



# **SyncMaster 510b**

# **SyncMaster 710s**

## **Color Monitor**



**Owner's  
Instructions**

# Safety Instructions

- 1 Before connecting the AC power cord to an outlet, make sure the voltage designation on your monitor corresponds to the local electrical supply.
- 2 Never insert anything metallic into the monitor openings. Doing so may create the danger of electric shock.
- 3 To avoid electric shock, never touch the inside of the monitor. Only a qualified technician should open the monitor's case.
- 4 Never use your 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 monitor from an electric socket.
- 6 Openings in the monitor cabinet are provided for ventilation. To prevent overheating, these openings should not be blocked or covered. Also, avoid using the 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 monitor in a bookcase or some other enclosed space, be sure to provide adequate ventilation.
- 7 Put your monitor in a location with low humidity and a minimum of dust.
- 8 Do not expose the monitor to rain or use it near water (in kitchens, near swimming pools, etc.). If the monitor accidentally gets wet, unplug it and contact an authorized dealer immediately. You can clean the monitor with a damp cloth when necessary, but be sure to unplug the monitor first.
- 9 Place the monitor on a solid surface and treat it carefully. The screen is made of glass and can be damaged if dropped, hit or scratched.
- 10 Locate your monitor near an easily accessible AC outlet.
- 11 If your 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 temperatures can cause problems. Don't use your monitor in direct sunlight, and keep it away from heaters, stoves, fireplaces, and other sources of heat.
- 13 Unplug the monitor when it is going to be left unused for an extended period of time.
- 14 Unplug your monitor from the AC outlet before any service.

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

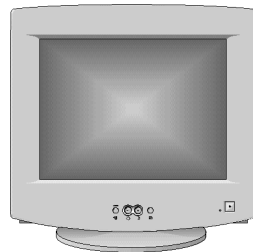
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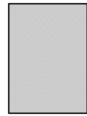
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# Your New Monitor

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



Monitor & stand



This manual



Driver installation diskette

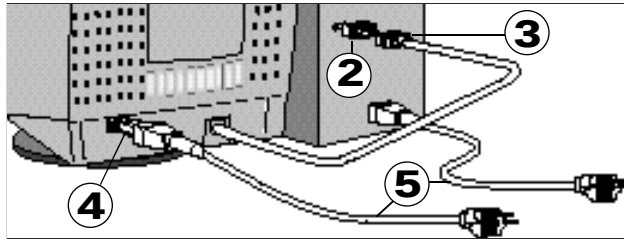


Power cord



Warranty card  
(not available in all locations)

## Connecting Your Monitor



- 1** Turn off your computer and unplug the power cord.
- 2** **Video port**  
Connect the signal cable (with an adapter if necessary) to the video port on the back of your computer, video board, video card, or graphics card.
- 3** **Signal cable**  
Connect the end of the signal cable to your computer's video port. If you are using a Macintosh computer, connect the cable to a Macintosh adapter, and set the pins on your adapter (adapter not included). An IBM-compatible computer does not need an adapter.
- 4** **Power port**  
Connect the power cord for your monitor to the power port on the back of the monitor.
- 5** **Power cords**  
Plug the power cord for the monitor and the power cord for your computer into a nearby outlet.
- 6** Turn on your computer and monitor. If your monitor displays an image, installation is complete.

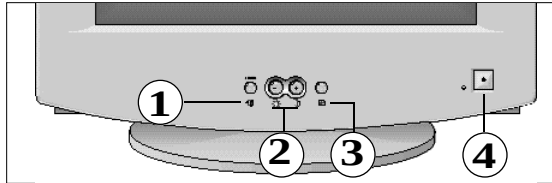
### To install the monitor driver on your PC:

1. Insert the provided diskette into the A drive.
2. Double click the "install.exe" file.

# Your New Monitor

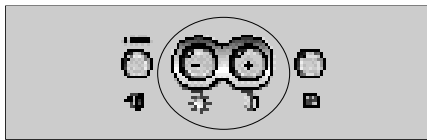
English

## Front Panel



- 1 Menu button**  
Opens and closes the on-screen menu. Also used to move between menus when using the on-screen menu system.
- 2 The -/+ buttons**  
These buttons allow you to select and adjust items using the on-screen menu. When adjusting an item using the on-screen menu, the (–) button lowers the value of the selected function. The (+) button raises the value of the selected function. These buttons are also direct access buttons for the Contrast and Brightness feature controls. (See the section on Direct Access Buttons).
- 3 The < button**  
This button is used with the on-screen menu system to select a highlighted function for adjustment. Also used to move between menus when using the on-screen menu system.
- 4 Power button**  
Turns the monitor on and off. The power indicator light glows green during normal operation.

## Direct Access Buttons



Most of the adjustments you make to your monitor will be accessed through the on-screen menu described in the next section. The Contrast and Brightness features can also be accessed with the touch of a button on the front of your monitor.

- 1** With the menu off, press the ☀ or 🌙 button on the front of your monitor. The ☀ button accesses the Brightness feature. The 🌙 button accesses the Contrast feature.
- 2** Push the + button to increase or the – button to decrease the value of a selection.
- 3** Press the menu button → twice to exit the on-screen menu.

# Operation

## On-screen Menu System

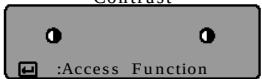
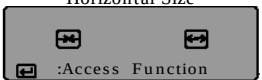
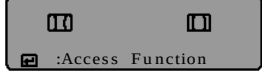
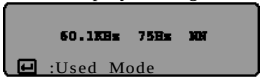
Your monitor has an on-screen menu system, accessed by the buttons on the front of your monitor, that allows you to adjust characteristics of the screen image. Display changes are indicated by on-screen adjustment icons. Some functions have sub-menus.

- 1 Push the menu button  to display the main menu. Function icons are arranged across the top of the on-screen menu.
- 2 Push the  or  button to move through the icons. The name of the active function will appear below the rows of function icons.
- 3 To select a function or open a sub-menu, push the  button. The screen will display the options for adjustment. If there is a sub-menu, use the  or  button to highlight the feature you want to adjust, then push the  button to select it.
- 4 Use the  and  buttons to make adjustments. The  increases values, the  decreases values. On-screen calibration numbers show the effect of your adjustment. If you are in a sub-menu, use the menu button  to return to the previous menu.
- 5 Push the menu button  to exit and save your changes.



# Operation

English

| Icon                                                                                | Monitor Function Control                                                                                     | On-screen Adjustment                                                                                                                                                  |
|-------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     |                                                                                                              |   |
|    | <b>Brightness</b><br>Background brightness of screen.<br>- decreases brightness<br>+ increases brightness    | Brightness<br>                                                                      |
|    | <b>Contrast</b><br>Contrast of screen image.<br>- decreases contrast<br>+ increases contrast                 | Contrast<br>                                                                        |
|    | <b>Horizontal Position</b><br>Horizontal screen position.<br>- moves the screen left<br>+ moves screen right | Horizontal Position<br>                                                             |
|    | <b>Vertical Position</b><br>Vertical screen position.<br>- moves screen down<br>+ moves screen up            | Vertical Position<br>                                                               |
|   | <b>Horizontal Size</b><br>Horizontal screen size.<br>- decreases size<br>+ increases size                    | Horizontal Size<br>                                                               |
|  | <b>Vertical Size</b><br>Vertical screen size.<br>- decreases size<br>+ increases size                        | Vertical Size<br>                                                                 |
|  | <b>Pincushion</b><br>Straightness of vertical edges.<br>- curves image inward<br>+ curves image outward      | Pincushion<br>                                                                    |
|  | <b>Display Timing</b><br>Monitor display settings.<br>- factory timing<br>+ user timing                      | Display Timing<br>                                                                |

# Operation

| Icon                                                                                | Monitor Function Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | On-screen Adjustment                                                                                                                                                                                                                                                                                                                                                                           |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                              |
|    | <b>Advanced Features</b><br>Color temperature<br> - 9300k more blue<br> + 6500k more red<br>Language<br> -, + scroll through on-screen language options.<br>Half tone<br> - off<br> + on                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 1. <br> :Exit Function<br>2. <br> :Previous Menu         |
|    | <b>Moire</b><br>Correct for on-screen moire pattern.<br>- horizontal moire<br>+ vertical moire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <br> :Access Function                                                                                                                                                                                                       |
|    | <b>Degauss</b><br>Removes color distortion caused by magnetic fields. Do not use more than once in 30 minutes.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <br> :Access Function                                                                                                                                                                                                       |
|   | <b>Recall</b><br>Returns monitor to original settings.<br>- no<br>+ yes                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | <br> :Access Function                                                                                                                                                                                                   |
|  | <b>Geometry</b><br>Pinbalance<br> - curves vertical lines to left<br> + curves vertical lines to right<br>Parallelogram<br> - skews screen image left<br> + skews screen image right<br>Rotation<br> - rotates entire screen right<br> + rotates entire screen left<br>V-linearity<br> - compresses image at top of screen<br> + compresses image at bottom of screen | 1. <br> :Exit Function<br>2. <br> :Previous Menu |
|  | <b>Trapezoid</b><br>Width of top and bottom of screen.<br>- widens top of screen<br>+ widens bottom of screen                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <br> :Access Function                                                                                                                                                                                                   |



# Troubleshooting

Before calling for service, check the information in this section to see if you can solve the problem yourself. If you do need assistance, please call the phone number on the warranty card, the phone number on the back cover of this manual, or contact your dealer.

## There is no screen image.

- Check to see that both the monitor and the computer are plugged in and turned on.

## "Check Signal Cable" appears.

- Check the signal cable connection between the computer and the monitor.

## The screen image is too light or too dark.

- Adjust the brightness or contrast settings.

## The screen image is too large or too small.

- Adjust the size settings.

## The colors are distorted with dark or shadowed areas.

- Activate the degauss feature.
- Adjust the color temperature.

## The power indicator light is blinking green.

- The monitor is using its power management system.

## You need the monitor driver software.

- You can download the driver from the internet at [http : //www.samsungelectronics.com](http://www.samsungelectronics.com).

# 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 move the computer's mouse or 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 DPMS compliant video card installed in your computer. Use a software utility installed on your computer to set up this feature.

| State<br>Operation   | Normal                                                                       | Power Saving function mode EPA/NUTEK |                                      |                                    |
|----------------------|------------------------------------------------------------------------------|--------------------------------------|--------------------------------------|------------------------------------|
|                      |                                                                              | Standby mode                         | Suspend mode<br>Position A1          | Power-off Mode<br>Position A2      |
| Power<br>Indicator   | Green                                                                        | Green Blinking<br>(0.5 sec interval) | Green Blinking<br>(0.5 sec interval) | Green Blinking<br>(1 sec interval) |
| Power<br>Consumption | 510b: 80W (maximum)<br>70W (nominal)<br>710S: 90W (maximum)<br>80W (nominal) | 50W (nominal)                        | Less than 15W                        | Less than 5W                       |

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

# Specifications

| Specifications               | Models: Sync Master 510b & 710s                                                                                                                                                                                                                                                                                                                                        |
|------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Picture Tube                 | <ul style="list-style-type: none"> <li>• <b>510b:</b> 15" (38 cm) Full square type (35 cm viewable)</li> <li>• <b>710s:</b> 17" (43 cm) Full square type (40 cm viewable)</li> <li>• 90° deflection • 0.28mm dot pitch</li> <li>• Silica Coated with anti-electrostatic properties (TCO : Multi Layer coating)</li> <li>• Medium-short persistence phosphor</li> </ul> |
| Synchronization              | <ul style="list-style-type: none"> <li>• Horizontal: 30kHz to 70 kHz</li> <li>• Vertical: 50 Hz to 160 Hz</li> </ul>                                                                                                                                                                                                                                                   |
| Display Color                | • Unlimited                                                                                                                                                                                                                                                                                                                                                            |
| Maximum Resolution           | • 1280 dots • 1024 lines                                                                                                                                                                                                                                                                                                                                               |
| Active Display               | <ul style="list-style-type: none"> <li>• Horizontal: <b>510b:</b> 267 ± 4mm <b>710s:</b> 306 ± 4mm</li> <li>• Vertical: <b>510b:</b> 200 ± 4mm <b>710s:</b> 230 ± 4mm</li> </ul>                                                                                                                                                                                       |
| Input Signal, Terminated     | <ul style="list-style-type: none"> <li>• Analog: .7Vpp positive at 75 ohms</li> <li>• Separate Sync: TTL level, positive or negative</li> </ul>                                                                                                                                                                                                                        |
| Maximum Pixel Clock          | • 110 MHz                                                                                                                                                                                                                                                                                                                                                              |
| Power Supply                 | • AC 100-240 Volt ± 10%, 60 Hz/50 Hz ± 3 Hz                                                                                                                                                                                                                                                                                                                            |
| Power Consumption            | • <b>510b:</b> 80 watt maximum <b>710s:</b> 90 watt maximum                                                                                                                                                                                                                                                                                                            |
| Dimensions/Weight (WxDxH)    | <ul style="list-style-type: none"> <li>• Unit: <b>510b:</b> 362 x 390 x 377mm/12.7 kg <b>710s:</b> 420 x 425 x 421 mm /16.5 kg</li> <li>• Carton: <b>510b:</b> 454 x 497 x 445mm/14.5 kg <b>710s:</b> 534 x 552 x 541 mm /19.0 kg</li> </ul>                                                                                                                           |
| Environmental Considerations | <ul style="list-style-type: none"> <li>• Operating temperature: 32°F to 104°F (0°C to 40°C)</li> <li>• Humidity: 10% to 80%</li> <li>• Storage temperature: -4°F to 113°F (-20°C to 45°C)</li> </ul>                                                                                                                                                                   |

Design and specifications are subject to change without notice.

# Display Modes

| Display Mode         | Horizontal Frequency (kHz) | Vertical Frequency (Hz) | Pixel Clock (MHz) | Sync Polarity (H/V) |
|----------------------|----------------------------|-------------------------|-------------------|---------------------|
| IBM, VGA2, 720 x 400 | 31.469                     | 70.087                  | 28.322            | - / +               |
| IBM, VGA3, 640 x 480 | 31.469                     | 59.940                  | 25.175            | - / -               |
| VESA, 640 x 480      | 37.500                     | 75.000                  | 31.500            | - / -               |
| VESA, 640 x 480      | 43.269                     | 85.008                  | 36.000            | - / -               |
| VESA, 800 x 600      | 46.875                     | 75.000                  | 49.500            | + / +               |
| VESA, 800 x 600      | 53.674                     | 85.061                  | 56.250            | + / +               |
| VESA, 1024 x 768     | 60.023                     | 75.029                  | 78.750            | + / +               |
| VESA, 1024 x 768     | 68.677                     | 84.997                  | 94.500            | + / +               |

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# Regulation Information

## 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  
QA Lab of Samsung America

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 6015P 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 (CISPR 22) – Radio Frequency Interference
- EN50082-1 : 1992 – Electromagnetic Immunity
- EN60555-2 (IEC555-2) – Power Line Harmonics
- EN60555-3 (IEC555-3) – Voltage Fluctuations
- EN60950 (IEC950) – Product Safety.

**U.S.A. :**

**Samsung Electronics America (SEA)**  
**One Samsung Place**  
**Ledgewood, NJ 07852**  
**Tel. : 1-800-SAMSUNG (1-800-726-7864)**  
**Fax-on-Demand for product information :**  
**1-800-229-2239**

**CANADA :**

**Samsung Electronics Canada Inc.**  
**7037 Financial Drive**  
**Mississauga, Ontario L5N 6R3**  
**Tel. : 1-800-SAMSUNG (1-800-726-7864)**  
**Fax. : (905) 542-1199**

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**P.O. BOX 368**  
**Tel. : (02) 638 5200**

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