ~ 40°C) Humidity : 10 % ~ 80 %, non-condensing</td>
</tr>
<tr>
<td></td>
<td>Storage</td>
<td>Temperature : -4°F ~ 113°F (-20°C ~ 45°C) Humidity : 5 % ~ 95 %, non-condensing</td>
</tr>
</tbody>
</table>
The above specifications are subject to change without notice to improve quality.

This device is a Class B digital apparatus.

<table>
<thead>
<tr>
<th>Specifications</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plug-and-Play</strong></td>
<td>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.</td>
</tr>
<tr>
<td><strong>Panel Dots (Pixels)</strong></td>
<td>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.</td>
</tr>
</tbody>
</table>

(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
6.2 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.

<table>
<thead>
<tr>
<th>PowerSaver</th>
<th>Energy Star Power Consumption</th>
<th>Power saving mode</th>
<th>Power off (Power button)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Indicator</td>
<td>On</td>
<td>Blinking</td>
<td>Off</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>S24C230BL 18 watts</td>
<td>Typical 0.3 W</td>
<td>Typical 0.3 W</td>
</tr>
<tr>
<td></td>
<td>S24C230JL 18 watts</td>
<td>Typical 0.3 W</td>
<td>Typical 0.3 W</td>
</tr>
<tr>
<td></td>
<td>S24C230JY 22 watts</td>
<td>Typical 0.3 W</td>
<td>Typical 0.3 W</td>
</tr>
<tr>
<td></td>
<td>S27C230B 22 watts</td>
<td>Typical 0.3 W</td>
<td>Typical 0.3 W</td>
</tr>
<tr>
<td></td>
<td>S27C230J 22 watts</td>
<td>Typical 0.3 W</td>
<td>Typical 0.3 W</td>
</tr>
</tbody>
</table>

- The power consumption level can vary in different operating conditions or when settings are changed. (S**C230 Model Power saving mode / Power off (Power button) : Max 0.45 watts.)
- 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 watts, turn off the power switch on the back of the product or disconnect the power cable. 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.
6.3 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.

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.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Horizontal Frequency (kHz)</th>
<th>Vertical Frequency (Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBM, 720 x 400</td>
<td>31.469</td>
<td>70.087</td>
<td>28.322</td>
<td>+/-</td>
</tr>
<tr>
<td>MAC, 640 x 480</td>
<td>35.000</td>
<td>66.667</td>
<td>30.240</td>
<td>+/-</td>
</tr>
<tr>
<td>MAC, 832 x 624</td>
<td>49.726</td>
<td>74.551</td>
<td>57.284</td>
<td>+/-</td>
</tr>
<tr>
<td>MAC, 1152 x 870</td>
<td>68.681</td>
<td>75.062</td>
<td>100.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>31.469</td>
<td>59.940</td>
<td>25.175</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.861</td>
<td>72.809</td>
<td>31.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 640 x 480</td>
<td>37.500</td>
<td>75.000</td>
<td>31.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>35.156</td>
<td>56.250</td>
<td>36.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>37.879</td>
<td>60.317</td>
<td>40.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>48.077</td>
<td>72.188</td>
<td>50.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 800 x 600</td>
<td>46.875</td>
<td>75.000</td>
<td>49.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>48.363</td>
<td>60.004</td>
<td>65.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>56.476</td>
<td>70.069</td>
<td>75.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1024 x 768</td>
<td>60.023</td>
<td>75.029</td>
<td>78.750</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1152 x 864</td>
<td>67.500</td>
<td>75.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 720</td>
<td>45.000</td>
<td>60.000</td>
<td>74.250</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 800</td>
<td>49.702</td>
<td>59.810</td>
<td>83.500</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>63.981</td>
<td>60.020</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1280 x 1024</td>
<td>79.976</td>
<td>75.025</td>
<td>135.000</td>
<td>+/-</td>
</tr>
</tbody>
</table>
### Specifications

**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.

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Horizontal Frequency (kHz)</th>
<th>Vertical Frequency (Hz)</th>
<th>Pixel Clock (MHz)</th>
<th>Sync Polarity (H/V)</th>
</tr>
</thead>
<tbody>
<tr>
<td>VESA, 1440 x 900</td>
<td>55.935</td>
<td>59.887</td>
<td>106.500</td>
<td>-/+</td>
</tr>
<tr>
<td>VESA, 1600 x 900RB</td>
<td>60.000</td>
<td>60.000</td>
<td>108.000</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1680 x 1050</td>
<td>65.290</td>
<td>59.954</td>
<td>146.250</td>
<td>+/-</td>
</tr>
<tr>
<td>VESA, 1920 x 1080</td>
<td>67.500</td>
<td>60.000</td>
<td>148.500</td>
<td>+/-</td>
</tr>
</tbody>
</table>
Contact SAMSUNG WORLD WIDE

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

### NORTH AMERICA

<table>
<thead>
<tr>
<th>Country</th>
<th>Contact Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>CANADA</td>
<td>1-800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com/ca">http://www.samsung.com/ca</a> (English) <a href="http://www.samsung.com/ca_fr">http://www.samsung.com/ca_fr</a> (French)</td>
</tr>
<tr>
<td>MEXICO</td>
<td>01-800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>

### LATIN AMERICA

<table>
<thead>
<tr>
<th>Country</th>
<th>Contact Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARGENTINE</td>
<td>0800-333-3733</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>BOLIVIA</td>
<td>800-10-7260</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>BRAZIL</td>
<td>0800-124-421 4004-0000</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>CHILE</td>
<td>800-SAMSUNG (726-7864) From mobile 02-24 82 82 00</td>
<td><a href="http://www.samsung.com/cl">http://www.samsung.com/cl</a></td>
</tr>
<tr>
<td>COLOMBIA</td>
<td>01-8000 112 112 Bogotá: 6001272</td>
<td><a href="http://www.samsung.com/co">http://www.samsung.com/co</a></td>
</tr>
<tr>
<td>COSTA RICA</td>
<td>0-800-507-7267</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish) <a href="http://www.samsung.com/latin_en">http://www.samsung.com/latin_en</a> (English)</td>
</tr>
<tr>
<td>DOMINICA</td>
<td>1-800-751-2676</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish) <a href="http://www.samsung.com/latin_en">http://www.samsung.com/latin_en</a> (English)</td>
</tr>
<tr>
<td>ECUADOR</td>
<td>1-800-10-7267</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish) <a href="http://www.samsung.com/latin_en">http://www.samsung.com/latin_en</a> (English)</td>
</tr>
<tr>
<td>EL SALVADOR</td>
<td>800-6225</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish) <a href="http://www.samsung.com/latin_en">http://www.samsung.com/latin_en</a> (English)</td>
</tr>
<tr>
<td>LATIN AMERICA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------------------------</td>
<td>---------------------</td>
</tr>
<tr>
<td>GUATEMALA</td>
<td>1-800-299-0013</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish)</td>
</tr>
<tr>
<td>HONDURAS</td>
<td>800-27919267</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish)</td>
</tr>
<tr>
<td>JAMAICA</td>
<td>1-800-234-7267</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>NICARAGUA</td>
<td>00-1800-5077267</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish)</td>
</tr>
<tr>
<td>PANAMA</td>
<td>800-7267</td>
<td><a href="http://www.samsung.com/latin">http://www.samsung.com/latin</a> (Spanish)</td>
</tr>
<tr>
<td>PARAGUAY</td>
<td>98005420001</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>PERU</td>
<td>0-800-777-08 (Only from landline) 336-8686 (From HHP &amp; landline)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>PUERTO RICO</td>
<td>1-800-682-3180</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>TRINIDAD &amp; TOBAGO</td>
<td>1-800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>URUGUAY</td>
<td>40543733</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>VENEZUELA</td>
<td>0-800-100-5303</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>EUROPE</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRIA</td>
<td>0810 - SAMSUNG (7267864, € 0.07/min)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
<td></td>
</tr>
<tr>
<td>BELGIUM</td>
<td>02-201-24-18</td>
<td><a href="http://www.samsung.com/be">http://www.samsung.com/be</a> (Dutch)</td>
<td><a href="http://www.samsung.com/be_fr">http://www.samsung.com/be_fr</a> (French)</td>
</tr>
<tr>
<td>BOSNIA</td>
<td>051 133 1999</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
<td></td>
</tr>
<tr>
<td>BULGARIA</td>
<td>07001 33 11 , normal tariff</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
<td></td>
</tr>
<tr>
<td>CROATIA</td>
<td>062 SAMSUNG (062 726 786)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
<td></td>
</tr>
</tbody>
</table>
### EUROPE

<table>
<thead>
<tr>
<th>Country</th>
<th>Contact Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>CYPRUS</td>
<td>8009 4000 only from landline (+30) 210 6897691 from mobile and land line</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>CZECH</td>
<td>800 - SAMSUNG (800-726786)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td></td>
<td>Samsung Electronics Czech and Slovak, s.r.o., Oasis Florenc, Sokolovská 394/17, 180 00, Praha 8 till 8.2.2013 . From 8.2.2013: Samsung Electronics Czech and Slovak, s.r.o. V Parku 2343/24, 148 00 - Praha 4</td>
<td></td>
</tr>
<tr>
<td>DENMARK</td>
<td>70 70 19 70</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>EIRE</td>
<td>0818 717100</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>ESTONIA</td>
<td>800-7267</td>
<td><a href="http://www.samsung.com/ee">http://www.samsung.com/ee</a></td>
</tr>
<tr>
<td>FINLAND</td>
<td>030-6227 515</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>FRANCE</td>
<td>01 48 63 00 00</td>
<td><a href="http://www.samsung.com/fr">http://www.samsung.com/fr</a></td>
</tr>
<tr>
<td>GERMANY</td>
<td>0180 5 SAMSUNG bzw. 0180 5 7267864* (*0,14 €/Min. aus dem dt. Festnetz, aus dem Mobilfunk max. 0,42 €/Min.)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>GREECE</td>
<td>80111-SAMSUNG (80111 726 7864) only from land line (+30) 210 6897691 from mobile and land line</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>HUNGARY</td>
<td>06-80-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>ITALIA</td>
<td>800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>LATVIA</td>
<td>8000-7267</td>
<td><a href="http://www.samsung.com/lv">http://www.samsung.com/lv</a></td>
</tr>
<tr>
<td>LITHUANIA</td>
<td>8-800-77777</td>
<td><a href="http://www.samsung.com/lt">http://www.samsung.com/lt</a></td>
</tr>
<tr>
<td>LUXEMBURG</td>
<td>261 03 710</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>MONTENEGRO</td>
<td>020 405 888</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>NETHERLANDS</td>
<td>0900 - SAMSUNG (0900-7267864) (€ 0,10/Min)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>NORWAY</td>
<td>815 56480</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>POLAND</td>
<td>0 801-1SAMSUNG(172-678) * lub +48 22 607-93-33 **  * (całkowity koszt połączenia jak za 1 impuls według taryfy operatora) ** (koszt połączenia według taryfy operatora)</td>
<td><a href="http://www.samsung.com/pl">http://www.samsung.com/pl</a></td>
</tr>
</tbody>
</table>
## Appendix

### EUROPE

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Number</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>PORTUGAL</td>
<td>808 20 - SAMSUNG (808 20 7267)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SERBIA</td>
<td>+381 11 321 6899 (old number still active 0700 7267864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SERBIA</td>
<td>0800 - SAMSUNG (0800-726 786)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SPAIN</td>
<td>902 - 1 - SAMSUNG (902 172 678)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SWEDEN</td>
<td>0771 726 7864 (SAMSUNG)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SWITZERLAND</td>
<td>0848-SAMSUNG (7267864, CHF 0.08/min)</td>
<td><a href="http://www.samsung.com/ch">http://www.samsung.com/ch</a> (German) <a href="http://www.samsung.com/ch_fr">http://www.samsung.com/ch_fr</a> (French)</td>
</tr>
<tr>
<td>U.K</td>
<td>0330 SAMSUNG (7267864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>

### CIS

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Number</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARMENIA</td>
<td>0-800-05-555</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>AZERBAIJAN</td>
<td>088-55-55-555</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>BELARUS</td>
<td>810-800-500-55-500</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>GEORGIA</td>
<td>0-800-555-555</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>KAZAKHSTAN</td>
<td>8-10-800-500-55-500 (GSM: 7799)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>KYRGYZSTAN</td>
<td>00-800-500-55-500</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>MOLDOVA</td>
<td>0-800-614-40</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>MONGOLIA</td>
<td>+7-800-555-55-55</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>RUSSIA</td>
<td>8-800-555-55-55</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>TADJIKISTAN</td>
<td>8-10-800-500-55-500</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>UKRAINE</td>
<td>0-800-502-000</td>
<td><a href="http://www.samsung.com/ua">http://www.samsung.com/ua</a> (Ukrainian) <a href="http://www.samsung.com/ua_ru">http://www.samsung.com/ua_ru</a> (Russian)</td>
</tr>
<tr>
<td>UZBEKISTAN</td>
<td>8-10-800-500-55-500</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>
### ASIA PACIFIC

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Numbers</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>AUSTRALIA</td>
<td>1300 362 603</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>CHINA</td>
<td>400-810-5858</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>HONG KONG</td>
<td>(852) 3698 - 4698</td>
<td><a href="http://www.samsung.com/hk">http://www.samsung.com/hk</a>  (Chinese) <a href="http://www.samsung.com/hk_en">http://www.samsung.com/hk_en</a>  (English)</td>
</tr>
<tr>
<td>INDIA</td>
<td>1800 3000 8282, 1800 266 8282</td>
<td><a href="http://www.samsung.com/in">http://www.samsung.com/in</a></td>
</tr>
<tr>
<td>INDONESIA</td>
<td>0800-112-8888, 021-5699-7777</td>
<td><a href="http://www.samsung.com/id">http://www.samsung.com/id</a></td>
</tr>
<tr>
<td>JAPAN</td>
<td>0120-327-527</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>MALAYSIA</td>
<td>1800-88-9999</td>
<td><a href="http://www.samsung.com/my">http://www.samsung.com/my</a></td>
</tr>
<tr>
<td>NEW ZEALAND</td>
<td>0800 SAMSUNG (0800 726 786)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>PHILIPPINES</td>
<td>1-800-10-SAMSUNG (726-7864) for PLDT, 1-800-3-SAMSUNG (726-7864) for Digitel, 1-800-8-SAMSUNG (726-7864) for Globe 02-5805777</td>
<td><a href="http://www.samsung.com/ph">http://www.samsung.com/ph</a></td>
</tr>
<tr>
<td>SINGAPORE</td>
<td>1800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>TAIWAN</td>
<td>0800-329-999, 0266-026-066</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>THAILAND</td>
<td>1800-29-3232, 02-689-3232</td>
<td><a href="http://www.samsung.com/th">http://www.samsung.com/th</a></td>
</tr>
<tr>
<td>VIETNAM</td>
<td>1 800 588 889</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>

### MENA

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Numbers</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAHRAIN</td>
<td>8000-4726</td>
<td><a href="http://www.samsung.com/ae">http://www.samsung.com/ae</a> (English) <a href="http://www.samsung.com/ae_ar">http://www.samsung.com/ae_ar</a> (Arabic)</td>
</tr>
<tr>
<td>EGYPT</td>
<td>080000-726786</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>IRAN</td>
<td>021-8255</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>JORDAN</td>
<td>800-22273, 065777444</td>
<td><a href="http://www.samsung.com/Levant">http://www.samsung.com/Levant</a> (English)</td>
</tr>
</tbody>
</table>
### MENA

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>KUWAIT</td>
<td>183-2255 (183-CALL)</td>
<td><a href="http://www.samsung.com/ae">http://www.samsung.com/ae</a> (English) <a href="http://www.samsung.com/ae_ar">http://www.samsung.com/ae_ar</a> (Arabic)</td>
</tr>
<tr>
<td>MOROCCO</td>
<td>080 100 2255</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>OMAN</td>
<td>800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com/ae">http://www.samsung.com/ae</a> (English) <a href="http://www.samsung.com/ae_ar">http://www.samsung.com/ae_ar</a> (Arabic)</td>
</tr>
<tr>
<td>QATAR</td>
<td>800-2255 (800-CALL)</td>
<td><a href="http://www.samsung.com/ae">http://www.samsung.com/ae</a> (English) <a href="http://www.samsung.com/ae_ar">http://www.samsung.com/ae_ar</a> (Arabic)</td>
</tr>
<tr>
<td>SAUDI ARABIA</td>
<td>9200-21230</td>
<td><a href="http://www.samsung.com/sa">http://www.samsung.com/sa</a> (Arabic)</td>
</tr>
<tr>
<td>SYRIA</td>
<td>18252273</td>
<td><a href="http://www.samsung.com/Levant">http://www.samsung.com/Levant</a> (English)</td>
</tr>
<tr>
<td>TURKEY</td>
<td>444 77 11</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>U.A.E</td>
<td>800-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>

### AFRICA

<table>
<thead>
<tr>
<th>Country</th>
<th>Phone Number</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANGOLA</td>
<td>91-726-7864</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>BOTSWANA</td>
<td>0800-726-000</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>CAMEROON</td>
<td>7095- 0077</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>COTE D’IVOIRE</td>
<td>8000 0077</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>GHANA</td>
<td>0800-10077</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td></td>
<td>0302-200077</td>
<td></td>
</tr>
<tr>
<td>KENYA</td>
<td>0800 545 545</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>NAMIBIA</td>
<td>8197267864</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>NIGERIA</td>
<td>0800-726-7864</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SENEGAL</td>
<td>800-00-0077</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>SOUTH AFRICA</td>
<td>0860-SAMSUNG (726-7864)</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>TANZANIA</td>
<td>0685 88 99 00</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>UGANDA</td>
<td>0800 300 300</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
<tr>
<td>ZAMBIA</td>
<td>211350370</td>
<td><a href="http://www.samsung.com">http://www.samsung.com</a></td>
</tr>
</tbody>
</table>
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.

**Others**

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

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

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

(Applicable in countries with separate collection systems)

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

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

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

OSD (On Screen Display)

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

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).

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.
Index

A
Auto Adjustment 40

B
Before Connecting 28
Brightness 37, 48

C
Checking the Contents 18
Cleaning 7
Connecting and Using a PC 29
Contact SAMSUNG WORLD WIDE 67
Contrast 38, 49
Copyright 6
Correct Disposal 74
Correct posture to use the product 17

E
Exit 46, 56

G
Gamma 39, 51
General 61

I
Image Size 42, 53
Installation 23

L
Language 44, 55

P
Parts 21
PC/AV Mode 41, 52
PowerSaver 64

Q
Q & A 59

R
Requirements Before Contacting Samsung Customer Service Center 57
Responsibility for the Pay Service (Cost to Customers) 73

S
Safety Precautions 9
SAMSUNG MAGIC Bright 36, 47
SAMSUNG MAGIC Upscale 50
Source 45
Standard Signal Mode Table 65
Terminology 75