# SAMSUNG

# SyncMaster XL30

SyncMaster

LED

Adobe Reader

Manual

Regulatory

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

Notational | Power | Installation | Clean | Others |

## Notational

Please read the following safety instructions as they are designed to prevent damage to property and harm to the user.

### Warning / Caution

Failure to follow directions noted by this symbol could result in bodily harm or damage to the equipment.

### Notational Conventions

| | Prohibited | | Important to read and understand at all times |
| | Do not disassemble | | Disconnect the plug from the outlet |
| | Do not touch | | Ground to prevent an electric shock |

Notational | Power | Installation | Clean | Others |

## Power

When not used for an extended period of time, set your computer to DPM.
If using a screen saver, set it to active screen mode.

The images here are for reference only, and are not applicable in all cases (or countries).
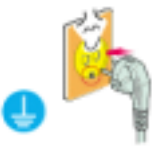
**Do not use a damaged or loose plug.**

- This may cause electric shock or fire.

**Do not pull the plug out by the wire nor touch the plug with wet hands.**

- This may cause electric shock or fire.

**Use only a properly grounded plug and receptacle.**

- An improper ground may cause electric shock or equipment damage. (Class I Equipment only.)

**Insert the power plug firmly so that it does not come loose.**

- A bad connection may cause fire.

**Do not excessively bend the plug and wire nor place heavy objects upon them, which could cause damage.**

- This may cause electric shock or fire.

**Do not connect too many extension cords or plugs to one outlet.**

- This may cause fire.

**Do not disconnect the power cord while using the monitor.**

- A surge may be caused by the separation and may damage the monitor.

**Do not use the power cord when the connector or plug is dusty.**

- If the connector or plug of the power cord is dusty, clean it with a dry cloth.
- Using the power cord with a dusty plug or connector may cause an electric shock or fire.

**To disconnect the apparatus from the mains, the plug must be pulled out from the mains socket, therefore the mains plug shall be readily operable.**

- This may cause electric shock or fire.

## Installation

Be sure to contact an authorized Service Center, when installing your monitor in a location with heavy dust, high or low temperatures, high humidity, and exposed to chemical substances and where it operates for 24 hours such as at airports, train stations etc.

Failure to do so may cause serious damage to your monitor.

**Place your monitor in a location with low humidity and a minimum of dust.**

- Failure to do so may cause electric shock or fire inside the monitor.

**Do not drop the monitor when moving it.**

- This may cause damage to the product or the person carrying it.

**Install the monitor base in a showcase or shelf so that the end of the base does not protrude from the showcase or shelf.**

- Dropping the product may cause a malfunction or injury to the person carrying it.

**Do not place the product on an unstable or small surface area.**

- Place the product on an even and stable surface, as the product may fall and cause harm to someone walking by, specifically children.

**Do not place the product on the floor.**

- Take care, as someone, specifically children may trip over it.

**TO PREVENT THE SPREAD OF FIRE, KEEP CANDLES OR OTHER OPEN FLAMES AWAY FROM THIS PRODUCT AT ALL TIMES.**

- Otherwise, this may cause fire.

**Keep any heating devices away from the power cable.**

- A melted coating may cause electric shock or fire.

**Do not install the product in places with poor ventilation, for instance, a bookshelf, closet, etc.**

- Any increase in the internal temperature may cause fire.

**Put down the monitor carefully.**

- Failing to do so may damage the monitor.

**Do not place the monitor face down.**

- This may damage the TFT-LCD surface.

**The installation of the bracket must be done by a qualified professional.**

- Installing the bracket by unqualified personnel may result in injury.
- Always use the mounting device specified in the owner's manual.

**When installing the product, make sure to keep it away from the wall (more than 10 cm/4 inches ) for ventilation purposes.**

- Poor ventilation may cause an increase in the internal temperature of the product, resulting in a shortened component life and degraded performance.

**Keep the plastic packaging (bag) out of children's reach.**

- The plastic packaging (bag) may cause suffocation if children play with it.

Notational | Power | Installation | Clean | Others |

○ **Clean**

When cleaning the monitor case or the surface of the TFT-LCD screen, wipe with

a slightly moistened, soft fabric.

**Do not spray water or detergent directly onto the monitor.**

- This may cause damage, electric shock or fire.

**Use the recommended detergent with a smooth cloth.**

**If the connector between the plug and the pin is dusty or dirty, clean it properly using a dry cloth.**

- A dirty connector may cause electric shock or fire.

**Make sure to unplug the power cord before cleaning the product.**

- Otherwise, this may cause electric shock or fire.

**Unplug the power cord from the power outlet and wipe the product using a soft, dry cloth.**

- Do not use any chemicals such as wax, benzene, alcohol, thinners, insecticide, air freshener, lubricant or detergent.

| Notational | Power | Installation | Clean | Others |

● **Others**

**Do not remove the cover (or back).**

- This may cause electric shock or fire.
- Refer to a qualified servicing company.

**If your monitor does not operate normally - in particular, if there is any unusual sound or smell coming from the monitor - unplug it immediately and contact an authorized dealer or the Service Center.**

- This may cause electric shock or fire.

**Keep the product away from places exposed to oil, smoke or moisture;**

**do not install inside a vehicle.**

- This may cause a malfunction, electric shock or fire.
- In particular, avoid operating the monitor near water or outdoors where the monitor could be exposed to snow or rain.

**If the monitor is dropped or the casing is damaged, turn the monitor off and unplug the power cord. Then contact a Service Center .**

- The monitor may malfunction, causing electric shock or fire.

**Disconnect the plug from the outlet during storms or lightning or if it is not used for a long period of time.**

- Failure to do so may cause electric shock or fire.

**Do not try to move the monitor by pulling only the wire or the signal cable.**

- This may cause a breakdown, electric shock or fire due to damage to the cable.

**Do not move the monitor right or left by pulling only the wire or the signal cable.**

- This may cause a breakdown, electric shock or fire due to damage to the cable.

**Do not cover the vents on the monitor cabinet.**

- Bad ventilation may cause a breakdown or fire.

**Do not place water containers, chemical products or small metal objects on the monitor.**

- This may cause a malfunction, electric shock or fire.
- If a foreign substance enters the monitor, unplug the power cord and contact the Service Center.

**Keep the product away from combustible chemical sprays or inflammable substances.**

- This may cause an explosion or fire.

**Never insert anything metallic into the monitor openings.**

- This may cause electric shock, fire or injury.

**Do not insert metal objects such as chopsticks, wire and tools or inflammable objects such as paper or matches into the vent, headphone port or AV ports or etc.**

- This may cause electric shock or fire. If an alien substances or water enters the product, turn the product off, unplug the power connector from the wall outlet and contact the Service Center.

**When viewing a fixed screen for an extended period of time, residual image or blurriness may appear.**

- Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

**Adjust the resolution and frequency to the levels appropriate for the model.**

- An inappropriate resolution may cause undesirable picture quality.

  30 inch (75 cm) - 2560 x 1600

**Viewing the monitor continuously at a too close angle may result in damage to your eyesight.**

**To ease eye strain, take at least a five-minute break after every hour of using the monitor.**

**Do not install the product on an unstable, uneven surface or a location prone to vibrations.**

- Dropping the product may cause damage to the product or the person carrying it. Using the product in a location prone to vibrations may shorten the lifetime of the product or may cause the product to catch fire.

**When moving the monitor, turn off and unplug the power cord. Make sure that all cables, including the antenna cable and cables connected to other devices, are disconnected before moving the monitor.**

- Failure to disconnect cables may damage it and cause fire or electric shock.

**Place the product out of children's reach, as they could damage by hanging onto it.**

- A falling product may cause injury to the person or even fatality.

**When not using the product for an extended period of time, keep the product unplugged.**

- Otherwise, this may cause heat emission from the accumulated dirt or degraded insulation, causing electric shock or fire.

**Do not place your children's favorite toys or any other objects of interest on the product.**

- Children may try to climb on the product to retrieve an object. The product could fall, causing injury or even fatality.

**When lifting up or moving the monitor, do not lift the monitor upside down while holding only the stand.**

- This may cause your monitor to fall, and become damaged or cause personal injury.

## Good Postures When Using the Monitor

Try to maintain a good posture when using the monitor.

- Keep your back straight.

- Keep a distance of about 45 ~ 50 cm between your eyes and the monitor screen. Look at the screen from slightly above it, and have the monitor directly in front of you.

- Tilt the monitor upwards by 10 ~20 degrees. Adjust the monitor height so that the top of the monitor is slightly below eye level.

- Adjust the monitor angle so that there is no reflected light on the screen.Try to maintain your arms perpendicular to your armpits.

- Keep your arms level with the back of your hands.

- Keep the angle of the elbow perpendicular.

- Keep the angle of the knees at more than 90 degree. Do not let your feet fall up from the floor. Adjust the arm position so that it is below the heart.

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■ Safety Instructions    ● Introduction    ■ Setup    ■ Troubleshooting    ■ Specifications    ■ Information

↑ TOP
↵ MAIN
↑ ∞

Unpacking    |    Front    |    Rear    |

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**Please make sure the following items are included with your monitor.**
**If any items are missing, contact your dealer.**
**Contact a local dealer to buy optional items.**

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## Unpacking
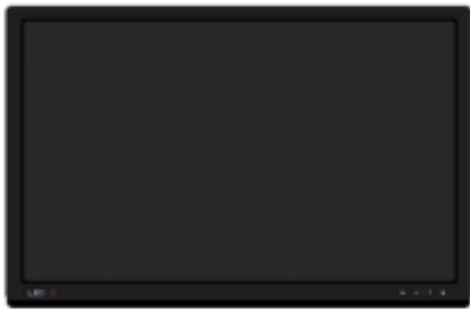
**Without Stand**

**With Stand**
**(Monitor & Sliding Stand)**

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**Manual**

**Quick Setup Guide**

**Warranty Card**
(Not available in all locations)

**User's Guide,**
**Monitor Driver**

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**Cable**

**DVI-D (Dual link) Cable**          **Power Cord**

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🔵 **Sold separately**

**USB Cable
(A-B Type cable)**

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🔵 **Others**

**Calibrater**

For more information on the use of the
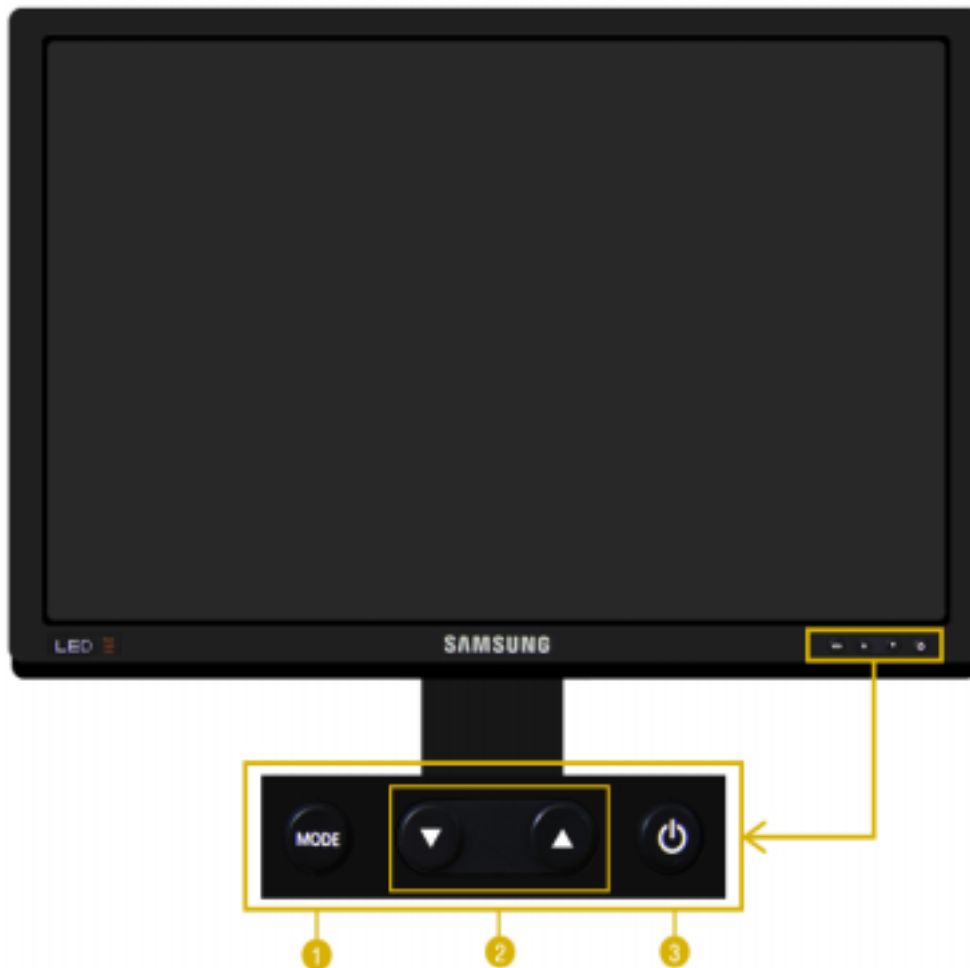calibrater, see Natural Color Expert Help.

**Hood**

🔵 **Front**

| ① | **MODE button (= Color Mode)** | Press this button to select a Color Mode. Continuing to press the button, will repeatedly display the setting modes. With the control buttons at the front of the monitor, you can easily implement different color information matching your environment. |

**1) Custom** - Although the values are carefully chosen by our engineers, the pre-configured values may not be comfortable to your eyes depending on your taste. If this is the case, adjust the brightness and contrast by using the OSD menu.

**2) sRGB** - Displays the sRGB color information on the screen.

**3) AdobeRGB** - Displays the Adobe RGB color information on the screen.

**4) Emulation** - With Natural Color Expert, you can change the system profile or a previously created color information and display it on the screen.
Caution: The Emulation information presented when pressing the Emulation button at the front of your monitor is saved as the Emulation information of the Color Mode for your product. Once saved, your monitor will be presented with this saved information whenever Emulation is selected.

**5) Calibration** - The Calibration functionality analyzes the color characteristics of your monitor and allows you to save its color information as an icc profile. This will tell your monitor what color space it should use and how it should accept and present colors. Displays your custom color information obtained by using Natural Color Expert and the Calibrator.
Caution: The Calibration information is presented when pressing the Calibration button at the front of your monitor. Note that only one piece of Calibration information, i.e. the one saved last, is kept on your monitor.

The Contrast and Brightness functions only operate in Custom mode.

| | | |
|---|---|---|
| ② | **Adjust buttons [ ▼/▲]** | Push the button to adjust brightness.<br>▼ : The screen is getting dark.<br>▲ : The screen is getting bright. |
| ③ | **Power button [⏻] /**<br>**Power indicator** | Use this button for turning the monitor on and off. /<br>This light glows blue during normal operation, and blinks blue once<br>as the monitor saves your adjustments. |

See PowerSaver described in the manual for further information regarding power saving functions. For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

## Rear

**(The configuration at the back of the monitor may vary from product to product.)**



🟡 **DVI-D**

Only digital signals can be input to this terminal. Therefore, only connect the DVI terminal of your PC to this terminal.

### ② Stand Stopper

Remove the fixing pin on the stand to lift the monitor up and down.

### ③ POWER

**1. POWER S/W**

: Switches the monitor On/Off.

**2. POWER**

: Connect the power cord for your monitor to the **POWER** on the back of the monitor.
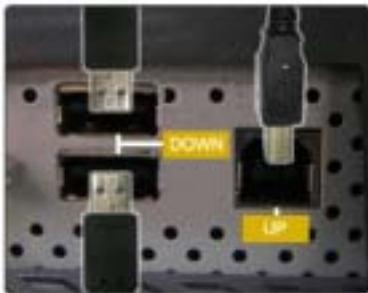
### ④ Kensington Lock

The Kensington lock is a device used to physically fix the system when using dit in a public place.
(The locking device has to be purchased separately.)

For using a locking device, contact where you purchased it.

### ⑤ 🔌 USB connection terminal

**UP (USB upstream port):** Connect the 🔌 **UP** port of the monitor and the USB port of the computer with the USB cable.

**DOWN (USB downstream port):** Connect the 🔌**DOWN** port of the USB monitor and a USB device with the USB cable.

- **To use 🔌 DOWN (Downstream Port), you have to connect the 🔌 UP (Upstream Cable ) to the PC.**
- **Make sure to use the USB cable supplied with this monitor to connect the monitor's 🔌 UP port and your computer's USB port.**

See Connecting the Monitor for further information regarding cable connections.

**Model** SyncMaster XL30

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↑ TOP
↵ MAIN
↑ ◎

■ Safety Instructions    ■ Introduction    ■ Setup    ■ Troubleshooting    ■ Specifications    ■ Information

Connecting the Monitor    Changing the Stand and Installing the Hoods

## Connecting the Monitor

### Connecting the Monitor

● Rear of Monitor    ● Rear of Computer    ● Macintosh

2-1    2-2
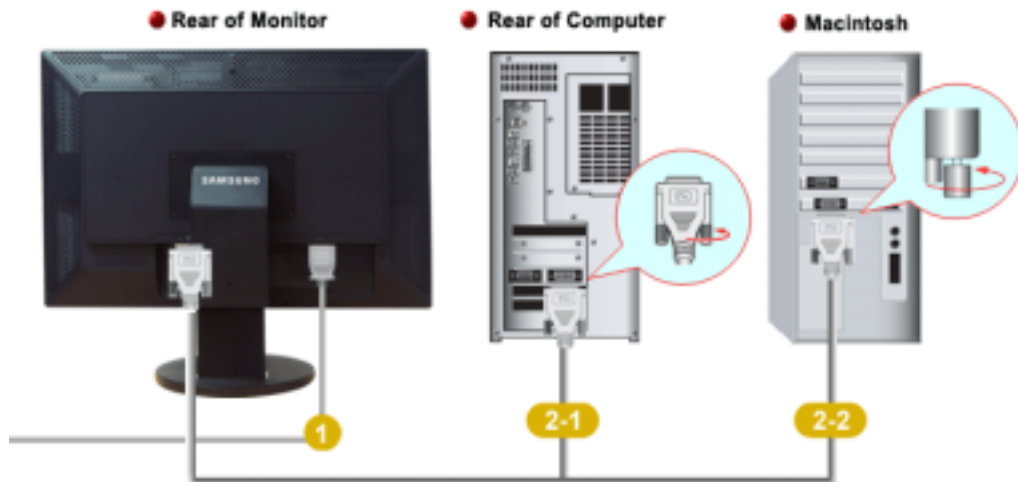
1. Connect the power cord for your monitor to the power port on the back of the monitor. Plug the power cord for the monitor into a nearby outlet.

2. Use a connection appropriate for your computer.

   **2-1** Using the DVI (Digital) connector on the video card.
   Connect the DVI Cable to the DVI-D Port on the back of your Monitor.

   **[ DVI-D ]**

   **2-2** Connected to a Macintosh.
   Connect the monitor to the Macintosh computer using the DVI connection cable.

   Turn on your computer and monitor. If your monitor displays an image, installation is completed.

### Connecting USB

You can use a USB device such as a mouse, keyboard, Memory Stick, or external hard

disk drive by connecting them to the 🔌 **DOWN** port of the monitor without connecting them to the PC.

**The USB port of the monitor supports High-Speed Certified USB 2.0.**

|  | High speed | Full speed | Low speed |
|---|---|---|---|
| Data Rate | 480 Mbps | 12 Mbps | 1.5 Mbps |
| Power Consumption | 2.5W (Max., each port) | 2.5W (Max., each port) | 2.5W (Max., each port) |
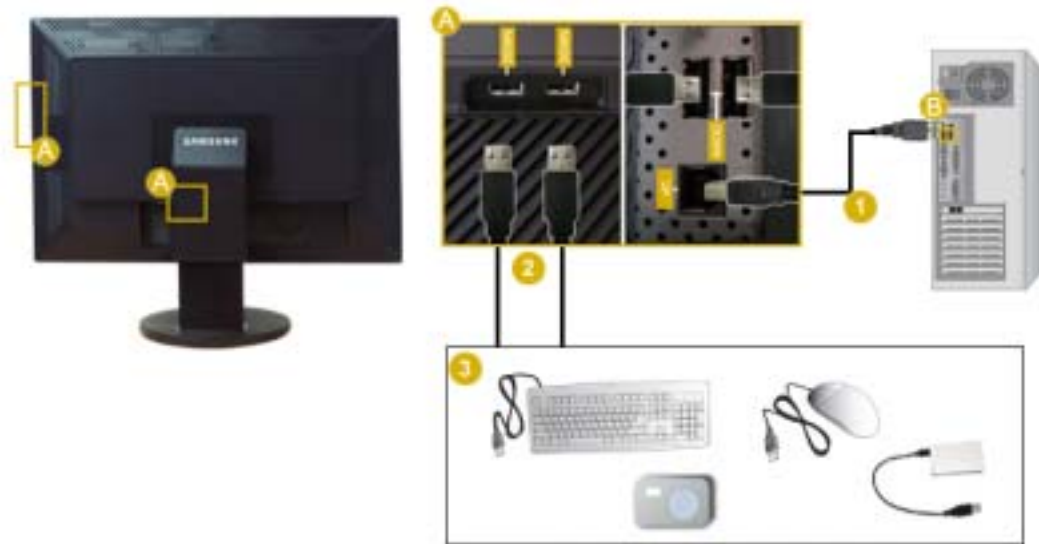
① Connect the 🔌 **UP** port of the monitor and the USB port of the computer with the USB cable.

To use 🔌 **DOWN** port, you have to connect the UP (Upstream Cable) to the PC.

**Make sure to use the USB cable supplied with this monitor to connect the monitor's 🔌 UP port and your computer's USB port.**

② Connect the 🔌 **DOWN** port of the USB monitor and a USB device with the USB cable.

③ The use procedures are as the same as those for using an external device connecting to the PC.

- You can connect and use a keyboard and mouse.
- You can play a file from a media device.
  (Examples of media devices: MP3, digital camera, etc.)
- You can run, move, copy or delete the files on the storage device.
  (Examples of storage devices: external memory, memory card, memory reader, HDD-type

MP3 player, etc.)
- You can use other USB devices that can be connected to a computer.

- **When connecting a device to the ⊷ DOWN port of the monitor, connect the device using a cable appropriate to the device.**
  **(For the purchase of the cable and external devices, ask the service center of the corresponding product.)**
- **The company is not liable for problems or damages to an external device caused by using an unauthorized cable for the connection.**
- **Some products do not follow the USB standard, and it may cause a malfunction of the device.**
- **If the device malfunctions even if it is connected to the computer, contact the service center of the device/computer.**

## Changing the Stand and Installing the Hoods

### Sliding



🅐 Stand Stopper

### Swivel

Using ( B ),You can swivel the monitor left and right at an angle of 330 ° to set the monitor lengthwise. The rubber under the stand is to avoid the monitor slide.

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🔵 **Tilt angle**



Using ( C ), You can adjust the tilt angle forward and backward for the most comfortable viewing angle.

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🔵 **Removing the base**

1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Remove four screws ( D ) and then remove the Stand from the LCD monitor.

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🔵 **Attaching a Base**

This monitor accepts a 200 mm x 100 mm VESA-compliant mounting interface pad.



🅐 Monitor

🅑 Mounting interface pad (Sold separately)

1. Turn off your monitor and unplug its power cord.
2. Lay the LCD monitor face-down on a flat surface with a cushion beneath it to protect the screen.
3. Remove four screws and then remove the stand from the LCD monitor.
4. Align the mounting interface pad with the holes in the rear cover mounting pad and secure it with four screws that came with the arm-type base, wall mount hanger or other base.

⚠ 
- Do not use screws longer than the standard dimension, as they may damage the inside of the Monitor.
- For wall mounts that do not comply with VESA standard screw specifications, the length of the screws may differ depending on their specifications.
- Do not use screws that do not comply with the VESA standard screw specifications. Do not fasten the screws too tightly, as this may damage the product or cause the product to fall, leading to personal injury.
  Samsung is not liable for these kinds of accidents.
- Samsung is not liable for product damage or personal injury when a non-VESA or non-specified wall mount is used or the consumer fails to follow the product installation instructions.

⚠ 
- To mount the monitor on a wall, you should purchase the wall mounting kit that allows you to mount the monitor at least 10cm away from the wall surface.
- Contact the nearest Samsung Service Center for more information. Samsung Electronics will not be responsible for damages caused by using a base other than those specified.
- **Please use Wall Mount according to the International standards.**

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🔵 **Installation Using the Hood**

**What is the Hood?**
It is a device that can be attached to the top, right and left of the monitor to screen sunlight, preventing any color distortion. You can change the colors of the entire screen according to your preferences.

Insert the hooking parts ( 2 ) of both hoods starting from the top and moving downwards into the grooves ( 1 ) near the left and right edges at the back of the monitor.





Fit the top part of the monitor into the top of the grooves of both hoods.

Check List | Q & A

**Check List**

Before calling for service, check the information in this section to see if you can remedy any problems yourself. If you do need assistance, please call the phone number on the Information section or contact your dealer.

| Symptom | Check List | Solutions |
|---|---|---|
| No images on the screen. I cannot turn on the monitor. | Is the power cord connected properly? | Check the power cord connection and supply. |
| | If the power is on, reboot the computer to see the initial screen(the login screen), which can be seen. | If the initial screen (the login screen) appears, boot the computer in the applicable mode (the safe mode for Windows ME/XP/2000) and then change the frequency of the video card.<br>(Refer to Preset Timing Modes)<br><br>Note : If the initial screen (the login screen) does not appear, contact the Service Center or your dealer. |
| | There is no image on the screen.<br>Is the power indicator on the monitor blinking at 1 second intervals? | The monitor is in PowerSaver mode.<br><br>Press any key on the keyboard to activate the monitor and restore the image on the screen. |
| The screen shows strange colors or just black and white. | Is the screen displaying only one color as if looking at the screen through a cellophane paper? | Check the signal cable connection. Make sure the video card is fully inserted in it's slot. |
| | Have the screen colors become strange after running a program or due to a crash between applications? | Reboot the computer. |
| | Has the video card been set properly? | Set the video card by referring to the video card manual. |
| The screen suddenly has become unbalanced. | Have you adjusted the resolution or frequency to the monitor? | Adjust the resolution and frequency at the video card.<br>(Refer to Preset Timing Modes). |

| | | |
|---|---|---|
| LED is blinking but no images on the screen. | Is the frequency properly adjusted when checking the Display Timing on the menu? | Adjust the frequency properly by referring to the video card manual and Preset Timing Modes.<br><br>(The maximum frequency per resolution may differ from product to product.) |
| There are only 16 colors shown on the screen.<br>The screen colors have changed after changing the video card. | Have the Windows colors been set properly? | Windows ME/2000/XP :<br>Set the colors properly at the **Control Panel → Display → Settings**. |
| | Has the video card been set properly? | Set the video card by referring to the video card manual. |
| I cannot use the 2560x1600 resolution with the monitor. | Does the graphics card on your computer support the 2560x1600 resolution? | If your graphics card does not support the 2560x1600 resolution, then you can only use the 1280x800 resolution with your monitor.<br><br>To use the 2560x1600 resolution, replace your graphics card with one that supports that resolution. |

**Check the following items if there is trouble with the monitor.**

1. Check if the power cord and the video cables are properly connected to the computer.
2. Check if the computer beeps more than 3 times when booting.
   (If it does, ask the service center to check the main board of the computer.)
3. If you installed a new video card or if you assembled the PC, check if the installed the adapter (video) driver.
4. Check if the scanning ratio of the video screen is set at 60 Hz +/- 2 Hz.
   (Do not exceed 60 Hz when using the maximum resolution.)
5. If you have problems in installing the adapter (video) driver, boot the computer in Safe Mode, remove the Display Adapter at the "**Control Panel→System→Device Administrator**" and then reboot the computer to reinstall the adapter (video) driver.

If problems repeatedly occur, contact an authorized Service Center.

Check List | Q & A |

**Q & A**

| Question | Answer |
|---|---|
| How can I change the frequency? | The frequency can be changed by reconfiguring the video card.<br><br>Note that video card support can vary, depending on the version of the driver used. (Refer to the computer or the video card manual for details.) |
| How can I adjust the resolution? | Windows ME/XP/2000 : Set the resolution at the Control Panel→Display→Settings.<br><br>* Contact the video card manufacturer for details. |
| How can I set the Power Saving function? | Windows ME/XP/2000 : Set the function at BIOS-SETUP of the computer or the screen saver. (Refer to Windows/Computer Manual). |
| How can I clean the outer case/LCD Panel? | Disconnect the power cord and then clean the monitor with a soft cloth, using either a cleaning solution or plain water.<br><br>Do not leave any detergent or scratches on the case. Do not let any water enter the monitor. |

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■ Safety Instructions    ■ Introduction    ■ Setup    ■ Troubleshooting    ■ Specifications    ■ Information

General    |    PowerSaver    |    Preset Timing Modes    |

### General

| General | |
|---|---|
| Model Name | SyncMaster XL30 |
| **LCD Panel** | |
| Size | 30" inch Wide (75 cm) |
| Display area | 641.28(H) x 400.8(V) |
| Pixel Pitch | 0.2505(H) x 0.2505(V) |
| **Synchronization** | |
| Horizontal | 49.3kHz, 98.7kHz +/- 2 kHz |
| Vertical | 60 Hz +/- 2 Hz |
| **Display Color** | |
| 8 bit color (16.7M) | |
| **Resolution** | |
| Optimum resolution | 2560x1600@60 Hz ,1280x800@60 Hz |
| Maximum resolution | 2560x1600@60 Hz ,1280x800@60 Hz |
| **Input Signal, Terminated** | |
| DVI Compliant Digital RGB 0.7 Vp-p ± 5 % TMDS(Transition Minimized Differential Signaling) | |
| **Maximum Pixel Clock** | |
| 268.5 MHz | |
| **Power Supply** | |
| AC 100-240~ VAC ( ± 10%),60 / 50Hz ± 3 Hz | |
| **Signal Cable** | |
| DVI-D to DVI-D connector(Dual link), Detachable | |
| **Dimensions (WxHxD) (Without Stand)** | |
| 690.2 x 449.6 x 83.0 mm / 27.1 x 17.7 x 3.2 inch | |
| **Dimensions (WxHxD)/ Weight** | |

690.2 x 502.2 x 280.0 mm / 27.1 x 19.7 x 11.0 inch , 11.6 kg / 25.57 lbs

**VESA Mounting Interface**

200 x 100 mm, 100 x 100 mm

**Environmental considerations**

| | |
|---|---|
| Operating | Operating Temperature : 50°F~ 104°F ( 10°C ~ 40°C)<br>Humidity : 10 % ~ 80 %, non-condensing |
| Storage | Storage Temperature : -4°F~ 113°F ( -20°C ~ 45°C)<br>Humidity : 5 % ~ 95 %, non-condensing |

**Plug and Play Capability**

This monitor can be installed on any Plug & Play compatible system. The interaction of the monitor and the computer systems will provide the best operating conditions and monitor settings. In most cases, the monitor installation will proceed automatically, unless the user wishes to select alternate settings.

**Dot Acceptable**

TFT LCD panels manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above are used for this product. But the pixels of RED, GREEN, BLUE and WHITE color appear to be bright sometimes or some black pixels may be seen. This is not from bad quality and you can use it without any problelms.
- For example, the number of TFT LCD sub pixels contained in this product are12,288,000.

**Note : Design and specifications are subject to change without prior notice.**

**Class B Equipment (Information Communication equipment for residential use)**

This product complies with the Electromagnetic Compatibility Directives for residential use and can be used in all areas including common residential areas.

(Class B equipment emits less electromagnetic waves than Class A equipment.)

**PowerSaver**

This monitor has a built-in power management system called PowerSaver. This system saves energy by switching your monitor into a 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 EPA/ENERGY 2000 (Power button) | Power off (Power Switch) |
|---|---|---|---|---|
| Power Indicator | Blue | Blue, Blinking | Black | Black |
| Power Consumption | Less than 130 watts | Less than 2 watts | Less than 1 watts | 0 watts |

This monitor is EPA ENERGY STAR® compliant and ENERGY2000 compliant when used with a computer equipped with VESA DPM functionality.
As an ENERGY STAR® Partner, SAMSUNG has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

**Preset Timing Modes**

If the signal transferred from the computer is the same as the following Preset Timing Modes, the screen will be adjusted automatically. However, if the signal differs, the screen may go blank while the power LED is on. Refer to the video card manual and adjust the screen as follows.

| Display Mode | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|---|---|---|---|---|
| VESA, 1280 x 800 | 49.306 | 59.91 | 71 | +/- |
| VESA, 2560 x 1600 | 98.713 | 59.972 | 268.5 | +/- |

**Horizontal Frequency**

The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle and the inverse number of the Horizontal Cycle is called the Horizontal Frequency. Unit : kHz

**Vertical Frequency**

Like a fluorescent lamp, the screen has to repeat the same image many times per second to display an image to the user. The frequency of this repetition is called the Vertical Frequency or Refresh Rate. Unit: Hz

The color and appearance of the product may vary depending on the model, and the product specifications are subject to change without prior notice for reasons of performance enhancement.

■ Safety Instructions   ■ Introduction   ■ Setup   ■ Troubleshooting   ■ Specifications   ■ Information

Contact SAMSUNG WORLDWIDE | Terms | For Better Display | Authority | Correct Disposal

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## Terms

### Dot Pitch
The image on a monitor is composed of red, green and blue dots. The closer the dots, the higher the resolution. The distance between two dots of the same color is called the 'Dot Pitch'. Unit : mm

### Vertical Frequency
The screen must be redrawn several times per second in order to create and display an image for the user. The frequency of this repetition per second is called the Vertical Frequency or Refresh Rate. Unit : Hz

Example :  If the same light repeats itself 60 times per second, this is regarded as 60 Hz.

### Horizontal Frequency
The time to scan one line connecting the right edge to the left edge of the screen horizontally is called the Horizontal Cycle. The inverse number of the Horizontal Cycle is called Horizontal Frequency. Unit : kHz

### Interlace and Non-Interlace Methods
Showing the horizontal lines of the screen from the top to the bottom sequentially is called the Non-Interlace method while showing odd lines and then even lines in turn is called the Interlace method. The Non-Interlace method is used for the majority of monitors to ensure a clear image. The Interlace method is the same as that used in TVs.

### Plug & Play
This is a function that provides the best quality screen for the user by allowing the computer and the monitor to exchange information automatically. This monitor follows the international standard VESA DDC for the Plug & Play function.

### Resolution
The number of horizontal and vertical dots used to compose the screen image is called the 'resolution'. This number shows the accuracy of the display. A high resolution is good for performing multiple tasks as more image information can be shown on the screen.

Example :  If the resolution is 2560 x 1600 , this means the screen is composed of 2560 horizontal dots (horizontal resolution) and 1600 vertical lines (vertical resolution).

**For Better Display**

1. Adjust computer resolution and screen injection rate (refresh rate) oncomputer as described below to enjoy the best quality of picture. You can have an uneven quality of picture in the screen if the best quality of picture is not provided in TFT-LCD.

   o Resolution: 2560 x 1600
   o Vertical frequency (refresh rate) : 60 Hz

2. TFT LCD panels manufactured by using advanced semiconductor technology with precision of 1ppm (one millionth) above are used for this product. But the pixels of RED, GREEN, BLUE and WHITE color appear to be bright sometimes or some black pixels may be seen. This is not from bad quality and you can use it without any problelms.

   o For example, the number of TFT LCD sub pixels contained in this product are 12,288,000.

3. When cleaning the monitor and the panel outside, please apply the recommended small amount of cleaner by using a soft cloth to polish. Do not force the LCD area but rub softly. If excessive force is applied, you can have a stain on it.

4. When viewing a fixed screen for an extended period of time, residual image or blurriness may appear.
Change the mode to energy saving mode or set a screensaver to a changing picture when away from the monitor for an extended period of time.

**Authority**

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**FINAL VERSION - 12TH SEPTEMBER, 2006**

# PRODUCT INFORMATION (Image Retention Free)

LCD Monitors and TVs may have image retention when switching from one image to another especially after displaying a stationary image for a long time.
This guide is to demonstrate correct usage of LCD products in order to protect them from Image retention.

○ **Warranty**
Warranty does not cover any damage caused by image retention.
Burn-in is not covered by the warranty.

○ **What is Image retention ?**
During normal operation of a LCD panel, pixel image retention doesn't occur. However, if the same image is displayed for a long time, a slight difference in electric charge accumulates between the two electrodes which encase the liquid crystal. This may cause the liquid crystal to build up in a certain areas of the display. Thus, the previous image is retained when switching to a new video image. All display products, including LCD,are subject to image retention. This is not a product defect.

Please follow the suggestions below to protect your LCD from image retention

---

○ **Power Off, Screen Saver, or Power Save Mode**
Ex)
- Turn the power off when using a stationary pattern.
  - Turn the power off for 4 hours after 20 hours in use
  - Turn the power off for 2 hours after 12 hours in use
- Use a Screen saver if possible
  - Screen saver in one color or a moving image is recommended.
- Set the Monitor to power off with the PC Display Properties Power Scheme.

○ **Suggestions for specific applications**
Ex) Airports, Transit Stations, Stock Markets, Banks, and Controlling Systems
We recommend that you follow set up of your display system program as below:

○ **Display Information together with Logo or Moving image cycle.**
Ex) Cycle : Display Information for 1 hour followed by a
Display Logo or moving image for 1 minute.

○ **Change the Color Information periodically (Use 2 different colors).**
Ex) Rotate the Color Information with 2 colors every 30 minutes.
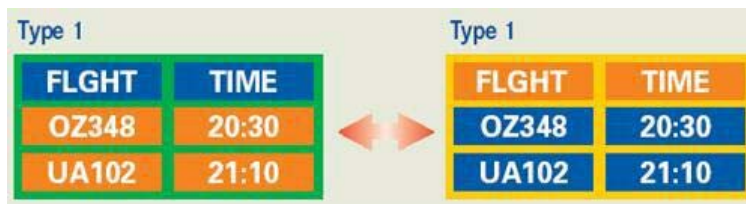


Avoid using a combination of characters and background color with large difference in luminance.
Avoid using Grey colors, which can cause Image retention easily.

- Avoid: Colors with big difference in luminance (Black & White, Grey)
Ex)



- Recommended settings: Bright colors with little difference in luminance
- Change the characters color and background color every 30 minutes
Ex)



- Every 30 minutes, change the characters with movement.

Ex)



● **The best way to protect your monitor from Image retention is to set your PC or System to operate a Screen Saver program when you are not using it.**

Image retention may not occur when a LCD panel is operated under normal conditions.

Normal conditions are defined as continuously changing video patterns. When the LCD panel is operated for a long time with a fixed pattern (-over 12 hours-), there may be slight difference in voltage between electrodes that work the liquid crystal (LC) in a pixel. The voltage difference between electrodes increases with time, forcing the liquid crystal to lean. When this occurs, the previous image may be seen when the pattern is changed.
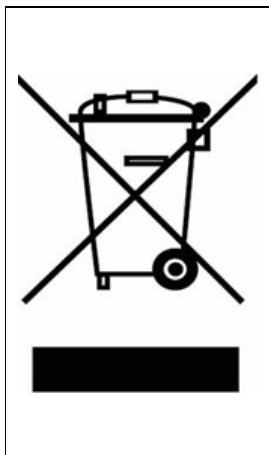To prevent this, the accumulated voltage difference must be decreased.
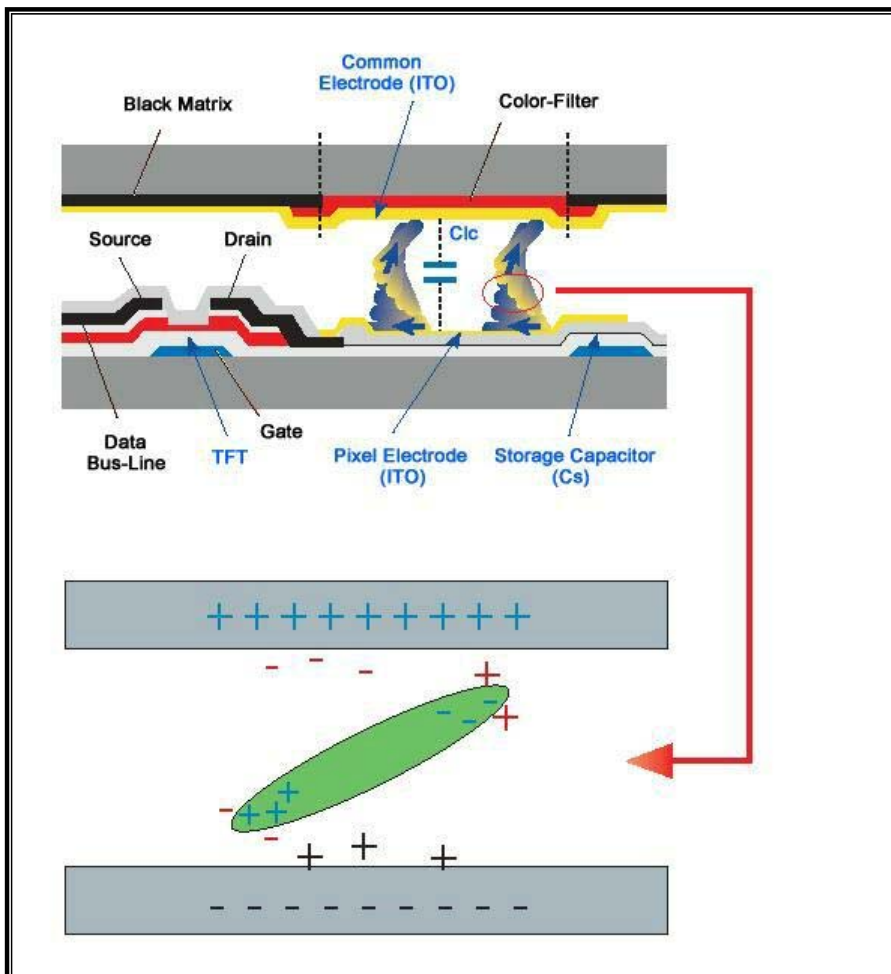


● Our LCD Monitor satisfies ISO13406-2 Pixel fault Class II

## Correct Disposal of This Product
## (Waste Electrical & Electronic Equipment) - Europe only

**(Applicable in the European Union and other European countries with separate collection systems)**

This marking shown on the product or its literature, indicates that it should not be disposed with other household wastes at the end of its working life. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate this from other types of wastes and recycle it 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 this item for environmentally safe recycling.

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