

**SAMSUNG**

# SyncMaster 180T

Dual Interface(Analog/Digital)

TFT-LCD Monitor



**Owner's  
Instructions**

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# Safety Instructions

- 1** Before connecting the AC power cord to the DC adapter outlet, make sure the voltage designation of the DC adapter corresponds to the local electrical supply.
- 2** Never insert anything metallic into the openings in the cabinet of the Liquid Crystal Display (LCD) monitor; doing so may create the danger of electric shock.
- 3** To avoid electric shock, never touch the inside of the LCD Monitor. Only a qualified technician should open the case of the LCD Monitor.
- 4** Never use your LCD Monitor if the power cord has been damaged. Do not allow anything to rest on the power cord, and keep the cord away from areas where people can trip over it.
- 5** Be sure to hold the plug, not the cord, when disconnecting the LCD Monitor from an electric socket.
- 6** Openings in the LCD Monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Also, avoid using the LCD Monitor on a bed, sofa, rug, or other soft surface. Doing so may block the ventilation openings in the bottom of the cabinet. If you put the LCD Monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- 7** Put your LCD Monitor in a location with low humidity and a minimum of dust.
- 8** Do not expose the LCD Monitor to rain or use it near water (in kitchens, near swimming pools, etc.). If the LCD Monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the LCD Monitor with a damp cloth when necessary, but be sure to unplug the LCD Monitor first.
- 9** Place the LCD Monitor on a solid surface and treat it carefully. The screen is made of thin glass with a plastic front surface and can be damaged if dropped, hit or scratched. Do not clean the front panel with keton-type materials (e.g., acetone), ethyl alcohol, toluene, ethyl acid, methyl, or chloride – these may damage the panel.
- 10** Locate your LCD Monitor near an easily accessible AC outlet.
- 11** If your LCD Monitor does not operate normally – in particular, if there are any unusual sounds or smells coming from it – unplug it immediately and contact an authorized dealer or service center.
- 12** High temperature can cause problems. Don't use your LCD Monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- 13** Unplug the LCD Monitor when it is going to be left unused for an extended period of time.
- 14** Unplug your LCD Monitor from the AC outlet before any service.

|                                                                                                                                                                                |                                                         |                                                                                     |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------|-------------------------------------------------------------------------------------|
|                                                                                             | <b>CAUTION</b><br>RISK OF ELECTRIC SHOCK<br>DO NOT OPEN |  |
| <b>CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK).<br/>NO USER-SERVICEABLE PARTS INSIDE.<br/>REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</b> |                                                         |                                                                                     |

# Unpacking Your LCD Monitor

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Please make sure the following items are included with your monitor. If any items are missing, contact your dealer.



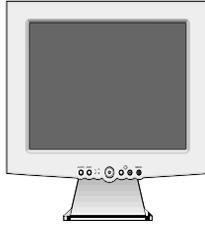
Colorfic & Driver



Warranty Card  
(not available all location)



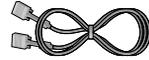
Manual



Monitor and Base



Power Cord



15-pin D-Sub Signal Cabel



DC-Adapter



DVI-D Signal Cabel  
(Optional)

# Setting up your LCD Monitor

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## Setting up an Ergonomic Workstation

Consider the advice given below before you install your monitor.

### Monitor location

Choose a position that exposes your monitor to the least reflection from lights or windows, usually at a right angle to any window.

### Workstation height

Place your LCD Monitor so that the top of the screen is slightly below your eye level when you are comfortably seated.

### Viewing angle

Tilt the screen backward or forward to a comfortable viewing position.



Figure 1. Tilt the screen

## Kensington Security Slot

This monitor offers you the opportunity to secure your monitor using a Kensington-type security device. Kensington lock not included. Refer to your locking device documentation for installation instructions.

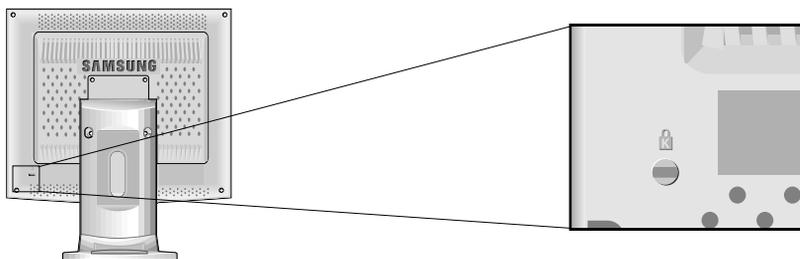


Figure 2. Kensington-type security slot location

# Setting up your LCD Monitor

## Connecting Your LCD Monitor

This monitor offers a method for connection to both a PC and a workstation. One or both types of signal cables can be connected to the monitor simultaneously. Determine which connection method(s) you need and refer to the instructions below.

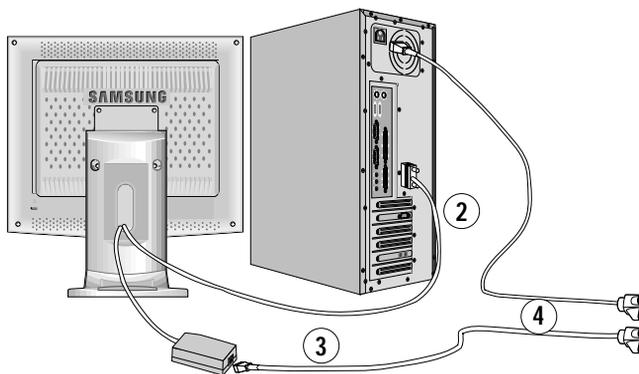


Figure 3. Cable connections (Analog)

- 1** Turn off your system and unplug its power cord.
- 2** Attach the blue signal cable connector to the video port on the back of your computer.
- 3** Connect the power cord for your monitor to the power port on the power adapter.
- 4** Plug the power cords of your computer and your monitor into a nearby outlet.
- 5** Turn on your computer and monitor. If your monitor displays an image, installation is complete.
- 6** Perform the auto adjustment procedure as described in "Auto Adjustment" on page 7.

# Setting up your LCD Monitor

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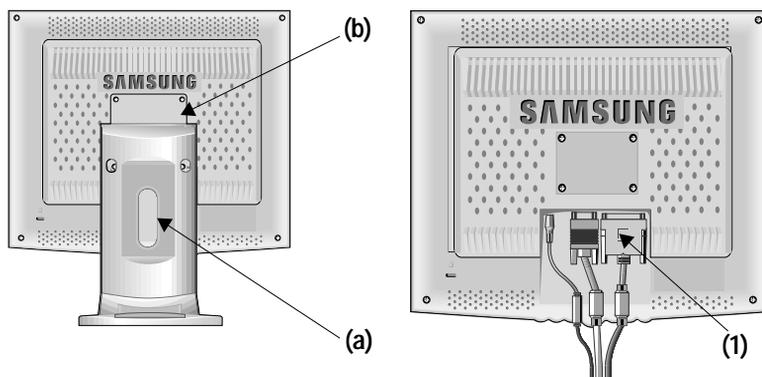


Figure 4. Cable connections (Digital)

- 1** Turn off your computer and unplug its power cord.
- 2** Connect the signal cable to the DVI-D connector (1) on the back of your monitor. Connect the other end of the cable to the video port on the back of your workstation.
- 3** Connect the power cord for your monitor to the power port on the power adapter.
- 4** Secure the power adapter cord and the signal cable(s) under the metal prong.
- 5** Insert the tab on each side of the hinge cover (b) then attach the stand of the monitor.
- 6** Plug the power cords of your computer and your monitor into a nearby outlet.
- 7** Turn on your computer and monitor. If your monitor displays an image, installation is complete.
- 8** Perform the auto adjustment procedure as described in "Auto Adjustment" on page 7.

# Setting up your LCD Monitor

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## Getting Help

If your monitor does not display an image, check your cable connections and refer to “Troubleshooting” on page 17. If you experience difficulties with the quality of the displayed image, run auto adjustment again and refer to “Adjusting Your LCD Monitor” on page 9 or “Troubleshooting” on page 17.

## Plug and Play

Our adoption of the new VESA® Plug and Play solution eliminates complicated and time consuming setup. It allows you to install your monitor in a Plug and Play compatible system without the usual hassles and confusion. Your PC system can easily identify and configure itself for use with your display. This monitor automatically tells the PC system its Extended Display Identification (EDID) data using Display Data Channel (DDC) protocols so the PC system can automatically configure itself to use the LCD Monitor.

## Auto Adjustment

Even though your computer system can recognize your new LCD Monitor system, the auto adjustment function will optimize the display settings for use with your computer. Auto Adjustment can be accessed through the OSD, see “Image Lock” on page 13 or use the direct access instructions below:

- 1** Turn on your computer and monitor.
- 2** Push the **AUTO** button to open the Auto Adjustment OSD.
- 3** The screen will dim and you may notice small changes to the screen image.

# Setting up your LCD Monitor

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## Self-Test Feature Check (STFC)

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly. If your monitor and computer are properly connected but the monitor screen remains dark and the power indicator is blinking, run the monitor self-test by performing the following steps:

- 1** Turn off both your computer and the monitor.
- 2** Unplug the video cable from the back of the computer.
- 3** Turn on the monitor.

If the monitor is functioning properly, you will see a white box with a red border and black text inside as shown in the following illustration:

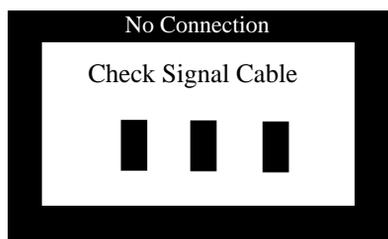


Figure 5. Monitor self test screen

The three boxes inside the border are red, green and blue. Failure of any of the boxes to appear indicates a problem with your monitor. This box also appears during normal operation if the video cable becomes disconnected or damaged.

- 4** Turn off your monitor and reconnect the video cable; then turn on both your computer and the monitor.

If your monitor screen remains blank after using the previous procedure, check your video controller and computer system; your monitor is functioning properly.

# Adjusting Your LCD Monitor

## User Controls

Your LCD Monitor allows you to easily adjust the characteristics of the image being displayed. All of these adjustments are made using the control buttons on the front of the monitor. While you use these buttons to adjust the controls, an OSD shows you their numeric values as the change.

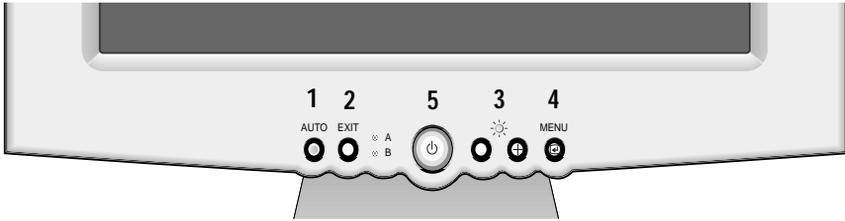


Figure 6. User controls

| No. | Name                                    | Description                                                                                                                                                                                                                                                                                                            |
|-----|-----------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1   | <b>AUTO</b>                             | <ul style="list-style-type: none"><li>■ Activates the Auto Adjustment function</li></ul>                                                                                                                                                                                                                               |
| 2   | <b>EXIT</b>                             | <ul style="list-style-type: none"><li>■ Exits from the OSD while the OSD is displayed</li><li>■ Selects the Video signal (A or B) while the OSD is off</li></ul>                                                                                                                                                       |
| 3   | <b>- / +</b><br><br><b>Brightness</b>   | <ul style="list-style-type: none"><li>■ Moves the selector between menus and sub-menus on the OSD</li><li>■ Decreases or increases values of the selected function</li><li>■ Directly adjusts the brightness level if pressed while the OSD is off (See the section on "Direct-Access Features" on page 10.)</li></ul> |
| 4   | <b>MENU</b>                             | <ul style="list-style-type: none"><li>■ Opens the OSD and sub-menus</li><li>■ Selects the highlighted function</li></ul>                                                                                                                                                                                               |
| 5   | <b>Power button and indicator light</b> | <ul style="list-style-type: none"><li>■ Turns the monitor on and off</li><li>■ Glows green during normal operation</li><li>■ Glows amber, blinks amber, or blinks green / amber while the monitor is in a power saving mode. (See "Power-saving modes" on page 16.)</li></ul>                                          |

# Adjusting Your LCD Monitor

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## Automatic Save

Whenever you open the OSD and allow an adjustment window to remain active for about 3 seconds without pressing another button, the monitor automatically saves any adjustments you have made. These changes are saved into a user area in the monitor. User areas are reserved according to the signal frequency from your computer. The monitor can save adjustments for up to 5 user modes. It has 11 factory preset or preload modes, one for each signal frequency as listed in "Display Modes" on page 21

If you have made no adjustments, the OSD disappears and the monitor does not save anything. To exit without saving the changes you have made, press the **EXIT** button before the 2 seconds elapse.

## Direct-Access Features

The features described in this section can be accessed quickly, at the touch of one button. Once you finish making adjustments to a feature, push the **EXIT** button to turn off the menu or allow the OSD to time-out and disappear automatically.

### Brightness



Follow these instructions to adjust the brightness of the monitor's display.

- 1 With the menu off, push the "–" or "+" button. The brightness display appears.
- 2 Push the "+" button to increase the brightness; push the "–" button to decrease the brightness.

# Adjusting Your LCD Monitor

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## Auto Adjustment



Follow these instructions to enable or disable the automatic screen adjustments for your monitor.

- 1** With the menu off, push the **EXIT** button. The automatic adjustment display appears.
- 2** Follow the directions previously given on page 7.

## OSD Lock/Unlock

Use this function to secure the current settings, while allowing you to adjust the Brightness and Contrast, so that they cannot be inadvertently changed. You can unlock the OSD controls at any time by using the same procedure.

- 1** Push and hold the **MENU** button for 5 seconds to Lock or Unlock the controls. When locked, a "LOCKED" message displays.

# Adjusting Your LCD Monitor

## On Screen Display (OSD)

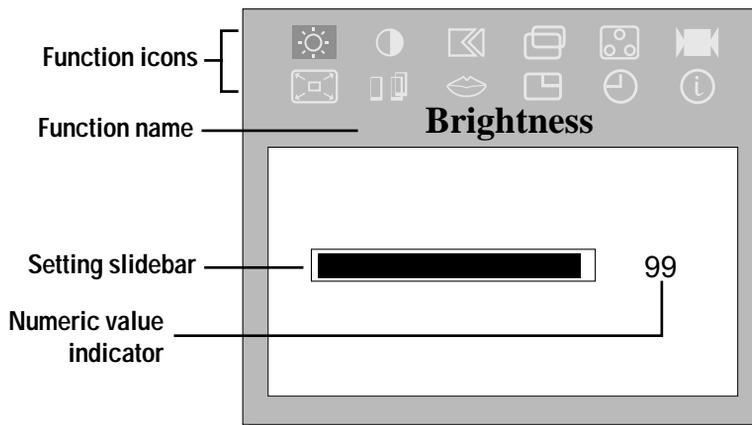


Figure 7. On Screen Display (OSD)

### Accessing the Menu System

- 1** With the menu off, push the **MENU** button to open the menu system and display the main function menu.
- 2** Push the “-” and “+” buttons to move between the function icons. As you move from one icon to another, the function name changes to reflect the function or group of functions represented by that icon. See the Menu adjustments table to view a complete list of all the functions available for the monitor.
- 3** Push the **MENU** button once to activate the highlighted function then use the “-” and “+” buttons, according to the indicators on the menu, to make your changes.
- 4** Push the **EXIT** button once to return to the main menu to select another function or push the **EXIT** button 1 or 2 times to exit from the OSD.

# Adjusting Your LCD Monitor

Table 1. Menu Adjustments

| Icon                                                                              | Settings and Sub-menus                                                                                          | Description                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Image Lock</b> <ul style="list-style-type: none"><li>■ Fine</li><li>■ Coarse</li></ul>                       | <p>Image Lock controls adjust for and limit the amount of noise in the video signal which causes horizontal lines or areas on the screen where the image appears to be unstable and jitters or shimmers.</p>                                                                                                                                                                                                                                     |
|                                                                                   |                                                                                                                 | <p>The Fine and Coarse adjustments allow you to more closely adjust your monitor to your preference. Use the “- , +” buttons to adjust away interference. If satisfactory results are not obtained using the Fine adjustment, use the Coarse adjustment and then use Fine again.</p> <p>This function may change the width of the display image. Use the Horizontal function on the Position menu to center the display image on the screen.</p> |
|  | <b>Position</b> <ul style="list-style-type: none"><li>■ Horizontal</li><li>■ Vertical</li></ul>                 | <p>Position moves the viewing area around on the monitor screen.</p>                                                                                                                                                                                                                                                                                                                                                                             |
|  | <b>Color Control</b> <ul style="list-style-type: none"><li>■ R(ed)</li><li>■ G(reen)</li><li>■ B(lue)</li></ul> | <p>Color Controls adjust the color hue and saturation. The color hue is most noticeable in areas of white.</p>                                                                                                                                                                                                                                                                                                                                   |

# Adjusting Your LCD Monitor

Table 1. Menu Adjustments (*Continued*)

| Icon                                                                               | Settings and Sub-menus                                                                                                                                                | Description                                                                                                                                                                                                                                                                      |
|------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|   | <b>Reset</b> <ul style="list-style-type: none"><li>■ Geometry</li><li>■ Color</li></ul>                                                                               | Reset controls return the settings to the factory preset values for the selected group of functions. Geometry changes the Position settings, Image Lock settings and changes the Image Size to Expand 2. Color changes the RGB settings back to their original factory settings. |
|   | <b>Language</b> <ul style="list-style-type: none"><li>■ English</li><li>■ Deutsch</li><li>■ Español</li><li>■ Français</li><li>■ Italiano</li><li>■ Svenska</li></ul> | Language sets the OSD to display in one of six languages (English, Français, Deutsch, Español, Italiano, or Svenska). The language chosen affects only the language of the OSD. It has no effect on any software running on the computer.                                        |
|   | <b>Menu Display Time</b> <ul style="list-style-type: none"><li>■ 5 Seconds</li><li>■ 10 Seconds</li><li>■ 20 Seconds</li><li>■ 200 Seconds</li></ul>                  | The OSD stays active for as long as it is in use. Menu Display Time sets the length of time the OSD will remain active after the last time you pushed a button.                                                                                                                  |
|  | <b>Menu Position</b> <ul style="list-style-type: none"><li>■ Horizontal</li><li>■ Vertical</li></ul>                                                                  | Each time the OSD opens it displays in the same location on the screen. Menu Position controls that location.                                                                                                                                                                    |

# Adjusting Your LCD Monitor

Table 1. Menu Adjustments (*Continued*)

| Icon                                                                              | Settings and Sub-menus                                                                                               | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>Image Size</b> <ul style="list-style-type: none"><li>■ Normal</li><li>■ Expanded 1</li><li>■ Expanded 2</li></ul> | <p>If your computer or video board supplies a signal rate and addressability lower than 1280 x 1024, this LCD Monitor provides a scaling processor that can expand the addressability up to 1280 x 1024.</p> <p>Select the Normal setting to use the normal size viewing area for the current signal. Expanded 1 expands the viewing area to the full width of the monitor screen. Expanded 2 extends the viewing area both horizontally and vertically to the full size of the monitor screen.</p> |
|  | <b>Image Effect</b> <ul style="list-style-type: none"><li>■ Scaling</li><li>■ Filtering</li></ul>                    | <p>Image Effect optimizes the display for the type of software you are using.</p> <p>Scaling smooths an image which may help the eye to see more detail.</p> <p>Filtering sharpens text by adding a fine, contrasting line around each character so that it is easier to recognize.</p>                                                                                                                                                                                                             |

## 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 available modes are "On", "Standby", "Sleep", and "Deep Sleep".

PowerSaver operates with a VESA DPMS compliant video card installed in your computer. You use a software utility installed on your computer to set up this feature. See Table 2 below for details.

Table 2. Power-saving modes

| State             | Normal Operation           | Power-Saving Function mode (EPA/NUTEK) |                                          |                                  |
|-------------------|----------------------------|----------------------------------------|------------------------------------------|----------------------------------|
|                   |                            | Standby Mode                           | Sleep Mode Position A1                   | Deep Sleep Mode Position A2      |
| Horizontal Sync   | Active                     | Inactive                               | Active                                   | Inactive                         |
| Vertical Sync     | Active                     | Active                                 | Inactive                                 | Inactive                         |
| Video             | Active                     | Blanked                                | Blanked                                  | Blanked                          |
| Power Indicator   | Green                      | Amber                                  | Green/Amber Blinking (0.5 sec. interval) | Amber Blinking (1 sec. interval) |
| Power Consumption | 45 W (Max.)<br>42 W (Nom.) | Less than 5 W                          | Less than 5 W                            | Less than 5 W                    |

NOTE: This monitor automatically returns to normal operation when horizontal and vertical sync return. This occurs when you move the computer's mouse or press a key on the keyboard.

This monitor is EPA ENERGY STAR<sup>®</sup> compliant and NUTEK compliant when used with a computer equipped with VESA DPMS functionality.

For energy conservation, turn your monitor OFF when it is not needed, or when leaving it unattended for long periods.

## Troubleshooting

Before calling for service, check the information in this section to see if you can remedy any problems yourself

Table 3. Troubleshooting problems

| Symptom                                              | Corrective Actions                                                                                                                                                                                                        |
|------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Picture                                           | <ul style="list-style-type: none"> <li>■ Check to see that both the LCD Monitor and the computer are plugged in and turned on.</li> </ul>                                                                                 |
| "No Connection, Check Signal Cable" appears          | <ul style="list-style-type: none"> <li>■ Check the signal cable connection between the computer and the LCD Monitor</li> <li>■ Use the LCD Monitor self test described on page 8.</li> </ul>                              |
| "Video mode not supported"                           | <ul style="list-style-type: none"> <li>■ Check the maximum resolution and the frequency on the video port of your computer.</li> <li>■ Compare these values with the data in the preset timing modes, page 21.</li> </ul> |
| Picture is scrambled                                 | <ul style="list-style-type: none"> <li>■ Check the signal cable connection between the computer and LCD Monitor.</li> <li>■ Perform Auto Adjustment (see page 7).</li> </ul>                                              |
| Picture is not clear                                 | <ul style="list-style-type: none"> <li>■ Adjust Fine and Coarse adjustments as needed (see page 13).</li> </ul>                                                                                                           |
| Picture is fuzzy                                     | <ul style="list-style-type: none"> <li>■ Perform LCD Monitor reset.</li> <li>■ Eliminate accessories (i.e., video extension cables).</li> </ul>                                                                           |
| Picture bounces or has wavy oscillations             | <ul style="list-style-type: none"> <li>■ Check the signal cable connection between the computer and LCD Monitor</li> </ul>                                                                                                |
| Picture appears to be ghosting                       | <ul style="list-style-type: none"> <li>■ Check the signal cable connection between the computer and LCD Monitor.</li> </ul>                                                                                               |
| The image is too light or too dark                   | <ul style="list-style-type: none"> <li>■ Adjust the Brightness and Contrast settings.</li> </ul>                                                                                                                          |
| Color is not uniform                                 | <ul style="list-style-type: none"> <li>■ Adjust the color settings using the OSD COLOR menu.</li> </ul>                                                                                                                   |
| The colors are distorted with dark or shadowed areas | <ul style="list-style-type: none"> <li>■ Adjust the color settings using the OSD COLOR menu.</li> </ul>                                                                                                                   |

# Appendix

Table 3. Troubleshooting problems (*Continued*)

| Symptom                                                                                    | Corrective Actions                                                                                                                                                                                                        |
|--------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| White does not look white                                                                  | ■ Adjust the color settings using the OSD COLOR menu.                                                                                                                                                                     |
| Screen image is not centered or sized properly                                             | ■ Adjust the Horizontal and Vertical position settings using the OSD.<br>■ Check the image size selection (see page 15).<br>■ Run Auto Adjustment (see page 7).                                                           |
| The power indicator blinks amber once                                                      | ■ The LCD Monitor is saving your changes to the OSD.                                                                                                                                                                      |
| Screen is blank and power indicator light is steady amber or blinks every 0.5 or 1 seconds | ■ The LCD Monitor is using its power management system. Check the power management utility on your computer.                                                                                                              |
| Cannot adjust LCD Monitor with the buttons on the front panel                              | ■ Please contact Samsung customer service.                                                                                                                                                                                |
| You need the monitor driver software                                                       | ■ You can download the driver from the internet at<br><a href="http://www.samsung-monitor.com">http://www.samsung-monitor.com</a><br><a href="http://www.samsungmonitor.com">http://www.samsungmonitor.com</a> (USA only) |

# Appendix

## Specifications

Table 4. Specifications

|                               | Analog                                                                                                                                                                                | Digital                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------|
| LCD Panel                     | 46 cm (18.1") Diagonal true active area<br>0.28 mm Pixel pitch<br>Viewing Angle: 80/80/80/80 (U/D/L/R) (Degrees)                                                                      |                                                                                 |
| * Synchronization             | Horizontal: 30 kHz to 81 kHz<br>Vertical: 56 Hz to 85 Hz (-XGA)<br>60 Hz to 76 Hz (SXGA)                                                                                              | Horizontal: 30 kHz to 64 kHz<br>Vertical: 56 Hz to 85 Hz (-XGA)<br>60 Hz (SXGA) |
| Display Colors                | 16.7 Million Colors                                                                                                                                                                   |                                                                                 |
| Maximum Resolution            | Horizontal: 1280 Dots @ 81 kHz<br>Vertical: 1024 Lines @ 76 Hz                                                                                                                        | Horizontal: 1280 Dots @ 64 kHz<br>Vertical: 1024 Lines @ 60 Hz                  |
| Active Display                | Horizontal: 359.0 ± 3 mm (14.13" ± 0.12")<br>Vertical: 287.2 ± 3 mm (11.36" ± 0.12")<br>(Active display size is dependent upon signal timing and image size selection)                |                                                                                 |
| Input Signal, Terminated      | Analog video 0.7 Vpp positive at 75 Ω<br>Separate sync, composite, and sync-on-green                                                                                                  | TMDS                                                                            |
| Maximum Pixel Clock           | 135 MHz                                                                                                                                                                               | 108 MHz                                                                         |
| Power Adapter                 | AC 90-264 Volt, 60 Hz/50 Hz ± 3 Hz                                                                                                                                                    |                                                                                 |
| Power Consumption             | 45 W (Maximum), 42 W (Nominal)                                                                                                                                                        |                                                                                 |
| Dimensions/Weight (W x D x H) | Unit: 449.4 x 461.2 x 182.0 mm; 9.15 kg<br>17.7 x 18.2 x 7.2 in; 20.17 lb<br>Carton: 570 x 295 x 580 mm; 12.6 kg<br>22.4 x 11.6 x 22.8 in; 27.7 lb<br>(All measurements approximate.) |                                                                                 |
| VESA Mounting Interface       | 100 mm x 100 mm<br>(For use with Specialty (Arm) Mounting hardware.)                                                                                                                  |                                                                                 |
| Environmental Considerations  | Operating Temperature: 50°F to 104°F (10°C to 40°C)<br>Humidity: 10% to 80%<br>Storage Temperature: -68°F to 113°F (-20°C to 45°C)<br>Humidity: 5% to 95%                             |                                                                                 |

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

\* Referring to Preset timing modes, see page 21.

# Appendix

## Pin Assignments

Table 5. 15-Pin D-SUB connector

| Pin No. | 15-Pin Side of the Signal Cable | Pin No. | 15-Pin Side of the Signal Cable |
|---------|---------------------------------|---------|---------------------------------|
| 1       | Red                             | 9       | NC                              |
| 2       | Green                           | 10      | GND-Sync/Self test              |
| 3       | Blue                            | 11      | GND                             |
| 4       | GND                             | 12      | DDC Data                        |
| 5       | GND (DDC Return)                | 13      | H-Sync                          |
| 6       | GND-R                           | 14      | V-Sync                          |
| 7       | GND-G                           | 15      | DDC Clock                       |
| 8       | GND-B                           |         |                                 |

Table 6. DVI-D Connector

| Pin | Signal Assignment     | Pin | Signal Assignment     |
|-----|-----------------------|-----|-----------------------|
| 1   | T.M.D.S. Data2-       | 13  | No Connect            |
| 2   | T.M.D.S. Data2+       | 14  | +5V Power             |
| 3   | T.M.D.S. Data2 Shield | 15  | Ground(for +5V)       |
| 4   | No Connect            | 16  | Hot Plug Detect       |
| 5   | No Connect            | 17  | T.M.D.S. Data0-       |
| 6   | DDC Clock             | 18  | T.M.D.S. Data0+       |
| 7   | DDC Data              | 19  | T.M.D.S. Data0 Shield |
| 8   | No Connect            | 20  | No Connect            |
| 9   | T.M.D.S. Data1-       | 21  | No Connect            |
| 10  | T.M.D.S. Data1+       | 22  | T.M.D.S. Clock Shield |
| 11  | T.M.D.S. Data1 Shield | 23  | T.M.D.S. Clock+       |
| 12  | No Connect            | 24  | T.M.D.S. Clock-       |

## Display Modes

If the signal from the system equals to the standard signal mode, the screen is adjusted automatically. If the signal from the system doesn't equal to the standard signal mode, adjust the mode with referring to the Videocard user guide because the screen might not display or only the power LED might be on.

For the display modes listed below, the screen image has been optimized during manufacture.

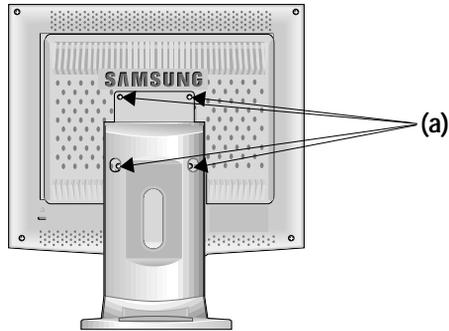
Table 7. Preset timing modes

| Display Mode               | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|----------------------------|----------------------------|-------------------------|-------------------|---------------------|
| 720 x 400                  | 31.469                     | 70.087                  | 28.322            | -/+                 |
| 640 x 480                  | 31.469                     | 59.940                  | 25.175            | -/-                 |
| 640 x 480                  | 37.500                     | 75.000                  | 31.500            | -/-                 |
| 640 x 480                  | 43.269                     | 85.008                  | 36.000            | -/-                 |
| 800 x 600                  | 46.875                     | 75.000                  | 49.500            | +/+                 |
| 800 x 600 <sup>(A)</sup>   | 53.674                     | 85.061                  | 56.250            | +/+                 |
| 1024 x 768                 | 48.363                     | 60.004                  | 65.000            | -/-                 |
| 1024 x 768                 | 60.023                     | 75.029                  | 78.750            | +/+                 |
| 1024 x 768 <sup>(A)</sup>  | 68.677                     | 84.997                  | 94.500            | +/+                 |
| 1280 x 1024 <sup>(A)</sup> | 79.976                     | 75.025                  | 135.000           | +/+                 |
| 1280 x 1024                | 63.300                     | 60.000                  | 108.000           | -/-                 |

\* Display modes marked <sup>(A)</sup> will be blocked during "Digital Input."

## Changing the Stand

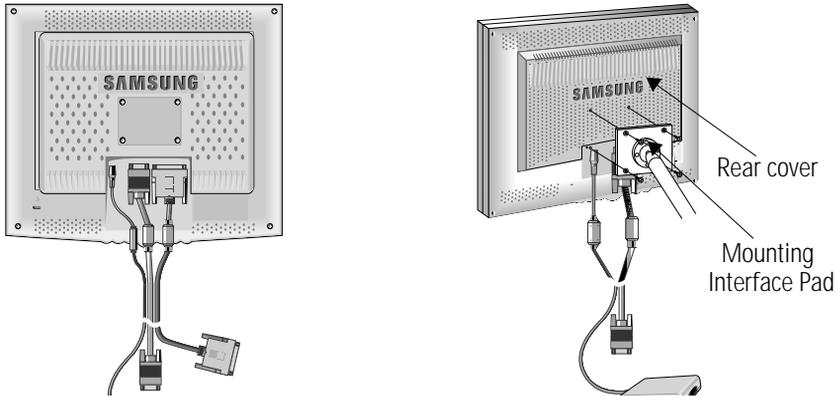
### Removing the Stand



- 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 the 4 screws (a) and then remove the Stand from the LCD Monitor.

## Attaching an Arm-Type Stand or Wall Mount Hanger

*NOTE: This monitor accepts a 100mm x 100mm VESA-compliant mounting interface pad.*



- 1 Align the Mounting Interface Pad with the holes in the Rear Cover and secure it with the four screws that came with the Arm-type Stand or Wall Mount Hanger.

## Maintenance of Your LCD Monitor

**WARNING:** To avoid risk of electric shock, do not disassemble the monitor cabinet (except gaining access to the cable connectors as described on page 6). Users cannot service the monitor. User maintenance is restricted to cleaning as explained below:

Unplug the monitor from the power outlet before cleaning.

- To clean your LCD Monitor screen, lightly dampen a soft, clean cloth with water or mild detergent. If possible, use a special screen cleaning tissue or solution suitable for the antistatic coating.
- To clean the monitor cabinet, use a cloth lightly dampened with a mild detergent.
- Never use flammable cleaning material to clean your LCD Monitor or any other electrical apparatus.

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# Regulatory Information

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## FCC Information

### User Instructions

The Federal Communications Commission Radio Frequency Interference Statement includes the following warning:

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television receptions, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

### User Information

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

If necessary, consult your dealer or an experienced radio/television technician for additional suggestions. You may find the booklet called How to Identify and Resolve Radio/TV Interference Problems helpful. This booklet was prepared by the Federal Communications Commission. It is available from the U.S. Government Printing Office, Washington, DC 20402, Stock Number 004-000-00345-4.

### Warning

User must use shielded signal interface cables to maintain FCC compliance for the product.

### Declaration of conformity for products Marked with FCC Logo

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The party responsible for product compliance:  
SAMSUNG ELECTRONICS CO., LTD.

America QA Lab of samsung

85 West Tasman Drive  
San Jose, CA 95134 USA

Tel.: 408 - 544 - 5124

Fax: 408 - 544 - 5191

Provided with this monitor is a detachable power supply cord with IEC320 style terminations. It may be suitable for connection to any UL Listed personal computer with similar configuration. Before making the connection, make sure the voltage rating of the computer convenience outlet is the same as the monitor and that the ampere rating of the computer convenience outlet is equal to or exceeds the monitor voltage rating.

For 120 Volt applications, use only UL Listed detachable power cord with NEMA configuration 5-15P type (parallel blades) plug cap. For 240 Volt applications use only UL Listed Detachable power supply cord with NEMA configuration 6-15P type (tandem blades) plug cap.

## IC Compliance Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations of ICES-003.

Cet appareil Numérique de classe B respecte toutes les exigences du Règlement ICES-003 sur les équipements produisant des interférences au Canada.

## MPR II Compliance

This monitor complies with SWEDAC(MPR II) recommendations for reduced electric and magnetic fields.

## European Notice

Products with the CE Marking comply with both the EMC Directive (89/336/EEC), (92/31/EEC), (93/68/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community. Compliance with these directives implies conformity to the following European Norms:

- EN55022:1998 – Radio Frequency Interference
- EN55024:1998 – Electromagnetic Immunity
- EN61000-3-2:1995 + A1 + A2 – Power Line Harmonics
- EN61000-3-3:1995 – Voltage Fluctuations
- EN60950 – Product Safety.

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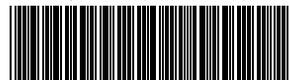
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