Multiple Display Control (MDC)

11. Troubleshooting

1. The display you wish to control does not appear on the Power Control Info Grid
   - Check the connection of RS232C. (Check if it is properly connected to the Com1 port)
   - Check the displays to see if any of the other displays connected have the same ID. If more than one displays have the same ID, those displays are not properly detected by the program due to data conflict.
   - Check if the Display Set ID is a number between 1 and 10. (Adjust using the Display menu)

   Note : A Display Set ID must be a value between 1 and 10. If the value is out of the range, the MDC system cannot control the display.

2. The display you wish to control does not appear on the other Control Info Grids
   - Check to see if the display power is ON. (You can check this in Power Control Info Grid)
   - Check if you can change the input source of the display.

3. The dialogue box appears repeatedly.
   - Check to see if the display you wish to control is selected. ☑

4. Both On Timer and Off Timer have been set but different time is showing.
   - Apply current time to synchronize the display clocks.

5. The remote may not function properly when you turn off the remote Function, disconnect the RS-232C cable, or exit the program in an Irregular manner. Rerun the program and turn the remote function again to Restore normal functions.

6. **<Note>** This program may malfunction due to problems in communication circuits or interference from electronic appliances nearby.

7. If you do need assistance, please call the phone number on the warranty card, the phone number on the Information section or contact your dealer.

12. Settings Value Display In Multiple Display Mode

▸ When there are more than one displays connected, the settings values are displayed as follows.

1. No selection: Displays the Factory Default Value.
2. Selected one display: Fetches and displays the settings value for the selected display.
3. Selected one display (ID1) and add another display (ID3): The program, which was displaying the settings value of ID 1, fetches and displays the value of ID3.
4. Selected all sets using Select All: Returns to the Factory Default Value.

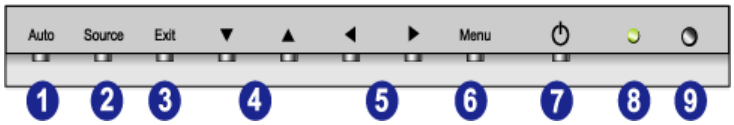
User control buttons

The control button configuration may vary slightly depending on the monitor model.

Monitor Buttons | Remote Control Buttons

| Monitor Buttons |

For more information about screen adjustment, refer to On-Screen Display.



1. **Auto button**

   Press to self-adjust to the incoming PC signal. The values of fine,coarse and position are adjusted automatically.
   To make the automatic adjustment function sharper, execute the 'AUTO' function while the AUTO PATTERN is on. (Press here to view an animation about Auto Adjustment.)

2. **Source button**

   Turns on the indicator to indicate the currently displayed input signal.
   (Press here to view Screen Mode Switching Animation Clips.)

3. **Exit button**

   When screen adjustment menu is on : Exit button exits from the menu screen or closes screen adjustment menu.

4. **Navigate button (Up-Down Button)**

   Moves from one menu item to another vertically or adjusts selected menu values.

5. **Adjust button (Left-Right Button) / Volume button**

   Moves from one menu item to another horizontally or adjusts selected menu values.
   Also adjusts the audio volume.

6. **Menu button**

   When screen adjustment menu is on: Use this button to open the OSD and activate a highlighted menu item.

7. **Power button**

   Use this button to turn the monitor on and off.

8. **Power indicator**

   Lights up when you turn the power on. Refer to Specifications > PowerSaver.

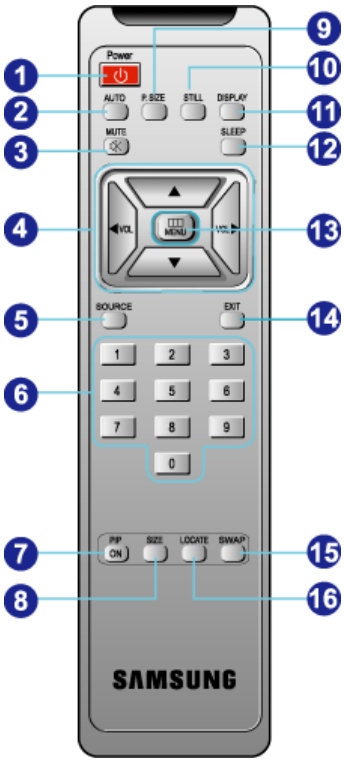
9. **Remote control sensor**

   Aim the remote control towards this spot on the Monitor.

User control buttons

| Remote Control Buttons |

For more information on the screen adjustment functions, refer to On-Screen Display.



1. Power button
2. Auto button
3. Mute button
4. VOL(Volume)and Up/Down buttons
5. Source button
6. Number buttons
7. PIP button
8. PIP Size button
9. P.Size button
10. Still button
11. Display button
12. Sleep button
13. Menu button
14. Exit button
15. Swap button
16. Location button

Up

1. **Power button**
   Use this button to turn the monitor on and off.

2. **Auto button**
   Press to self-adjust to the incoming PC signal. The values of fine,coarse and position are adjusted automatically.
   To make the automatic adjustment function sharper, execute the 'AUTO' function while the UTO PATTERN is on. (Press here to view an animation about Auto Adjustment.)

3. **Mute button** Up
   Pauses (mutes) the audio output temporarily. The audio resumes if Mute or Volume button is pressed in the Mute mode.

4. **VOL(Volume)and Up/Down buttons** Up
   Press to increase or decrease the volume. (Also used to make selections on the on-screen menus.)

5. **Source button** Up
   Press to display all of the available video sources.

6. **Number buttons** Up
   In the MDC program, press the numbers to set an ID.

7. **PIP button** Up
   Every time you push the button, the PIP window's signal source changes.

8. **PIP Size button**

User control buttons

8. **PIP Size button** Up

   Press to make the PIP window PIP 1, PIP 2, Double Screen 1, Double Screen 2.

9. **P.Size button** Up

   Press to change the Screen size.

10. **Still button** Up

    Press the button once to freeze the screen. Press it again to unfreeze.

11. **Display button** Up

    Displays the resolution, frequency and input signal settings in the center of the screen.

12. **Sleep button** Up

    Automatically shuts off the unit at a preset time.

13. **Menu button** Up

    When screen adjustment menu is off: Use this button to open the OSD and activate a highlighted menu item.

14. **Exit button** Up

    On the User Controls screen, press to return to the previous menu screen or to exit the current screen. Makes the PIP window disappear when selected in PIP mode.

15. **Swap button** Up

    Switches the main screen to PIP and vice versa.

16. **Location button** Up

    Moves the position of the PIP window on the screen.

OSD Functions

Characters and icons become highlighted in blue during adjustment for each menu.

PC Control | Video Control | Audio Control | Function Control

1. PC Control

For detailed information on Screen Adjustment in the PC mode, refer to PC mode Screen Adjustment Animation Clips.

	Brightness Adjust Brightness.
	Contrast Adjust Contrast.
	Color Temperature The tone of color can be changed. The individual color components are also user customizable. **1) Mode 1 :** High Temperature. **2) Mode 2 :** Middle Temperature. **3) Mode 3 :** Low Temperature. **4) User Mode :** User customizable.
	Image PC Screen Settings. **1) Image Lock** Image Lock is used to fine tune and get the best image by removing noises that creates unstable images with jitters and shimmers. If satisfactory results are not obtained using the Fine adjustment, use the Coarse adjustment and then use Fine again. • **Coarse :** Removes noise such as vertical stripes. Coarse adjustment may move the screen image area. You may relocate it to the center using the Horizontal Control menu. • **Fine :** Removes noise such as horizontal stripes. If the noise persists even after Fine tuning, repeat it after adjusting the frequency (clock speed). • **Reset :** Image lock and position parameters are replaced with the factory default values. **2) Image Size** Allows choosing from different image sizes. Varies depending on the resolution or signal ratio. The Expand 1, Expand 2 and 1:1 functions work only in PC RGB. • **Expand 1 :** Performs full screen image expansion. (No change if the resolution is set at maximum) • **Expand 2 :** Performs image expansion while maintaining the vertical/horizontal aspect ratio of the original video resolution. (No change if the resolution is set at maximum) • **1 : 1** Displays the image as created by the signal source. (No change if the resolution is set at maximum.)
	Position This adjusts the screen location horizontally and vertically.

OSD Functions

2. Video Control

For detailed information on Screen Adjustment in the Video mode, refer to Video mode Screen Adjustment Animation Clips.
You can use this function only if your screen mode is Video 1 or Video 2 or Component.

	Brightness Adjust Brightness.
	Contrast Adjusting Contrast.
	Sharpness Use to adjust the difference between the lightest and darkest areas on the display.
	Color Use to adjust the lightness/darkness on the display.
G+R	**Tint** Use to add the natural tone to the display.
	Reset Picture parameters are replaced with the factory default values.
	Image Size Resizing the screen. • **Expand 1** • **Expand 2** • **1 : 1** • **Panorama** • **Zoom 1** • **Zoom 2**

OSD Functions

3. Audio Control

For detailed information on Screen Adjustment in the Audio mode, refer to Audio mode Screen Adjustment Animation Clips.
Sound Select is available when the PIP is on.

	Bass Emphasize low frequency audio.
	Treble Emphasize high frequency audio.
	Balance Sound balance ==> Allows you to adjust the sound balance between the left and the right speakers. (The ideal setting is 50 for the left speaker and 50 for the right speaker.)
	Virtual Dolby Virtual Dolby Sound On/Off (Virtual Dolby simulates the effect of the Dolby Surround sound system, recreating the movie-theatre or concert-hall- quality sound.)
	Sound Select You can select either Main or Sub when PIP is On.

OSD Functions

4. Function Control

For detailed information on Screen Adjustment in the Function mode, refer to Function mode Screen Adjustment Animation Clips.

ID (MDC Program)
Assigns individual ID to the SET.

1) ID Setup : Assigning distinctive IDs to the SET.
2) ID Input : Use to select the transmitter functions of the individual SET. Only the SET whose ID corresponds to the transmitter setting becomes activated.

PIP
When external A/V devices such as VCR or DVD are connected to the monitor, PIP allows you to watch video from such devices in a small window super-imposed on pc video signal. (On/Off)

1) On / Off

2) Size
Resizing the PIP Screen.
- **PIP 1**
- **PIP 2**
- **Double Screen 1**
- **Double Screen 2**

3) Source
Select the input source for the PIP.

PIP Settings

Main \ Sub		RGB 1	RGB 2	BNC		Video 2	Video 1
				RGB3	Component		
RGB 1		X	X	X	X	O	O
RGB 2		X	X	X	X	O	O
BNC	RGB 3	X	X	X	X	O	O
	Component	X	X	X	X	X	X
Video 2		O	O	O	X	X	X
Video 1		O	O	O	X	X	X

4) Position : Change PIP window position.

Advanced Picture

1) Zoom (Available only for VIDEO 1, VIDEO 2)
- **Zoom :** Magnifies the size of the picture on screen.
- **Pan :** Moves the position of the magnified image on the screen either vertically or horizontally.

2) DNIe (Digital Natural Image engine)
Samsung's New Technology bring you more detailed image with contrast enhancement and white enhancement. New image compensation algorithm gives brighter, cleare, to our customers.
DNIe technology will fit every signals into your eyes.
- **Off :** Switches off the DNIe mode.
- **Medium :** Switches on the DNIe mode.
- **High :** The screen is more clear than in Medium.
- **Demo :** The screen before applying DNIe appears on the right and the screen after applying DNIe appears on the left.

3) Reset

OSD Functions

4. Function Control

For detailed information on Screen Adjustment in the Function mode, refer to Function mode Screen Adjustment Animation Clips.

	Timer • **Clock :** Current Time Setting • **On Time :** Use to set the monitor to turn on automatically at preset time. • **Off Time :** Use to set the monitor to turn off automatically at preset time. • **On Time Source :** Use to control the mode at the time the monitor turns on automatically. • **On Time Volume :** Use to control the volume level at the time the monitor turns on automatically. • **Sleep :** Sleep Function
	BNC Source Select an input source from the BNC connection. **1) RGB 3** **2) Component**
	OSD **1) Language :** You can choose one of 10 languages. **2) Position :** Move the OSD Window to the vertical and horizontal direction. **3) Halftone :** Change the opaqueness of the background of the OSD. **4) Duration :** The number of seconds that the OSD will remain visible before disappearing.
	Information Display current display mode. **Source / Resolution**

Check before calling for service

Check the following items yourself before calling for service. Contact the service center for problems that you cannot solve by yourself.

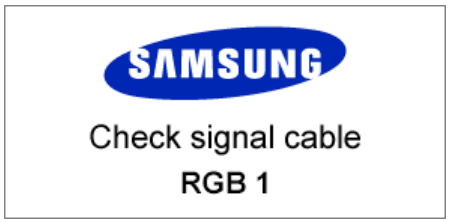
Self-Test Feature Check | Video mode not supported | Down Scaling | Maintenance and Cleaning | Symptoms & Recommended Actions

1. Self-Test Feature Check

Your monitor provides a self test feature that allows you to check whether your monitor is functioning properly.

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.

   The figure shown below ("Check Signal Cable") appears on a black background when the monitor is in its normal working condition though it does not sense any video signal: While in the Self-Test mode, the LED power indicator remains green and the figure moves around on the screen.

   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**.

2. Video mode not supported

This indicates the display resolution or refresh rate is not properly set on your computer video card. Reboot the computer in Safe Mode and select "Default" in the "Refresh Rate Unknown" box while setting Adapter for Display Properties.

Contact the computer dealer or manufacturer for information on Safe Mode Booting.

Refer to Specifications > Preset Timing Modes for the resolutions or frequencies that are supported by the monitor.

The screen sometimes remains black even though it does not show the message "Video mode not supported." This indicates the monitor is set for a frequency out of range or the PowerSaver mode is on.

Check before calling for service

3. Down Scaling

Not optimum mode

SXGA, 1280 X 1024 @ 60Hz~75Hz
UXGA, 1600 X 1200 @ 60Hz~75Hz
When the resolution is set to any of the above 2 unsupported modes, the ¡°Not optimum mode¡± message is displayed on the screen for 3 seconds . If this message is diaplayed, the monitor screen is not in its optimum status and the Auto Adjustment function may not work as normal. See the Preset Timing mode to set to the optimum resolution.

The Reduced Blinking Timing Mode of the Preset Timing Mode is properly supported.

4. Maintenance and Cleaning

1. Maintaining the Monitor Case
   Clean with a soft cloth after disconnecting the power cord.

- Do not use benzene, thinner or other flammable substances.
- We recommend a Samsung cleansing agent is used to prevent damage to the screen.

2. Maintaining the Flat Panel Display Screen
   Clean with a soft cloth (cotton flannel) smoothly.

- Never use acetone, benzene or thinner.
  (They may cause flaws or deformation of the screen surface.)
- The user will be required to pay costs and related expenses for repair of damages caused by the user.

5. Symptoms and Recommended Actions

A monitor recreates visual signals received from the PC. Therefore, if there is trouble with the PC or the video card, this can cause the monitor to become blank, have poor coloring, noise, Video mode not supported, etc. In this case, first check the source of the problem, and then contact a service center or your dealer.

1. Check if the power cord and the cable are properly connected to the computer.
2. Check if the computer beeps more than 3 times when booting.
   (If it does, request an after-service for the main board of the computer.)
3. If you installed a new video card or if you assembled the PC, check if you installed the adapter (video) driver and the monitor driver.
4. Check if the scanning ratio of the video screen is set at 75Hz.
   (Do not exceed 60Hz 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.

Problems and Solutions

The following table lists possible problems and their solutions. 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 warranty card, the phone number on the Information section or contact your dealer.

1. Problems related to Installation

Problems related to the monitor installation and their solutions are listed.

Problems	Solutions
The monitor screen flickers.	• Check if the signal cable between the computer and the monitor is securely connected and tightened. (Refer to Connecting to a Computer)

2. Problems related to Screen

Problems related to the monitor screen and their solutions are listed.

Problems	Solutions
Screen is blank and power indicator is off	• Ensure that the power cord is firmly connected and the LCD monitor is on. (Refer to the Connecting Your Monitor)
"Check Signal Cable" message	• Ensure that the signal cable is firmly connected to the PC or video sources. (Refer to the Connecting Your Monitor) • Ensure that the PC or video sources are turned on.
"Video mode not supported" message	• Check the maximum resolution and the frequency of the video adaptor. • Compare these values with the data in the Preset Timing Modes Chart.
Picture rolls vertically.	• Check if the signal cable is securely connected. Connect it again securely.(Refer to Connecting to a Computer)
Image is not clear. Picture is blurred.	• Run Frequency Coarse and Fine tuning. • Turn on again after removing all accessories (video extension cable, etc.) • Set resolution and frequency to the recommended ranges. (1280 x 768 @ 60Hz)
The image is too light or too dark	• Adjust the Brightness and Contrast (Refer to the Brightness, Contrast)
Screen color is inconsistent.	• Adjust color using Mode under OSD Color Adjustment menu.
Color image is distorted with dark shadows.	
White color is poor.	
Screen is blank and power indicator light is steady green or blinks every 0.5 or 1 seconds	• The monitor is using its power management system. • Move the computer's mouse or press a key on the keyboard

Problems and Solutions

3. Problems related to Audio

Problems related to audio signals and their solutions are listed below.

Problems	Solutions
No sound	• Ensure that the audio cable is firmly connected to both the audio-in port on your monitor and the audio-out port on your sound card. (Refer to the Connecting Your Monitor) • Check the volume level.
Sound level is too low.	• Check the volume level. • If the volume is still too low after turning the control to its maximum, check the volume control on the computer sound card or software program.
Sound is too high pitched or too low pitched	• Adjust the Treble and Bass to appropriate level.

4. Problems related to Remote Control

Problems related to the remote control and their solutions are listed.

Problems	Items to check
The remote control buttons do not respond.	• Check the battery polarities (+/-). • Check if the batteries have been exhausted. • Check if the power is on. • Check if the power cord is securely connected. • Check if a special fluorescent or neon lamp is on in the vicinity.

Q & A

Frequently asked questions are summarized here for your reference.

Question	Answer
How can I change the frequency?	Frequency can be changed by reconfiguring the video card. 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 XP: Reset resolution by clicking Control Panel → Appearance & Theme → Display → Settings. Windows ME/2000: Set the resolution at the Control Panel → Display → Settings. * Contact the video card manufacturer for details.
How can I set the Power Saving function?	Windows XP: Reset Power Saving parameters by clicking Control Panel → Appearance & Theme → Display → Screen Saver or in the computer BIOS SETUP. (Refer to Windows/Computer Manual) Windows ME/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. Do not leave any remains of the detergent nor scratch the case. Do not allow any water to go inside the monitor.

General Specifications

SyncMaster 403T

Design and specifications are subject to change without prior notice.

General	
Model Name	SyncMaster 403T
LCD Panel	
Size	40.02 inch (Diagonal)
Display area	871.68 (H) x 523.008 (V)
Pixel Pitch	0.681 (H) x 0.681 (V)
Type	a-si TFT active matrix
Synchronization	
Horizontal	30 ~ 70 kHz
Vertical	50 ~ 85 Hz
Display Color	
16,777,216 Colors	
Resolution	
Optimum resolution	1280 x 768 @ 60Hz
Maximum resolution	1280 x 768 @ 60Hz
Input Signal	
Sync.	Separate: TTL, P. or N.
	Composite: TTL, P. or N.
Video signal	0.7 Vp-p @ 75 ohm
Video	
Color system	NTSC, PAL, SECAM
Video format	CVBS, S-VHS, RGB, Component
Maximum Pixel Clock	
100 MHz	
Power Supply	
AC 90 ~ 264 V(50/60 Hz)	
Power Consumption	
230W (Maximum)	
Power Saving	
Less than 20W	
Dimensions (WxDxH)	
Without Stand	974 x 100 x 613 mm
Weight	
Monitor body	26 kg
Environmental considerations	
Operating	Temperature : 50°F ~ 104°F(10°C ~ 40°C) Humidity : 10% ~ 80%, non-condensing
Storage	Temperature : -13°F ~113°F (-25°C ~ 45°C) Humidity : 5% ~ 95%, non-condensing
Audio Characteristics	
Audio Input 1	RCA Jack Red(R) White(L), 0.5Vrms (-9dB)

General Specifications

Audio Input 2	RCA Jack Red(R) White(L), 0.5Vrms (-9dB)
PC Audio Input	3.5ØStereo Jack, 0.5Vrms (-9dB)
Frequency	RF: 80Hz ~ 15kHz (at -3dB)
Response	A/V: 80Hz ~ 20kHz (at -3dB)

Plug and Play Capability

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

Dot Acceptable

TFT LCD panel manufactured by using advanced semiconductor technology with precision of 99.999% above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.

The number of TFT LCD pixels : 2,949,120

General Specifications

SyncMaster 323T

Design and specifications are subject to change without prior notice.

General	
Model Name	SyncMaster 323T
LCD Panel	
Size	32.0 inch (Diagonal)
Display area	687.36 (H) x 412.42 (V)
Pixel Pitch	0.537 (H) x 0.537 (V)
Type	a-si TFT active matrix
Synchronization	
Horizontal	30 ~ 70 kHz
Vertical	50 ~ 85 Hz
Display Color	
16,777,216 Colors	
Resolution	
Optimum resolution	1280 x 768 @ 60Hz
Maximum resolution	1280 x 768 @ 60Hz
Input Signal	
Sync.	Separate: TTL, P. or N.
	Composite: TTL, P. or N.
Video signal	0.7 Vp-p @ 75 ohm
Video	
Color system	NTSC, PAL, SECAM
Video format	CVBS, S-VHS, RGB, Component
Maximum Pixel Clock	
100 MHz	
Power Supply	
AC 90 ~ 264 V(50/60 Hz)	
Power Consumption	
170W (Maximum)	
Power Saving	
Less than 5W	
Dimensions (WxDxH)	
Without Stand	787 x 100 x 500 mm
Weight	
Monitor body	18.2 kg
Environmental considerations	
Operating	Temperature : 50°F ~ 104°F(10°C ~ 40°C) Humidity : 10% ~ 80%, non-condensing
Storage	Temperature : -4°F ~113°F (-20°C ~ 45°C) Humidity : 5% ~ 95%, non-condensing

General Specifications

Audio Characteristics	
Audio Input 1	RCA Jack Red(R) White(L), 0.5Vrms (-9dB)
Audio Input 2	RCA Jack Red(R) White(L), 0.5Vrms (-9dB)
PC Audio Input	3.5ØStereo Jack, 0.5Vrms (-9dB)
Frequency	RF: 80Hz ~ 15kHz (at -3dB)
Response	A/V: 80Hz ~ 20kHz (at -3dB)

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

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The number of TFT LCD pixels : 2,949,120

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.

SyncMaster 403T

State	Normal Operation	Power saving mode EPA	Mechanical Power S/W off
Power Indicator	Green	Green, Blinking	Black
Power Consumption	Less than 230W	Less than 20W	Less than 1W

SyncMaster 323T

State	Normal Operation	Power saving mode EPA	Mechanical Power S/W off
Power Indicator	Green	Green, Blinking	Black
Power Consumption	Less than 170W	Less than 5W	Less than 1W

Preset Timing Modes

SyncMaster 403T

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.

Table 1. Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
MAC, 640 x 480	35.000	66.700	30.240	-/-
MAC, 832 x 624	49.730	75.000	57.284	-/-
VGA, 640 x 350	31.470	70.000	25.175	+/-
VGA, 720 x 400	31.470	70.000	28.322	-/+
VGA, 640 x 480	31.470	59.940	25.175	-/-
VGA, 640 x 480	37.861	72.809	31.500	-/-
VGA, 640 x 480	37.500	75.000	31.500	-/-
VGA, 640 x 480	43.269	85.008	36.000	-/-
WVGA, 848 x 480	29.820	60.000	31.490	+,-/+,-
SVGA, 800 x 600	35.160	56.200	36.000	+,-/+,-
SVGA, 800 x 600	37.880	60.300	40.000	+/+
SVGA, 800 x 600	48.100	72.200	50.000	+/+
SVGA, 800 x 600	46.875	75.000	49.500	+/+
SVGA, 800 x 600	53.674	85.061	56.250	+/+
XGA, 1024 x 768	48.363	60.004	65.000	-/-
XGA, 1024 x 768	56.480	70.000	75.000	-/-
XGA, 1024 x 768	60.023	75.029	78.750	+/+
XGA, 1024 x 768	68.677	84.997	94.500	+/+
WXGA, 1280 x 768	47.700	60.000	80.136	+,-/+,-

Table 2. Reduced Blinking Timing Mode

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
SXGA, 1280 x 1024	63.194	59.957	91.000	+,-

Preset Timing Modes

SyncMaster 323T

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.

Table 1. Preset Timing Modes

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
IBM, 640 x 350	31.469	70.086	25.175	+/-
IBM, 640 x 480	31.469	59.940	25.175	-/-
IBM, 720 x 400	31.469	70.087	28.322	-/+
MAC, 640 x 480	31.470	66.667	30.240	-/-
MAC, 832 x 624	49.726	74.551	49.500	+/+
VESA, 640 x 480	37.500	75.000	31.500	-/-
VESA, 640 x 480	37.861	75.809	31.500	-/-
VESA, 640 x 480	43.269	85.008	36.000	-/-
VESA, 800 x 600	35.156	56.250	36.000	+,-/+,-
VESA, 800 x 600	37.879	60.317	40.000	+/+
VESA, 800 x 600	46.875	75.000	49.500	+/+
VESA, 800 x 600	48.077	72.188	50.000	+/+
VESA, 800 x 600	53.674	85.000	56.250	+/+
VESA, 1024 x 768	48.363	60.004	65.000	-/-
VESA, 1024 x 768	56.476	70.069	75.000	-/-
VESA, 1024 x 768	60.023	75.029	78750	+/+
VESA, 1024 x 768	68.677	85.997	94.500	+/+
VESA, 1280 x 768	47.700	60.000	80.136	-/+

Table 2. Reduced Blinking Timing Mode

Display Mode	Horizontal Frequency (kHz)	Vertical Frequency (Hz)	Pixel Clock (MHz)	Sync Polarity (H/V)
SXGA, 1280 x 1024	63.194	59.957	91.000	+,-

Service Center

- **U.S.A. :**
  Samsung Computer Products Customer Service
  400 Valley Road, Suite 201, Mt. Arlington, NJ 07856
  Tel. : (973)601-6000, 1-800-SAMSUNG (1-800-726-7864)
  Fax. : (973)601-6001
  http://www.samsungusa.com/monitor/
- **BRAZIL :**
  Samsung Eletronica da Amazonia Ltda.
  R. Prof. Manoelito de Ornellas, 303, Terro B
  Chacara Sto. Antonio, CEP : 04719-040
  Sao Paulo, SP
  SAC : 0800 124 421
  http://www.samsung.com.br/
- **CANADA :**
  Samsung Electronics Canada Inc.
  7037 Financial Drive
  Mississauga, Ontario L5N 6R3
  Tel. : 1-800-SAMSUNG (1-800-726-7864)
  Fax. : (905) 542-1199
  http://www.samsung.ca/
- **COLOMBIA :**
  Samsung Electronics Colombia
  Cra 9 No 99A-02 Of. 106
  Bogota, Colombia
  Tel.: 9-800-112-112
  Fax: (571) 618 - 2068
  http://www.samsung-latin.com/
  e-mail : soporte@samsung-latin.com
- **PANAMA :**
  Samsung Electronics Latinoamerica(Z.L.) S.A.
  Calle 50 Edificio Plaza Credicorp, Planta Baja
  Panama
  Tel. : (507) 210-1122, 210-1133
  Tel : 800-3278(FAST)
  http://www.samsung-latin.com/
- **PERU**
  Servicio Integral Samsung
  Av.Argentina 1790 Lima1. Peru
  Tel: 51-1-336-8686
  Fax: 51-1-336-8551
  http://www.samsungperu.com/
- **GERMANY :**
  TELEPLAN Rhein-Main GmbH
  Feldstr. 16
  64331 Weiterstadt
  T. 06151/957-1306
  F. 06151/957-1732
  * EURO 0,12/MIN.
  http://www.samsung.de/
- **AUSTRALIA :**
  Samsung Electronics Australia Pty Ltd.
  Customer Response Centre
  7 Parkview Drive, Homebush Bay NSW 2127
  Tel : 1300 362 603
  http://www.samsung.com.au/
- **ITALY :**
  Samsung Electronics Italia S.p.a.
  Via C. Donat Cattin, 5
  20063 Cernusco s/Naviglio (MI)
  Servizio Clienti: 199.153.153
  http://www.samsung-italia.com/
- **ESPAÑA :**
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  Hospitalet de Llobregat (Barcelona)
  Tel. : (93) 261 67 00
  Fax. : (93) 261 67 50
  http://samsung.es/
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  Tel. : (0208) 391 0168
  Fax. : (0208) 397 9949
  < European Service Center & National Service >
  Stafford Park 12 Telford, Shropshire, TF3 3BJ
  Tel. : (0870) 242 0303
  Fax. : (01952) 292 033
  http://samsungservice.co.uk/
- **THAILAND :**
  HAI SAMSUNG SERVICE CENTER
  MPA COMPLEX BUILDING,1st-2nd Floor
  175 SOI SUEKSA VIDHAYA SATHON SOI 12
  SILOM ROAD ,SILOM,BANGRAK
  BANGKOK 10500
  TEL : 0-2635-2567
  FAX : 0-2635-2556
  http://www.samsungelectronics.co.th/
- **SOUTH AFRICA :**
  Samsung Electronics,5 Libertas Road, Somerset Office Park,
  Bryanston Ext 16. Po Box 70006, Bryanston,2021, South Africa
  Tel : 0027-11-549-1621
  Fax : 0027-11-549-1629
  http://www.samsung.co.za/
- **UKRAINE :**
  SAMSUNG ELECTRONICS REPRESENTATIVE OFFICE IN UKRAINE
  4 Glybochitska str.
  Kiev, Ukraine
  Tel. 8-044-4906878
  Fax 8-044-4906887
  Toll-free 8-800-502-0000
  http://www.samsung.com.ua/
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  Samsung support Norge: 8001-1800
  Samsung support Finland: 0800-118001
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  http://www.samsung.se/
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  Tel: 36 1 453 1100
  Fax: 36 1 453 1101
  http://www.samsung.hu/
- **FRANCE :**
  SAMSUNG ELECTRONICS FRANCE Service
  Paris Nord 2
  66 rue des Vanesses
  BP 50116 Villepinte
  95950 Roissy CDG Cedex
  Tel : 08 25 08 65 65
  Fax : 01 48 63 06 38
  http://www.samsungservices.com/
- **PORTUGAL :**
  SAMSUNG ELECTRONICA PORTUGUESA S.A.
  Rua M?io Dioniso, Nº2 - 1?Drt. 2795-140 LINDA-A-VELHA
  Tel. 214 148 114/100 Fax. 214 148 133/128
  Free Line 800 220 120
  http://www.samsung.pt/

Service Center

- **NETHERLANDS/BELGIUM/LUXEMBOURG :**
  Samsung Electronics Benelux B. V.
  Fleminglaan 12 2289 CP Rijiswijk, NEDERLANDS
  Service and informatielijn ;
  Belgium :0800-95214, http://www.samsung.be/
  Netherlands : 0800-2295214, http://www.samsung.nl/

- **CHILE :**

  SONDA S.A.
  Teatinos 550, Santiago Centro, Santiago, Chile
  Fono: 56-2-5605000 Fax: 56-2-5605353
  56-2-800200211
  http://www.sonda.com/
  http://www.samsung.cl/

- **MEXICO :**
  SAMSUNG ELECTRONICS MEXICO. S.A. DE C.V.
  Saturno NO.44, Col. Nueva Industrial Vallejo
  Gustavo A.Madero C.P.07700, Mexico D.F. Mexico
  TEL. 52-55-5747-5100
  Fax. 52-55-47 52 02
  RFC: SEM950215S98
  http://www.samsung.com.mx/

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Gustavo A.Madero C.P.07700, Mexico D.F. Mexico
TEL. 52-55-5747-5100

EXPORTADO POR: Samsung Electronics CO.,LTD.
Mae tan-3dong, Pal dal-Gu,
Suwon City, Kyoungki-Do Korea

Terms

- **Sync Signal**

  Sync (Synchronized) Signals refer to the standard signals that are required to display desired colors on the monitor. They are divided into Vertical and Horizontal Sync Signals. These signals display normal color images by the set resolution and frequency.

  Types of Sync Signals

Separate	This is a scheme of transmitting individual vertical sync signals to the monitor.
Composite	This is a scheme of combining vertical sync signals into one composite signal and transmitting it to the monitor. The monitor displays the color signals by separating the composite signal into original color signals.
Sync On Green	This scheme does not use sync signals. Instead, it combines horizontal and vertical sync signals into a Green signal and transmits to the monitor. It is mainly used for workstations.

- **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 Vertical Frequency or Refresh Rate. Unit: Hz

  Example: If the same light repeats itself 60 times per second, this is regarded as 60 Hz. In this case, flickering of the screen can be detected. To avoid this problem, there is a Flicker-free Mode using a vertical frequency over 70 Hz.

- **Horizontal Frequency**

  The time to scan one line connecting the right edge to the left edge of the screen horizontally is called 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 in order 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 'resolution'. This number shows the accuracy of the display. High resolution is good for performing multiple tasks as more image information can be shown on the screen.

  Example: If the resolution is 1024 X 768, this means the screen is composed of 1024 horizontal dots (horizontal resolution) and 768 vertical lines (vertical resolution).

- **Multiple Display Control (MDC)**

  A Multiple Display Control (MDC) is an application allowing various displays to be easily and simultaneously operated on a PC. RS-232C, a standard of serial communication, is used for the communication between a PC and a display.

Regulatory

FCC Information | IC Compliance Notice | MPR II Compliance |
European Notice (Europe only) | PCT Notice | VCCI |

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.

The party responsible for product compliance:
SAMSUNG ELECTRONICS CO., LTD
America QA Lab of Samsung
3351 Michelson Drive,
Suite #290, Irvine, CA92612 USA
Tel) 949-975-7310
Fax) 949-922-8301

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

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 Règlemont NMB-03 sur les équipements produisant des interférences au Canada.

Regulatory

MPR II Compliance

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

European Notice (Europe only)

Products with the CE marking comply with 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+A1:2000 - Radio Frequency Interference
- EN55024:1998 - Electromagnetic Immunity of Information Technology Equipment
- EN61000-3-2:1995+A1/A2:1998 - Power Line Harmonics
- EN61000-3-3:1995 - Voltage Fluctuations

PCT Notice

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VCCI

This is a Class B product based on the standard of the Voluntary Control Council for Interference by Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

Natural Color

- **Natural Color Software Program**

One of the recent problems in using a computer is that the color of the images printed out by a printer or other images scanned by a scanner or a digital camera are not the same as those shown on the monitor.

The Natural Color S/W is the very solution for this problem. It is a color administration system developed by Samsung Electronics in association with Korea Electronics & Telecommunications Research Institute (ETRI). This system is available only for Samsung monitors and makes the color of the images on the monitor the same as the printed or scanned images.
For more information, refer to Help (F1) in the software program.

How to install the Natural Color software
Insert the CD included with the Samsung monitor into the CD-ROM Drive. Then, the initial screen of the program installation will be executed. Click Natural Color on the initial screen to install the Natural Color software. To install the program manually, insert the CD included with the Samsung monitor into the CD-ROM Drive, click the [Start] button of Windows and then select [Execute].
Enter D:\color\eng\setup.exe and then press the <Entrer> key.
(If the drive where the CD is inserted is not D:\, enter the applicable drive.)

How to delete the Natural Color software program
Select [Setting]/[Control Panel] on the [Start] menu and then double-click [Add/Delete a program].
Select Natural Color from the list and then click the [Add/Delete] button.

For Better Display

- **For Better Display**

1. Adjust computer resolution and screen injection rate (refresh rate) in control panel of computer 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.
   - Resolution: 1280 x 768
   - Vertical frequency (refresh rate): 60 Hz
2. TFT LCD panel manufactured by using advanced semiconductor technology with precision of 99.999% above is used for this product. But the pixels of RED, GREEN, BLUE and WHITE color seem to be bright sometimes or some of black pixels could be seen. This is not from bad quality and you can use it without uneasiness.
   - For example, the number of TFT LCD pixels that is contained in this product are 2,949,120.
3. When you clean the monitor and the panel outside, please apply the recommended small amount of cleaner by using soft and dry cloth and polish it. Let LCD area not to be forced but to be scrubbed out softly. If excessive force is applied, you can have a stain on it.
4. If you are not satisfied with the quality of picture, you can get better quality of picture by executing "auto adjustment function" in display screen that is appeared as window termination button is pressed. If there's still noise after automatic adjustment, use FINE/COARSE adjustment function.
5. If you view a fixed screen for an extended period of time, residual image or blurriness may appear. Change the mode to energy save or set a screensaver to moving picture when you need to be away from the monitor for an extended period of time.

Authority

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