5. Lift up the stand to unlatch the upper hooks and remove the stand (**Figure S.3**).
6. Remove the 2 screws on the top of the monitor (**Figure S.4**). The monitor is now ready for mounting in an alternate manner.
7. Connect the cables to the back of the monitor.
8. Reverse this process to re-attach stand.

NOTE: Use only VESA-compatible alternative mounting method.
Handle with care when removing stand.

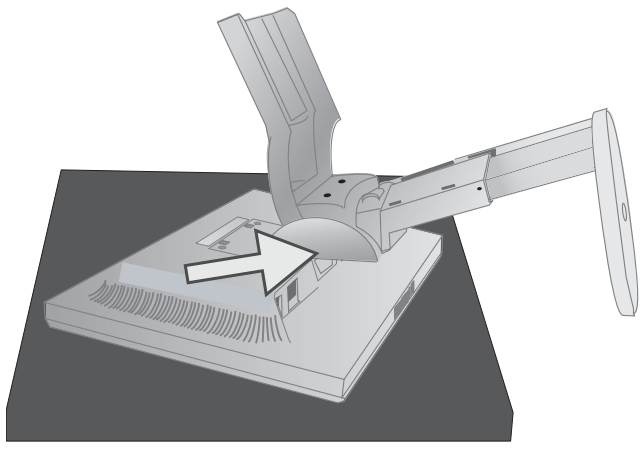


Figure S.3

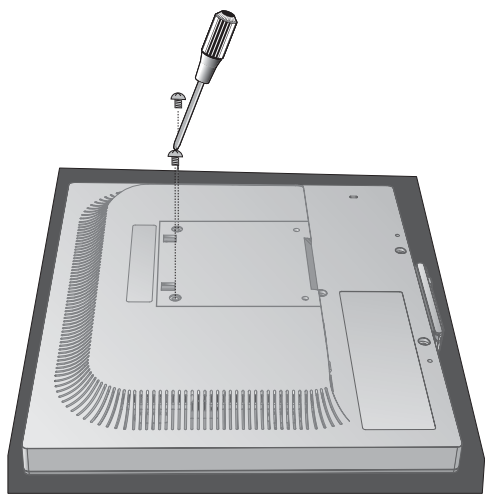


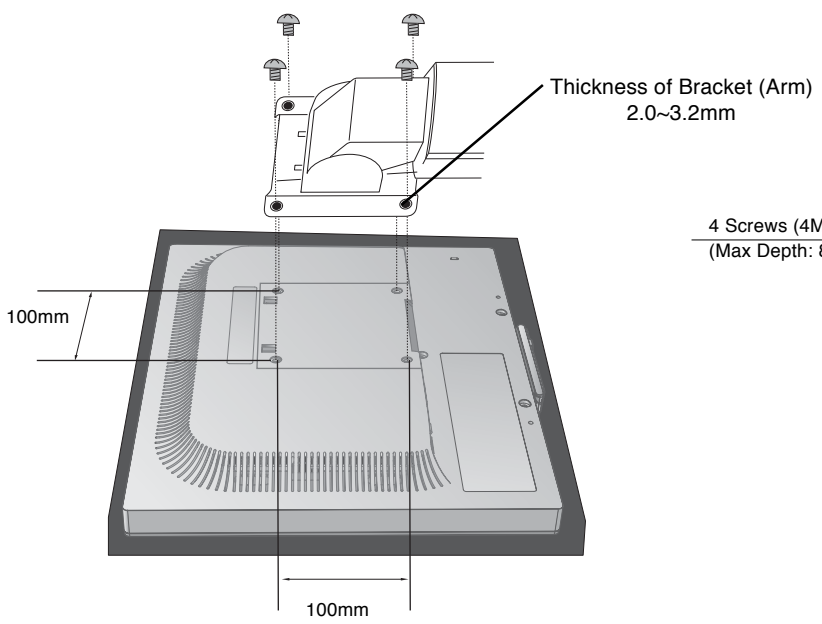
Figure S.4

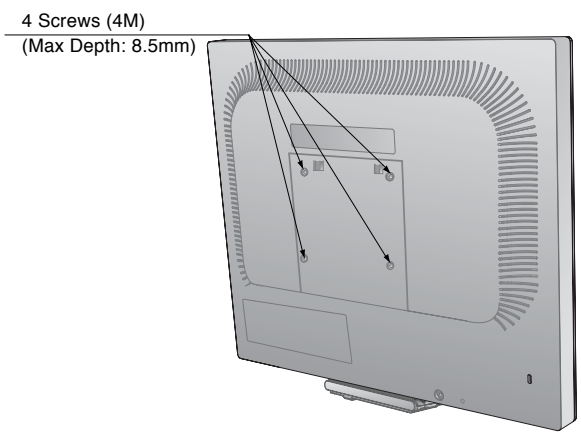
Flexible Arm Installation

This LCD monitor is designed for use with a flexible arm. To mount the monitor to a flexible arm:

1. Follow the instructions on how Remove Monitor Stand for Mounting to remove the stand.
2. Using the 4 screws from the stand removal and attach the arm to the monitor (**Figure F.1**).

NOTE: The LCD monitor should only be used with an approved arm. To meet the safety requirements, the monitor must be mounted to an arm, which guaranties the necessary stability under consideration of the weight of the monitor.





Weight of LCD assembly: 5.4kg MAX

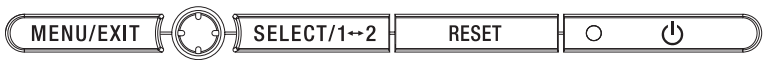
Figure F.1

Controls

OSD (On-Screen Display) control buttons on the front of the monitor function as follows:

To access OSD menu, press any of the control buttons (MENU/EXIT, Left, Right, Down, Up).
To change signal input, press the SELECT/1↔2 button.

NOTE: OSD must be closed in order to change signal input.



Button	Menu
MENU/EXIT	Open OSD main menu. Exits the OSD controls. Exits to the OSD main menu.
Left/Right	Moves the highlighted area left/right to select control menus. Moves the bar left/right to increase or decrease the adjustment.
Down/Up	Moves the highlighted area down/up to select one of the controls.
SELECT/ 1↔2	Active Auto Adjust function. Enter the OSD sub menu.
RESET	Resets the highlighted control menu to the factory setting.

NOTE: When **RESET** is pressed in the main and sub-menu, a warning window will appear allowing you to cancel the **RESET** function by pressing the MENU/EXIT button.

Brightness/Gain Controls

BRIGHTNESS
Adjusts the luminance level of the display by changing the backlight brightness.

GAIN (Analog input only)
Adjusts the image brightness in relation to the background.

AUTO CONTRAST (Analog input only)
Adjusts the image displayed to optimal settings.

Auto Adjust (Analog input only)
Automatically adjusts the Image Position, H. Size and Fine settings.

Image Controls (Analog input only)

LEFT / RIGHT
Controls Horizontal Image Position within the display area of the LCD.

DOWN / UP
Controls Vertical Image Position within the display area of the LCD.

H.SIZE
Adjusts the horizontal size by increasing or decreasing this setting.

FINE
Improves focus, clarity and image stability by increasing or decreasing this setting.

English

Color Control System

Color Control System: Six color presets select the desired color setting (sRGB and NATIVE color presets are standard and cannot be changed).

R,G,B: Increases or decreases Red, Green or Blue color depending upon which is selected. The change in color will appear on screen and the direction (increase or decrease) will be shown by the bars.

NATIVE: Original color presented by the LCD panel that is unadjustable.

sRGB: sRGB mode dramatically improves the color fidelity in the desktop environment by a single standard RGB color space. With this color supported environment, the operator could easily and confidently communicate color without further color management overhead in the most common situations.

Tools

OFF TIMER: Monitor will automatically power-down when the end user has selected a predetermined amount of time.

HOT KEY: You can adjust the brightness directly. When this function is set to ON, you can adjust the brightness with left or right control while the OSD menu is off.

FACTORY PRESET: Selecting Factory Preset allows you to reset all OSD control settings back to the factory settings. The RESET button will need to be held down for several seconds to take effect. Individual settings can be reset by highlighting the control to be reset and pressing the RESET button.

Menu Tools

LANGUAGE: OSD control menus are available in eight languages.

OSD LEFT/RIGHT: You can choose where you would like the OSD control image to appear horizontally on your screen.

OSD DOWN/UP: You can choose where you would like the OSD control image to appear vertically on your screen.

OSD Turn Off: The OSD control menu will stay on as long as it is in use. In the OSD Turn Off submenu, you can select how long the monitor waits after the last touch of a button to shut off the OSD control menu.

OSD Lock Out: This control completely locks out access to all OSD control functions without Brightness and Contrast. When attempting to activate OSD controls while in the Lock Out mode, a screen will appear indicating the OSD controls are locked out. To activate the OSD Lock Out function, press SELECT, then right control button and hold down simultaneously. To deactivate the OSD Lock Out, press SELECT, then left control button and hold down simultaneously while in the OSD menu.

RESOLUTION NOTIFIER: This optimal resolution is 1280 x 1024. If ON is selected, a message will appear on the screen after 30 seconds, notifying you that the resolution is not at 1280 x 1024.

Information

The Information menu indicates the current input, display resolution, horizontal and vertical frequency, clock frequency and polarity settings of the monitor. The model and serial numbers of your monitor are also indicated.

NOTE: All frequencies displayed are approximate values only.

OSD Warning

OSD Warning menus disappear with Exit button.

NO SIGNAL: This function gives a warning when there is no Horizontal or Vertical Sync. After power is turned on or when there is a change of input signal, the **No Signal** window will appear.

RESOLUTION NOTIFIER: This function gives a warning of use with optimized resolution. After power is turned on or when there is a change of input signal or the video signal doesn't have proper resolution, the **Resolution Notifier** window will open. This function can be disabled in the Menu Tools.

OUT OF RANGE: When input signal is non-supported timing or the video signal doesn't have proper timing, the **Out of Range** menu will appear.

NOTE: OSD activation is disabled during these conditions.

Safety Instructions

Safety Precautions and Maintenance

FOR OPTIMUM PERFORMANCE, PLEASE NOTE
THE FOLLOWING WHEN SETTING UP AND USING
19-inch FLAT PANEL MONITOR:

- **DO NOT OPEN THE MONITOR.** There are no user serviceable parts inside and opening or removing covers may expose you to dangerous shock hazards or other risks. Refer all servicing to qualified service personnel.
- Do not spill any liquids into the cabinet or use your monitor near water.
- Do not insert objects of any kind into the cabinet slots, as they may touch dangerous voltage points, which can be harmful or fatal or may cause electric shock, fire or equipment failure.
- Do not place any heavy objects on the power cord. Damage to the cord may cause shock or fire.
- Do not place this product on a sloping or unstable cart, stand or table, as the monitor may fall, causing serious damage to the monitor.
- Do not place any objects onto the monitor and do not use the monitor outdoors.
- The inside of the fluorescent tube located within the LCD monitor contains mercury. Please follow the bylaws or rules of your municipality to dispose of the tube properly.
- Do not bend power cord.
- Do not use monitor in high temperatured, humid, dusty, or oily areas.
- Do not cover vent on monitor.

Immediately unplug your monitor from the wall outlet and refer servicing to qualified service personnel under the following conditions:

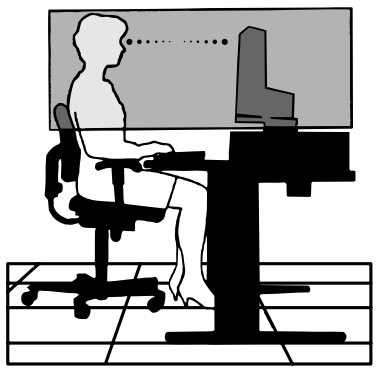
- When the power supply cord or plug is damaged.
- If liquid has been spilled, or objects have fallen into the monitor.
- If the monitor has been exposed to rain or water.
- If the monitor has been dropped or the cabinet damaged.
- If the monitor does not operate normally by following operating instructions.
- If glass is broken, handle with care.
- If monitor or glass is broken, do not come in contact with the liquid material and handle with care.

CAUTION

- Allow adequate ventilation around the monitor so that heat can properly dissipate. Do not block ventilated openings or place the monitor near a radiator or other heat sources. Do not put anything on top of monitor.
- The power cable connector is the primary means of detaching the system from the power supply. The monitor should be installed close to a power outlet which is easily accessible.
- Handle with care when transporting. Save packaging for transporting.
- If the fluorescent tube in the rear of the panel should break, avoid vapor. There may be mercury vapor which is hazardous to the health. Immediately get away from the unit until any visible dust or chemical clouds dissipate. Use extreme care to avoid breathing dust during cleanup. If any contact is made, wash with soap immediately.

NOTE: As with all personal display devices, Sun Microsystems recommends displaying moving images and using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.

CORRECT PLACEMENT AND ADJUSTMENT OF THE MONITOR CAN REDUCE EYE, SHOULDER AND NECK FATIGUE. CHECK THE FOLLOWING WHEN YOU POSITION THE MONITOR:



- For optimum performance, allow 20 minutes for warm-up.
- Adjust the monitor's brightness and contrast controls to enhance readability.
- Use a document holder placed close to the screen.
- Position whatever you are looking at most of the time (the screen or reference material) directly in front of you to minimize turning your head while you are typing.
- Avoid displaying fixed patterns on the monitor for long periods of time to avoid image persistence (after-image effects).
- Get regular eye checkups.

Maintenance the LCD Panel

- To clean the screen, use a soft dry cloth or a soft cloth lightly dampened with water.
- Never use harsh cleansers, solvents or flammable cleaning materials to clean your monitor.
- They could permanent damage to the delicate face of the display.
- The screen is delicate. Do not touch or strike the screen with any sharp object, such as a fingernail, pen, pointer, etc. Use caution when touching by hand.

Cleaning the Cabinet

- Unplug the power supply
- Gently wipe the cabinet with a soft cloth
- To clean the cabinet, dampen the cloth with a neutral detergent and water, wipe the cabinet and follow with a dry cloth.

NOTE: Many plastics are used on the surface of the cabinet. DO NOT clean with benzene, thinner, alkaline detergent, alcoholic system detergent, glass cleaner, wax, polish cleaner, soap powder, or insecticide. Do not touch rubber or vinyl to the cabinet for a long time. These types of fluids and fabrics can cause the paint to deteriorate, crack or peel. Most importantly, avoid any such chemicals coming in contact with the face of the screen.

Specifications

Monitor Specifications		X7198A Flat Panel LCD Monitor	Notes
LCD Module	Diagonal:	48.2 cm/19.0 inches	Active matrix; thin film transistor (TFT) liquid crystal display (LCD); 0.294 mm dot pitch; 230 cd/m^2 white luminance; 500:1 contrast ratio, typical.
	Viewable Image Size:	48.2 cm/19.0 inches	
	Native Resolution (Pixel Count):	1280 x 1024	
Input Signal	Video:	ANALOG 0.7 Vp-p/75 Ohms	Digital Input: TMDS via DVI interface
	Sync:	Separate sync.TTL Level Horizontal sync. Positive/Negative Vertical sync. Positive/Negative Composite sync. Positive/Negative*2 Sync on Green (Video 0.7 Vp-p and Sync. 0.3 Vp-p)*2	
Display Colors		16,777,216	Depends on display card used.
Synchronization Range	Horizontal:	31.5 kHz to 81.1 kHz (Analog) 31.5 kHz to 81.1 kHz (Digital)	Automatically Automatically
	Vertical:	56.0 Hz to 75.0 Hz	Automatically
Viewing Angle	Left/Right:	88°/88° (CR > 10)	
	Up/Down:	88°/88° (CR > 10)	
Resolutions Supported (Only 1280 x 1024 is recommended)		720 x 400*1 : VGA-Text 640 x 480*1 at 60 Hz to 75 Hz 800 x 600*1 at 56 Hz to 75 Hz 832 x 624*1 at 75 Hz 1024 x 768*1 at 60 Hz to 75 Hz 1152 x 870*1 at 75 Hz 1280 x 1024 at 60 Hz to 75 Hz	Some systems may not support all modes listed.
Recommended Resolution			
	Analog:	1280 x 1024 at 60Hz Alternate 1280 x 1024 at 76Hz, 75Hz	
	Digital:	1280 x 1024 at 60Hz (Does not support timings with Composite Sync.)	
Active Display Area	Horizontal:	376.3 mm/14.8 inches	
	Vertical:	301.1 mm/11.9 inches	
Power Supply		AC 100-240V ~ 50/60Hz for range continuous (world wide)	
Power Consumption		38W (typ), 46W (max)	
Current Rating		1.2-0.6A	
Dimensions		412.5 mm (W) x 406.5-496.5 mm (H) x 220.0 mm (D) 16.2 inches (W) x 16.0-19.5 inches (H) x 8.7 inches (D)	
Weight		7.5 kg (16.5 lbs)	
Environmental Considerations			
	Operating Temperature:	5°C to 35°C/41°F to 95°F	
	Humidity:	30% to 80%	
	Feet:	0 to 10,000 Feet	
	Storage Temperature:	-10°C to 60°C/14°F to 140°F	
	Humidity:	10% to 85%	
	Feet:	0 to 40,000 Feet	
Regulations	Safety:	UL60950-1(UL),CSA C22.2 No.60950-1(c-UL) EN60950-1(TUV-GS), CCC, MIC	
	EMC:	FCC Class-B, DOC Class-B, EN55022 Class-B, VCCI Class-B, EN61000-3-2, EN6100-3-3, EN55024, CCC, BSMI	
	Other:	CE-Marking, MPR-III, TCO'03 International Energy Star Program	

*1 Interpolated Resolutions: When resolutions are shown that are lower than the pixel count of the LCD module, text may appear different. This is normal and necessary for all current flat panel technologies when displaying non-native resolutions full screen. In flat panel technologies, each dot on the screen is actually one pixel, so to expand resolutions to full screen, an interpolation of the resolution must be done.
*2 If your display is not showing a picture of the SOG and Composite Sync. Signal, please contact our hotline for further assistance.

NOTE: Technical specifications are subject to change without notice.

Features

Thin-frame design creates more desktop space for you to work and play, while the flat screen's crisp, bright images and crystal-clear text deliver a comfortable viewing experience.

No Touch Auto Adjust automatically adjusts your optimal image settings upon initial power-on. (Analog only)

Color Control System allows you to change between six color settings on your display to match your personal preference.

Redesigned OSD controls allow you to quickly and easily adjust all elements of your screen image.

Height adjustable stand with tilt, swivel and cable management adds flexibility to your viewing preferences.

The flat screen's crisp, bright images and crystal-clear text deliver a comfortable viewing experience.

ErgoDesign Features: Enhance human ergonomics to improve the working environment, protect the health of the user and save money. Examples include OSD controls for quick and easy image adjustments, tilt base for preferred angle of vision, small footprint and compliance with MPRII and TCO guidelines for lower emissions.

Plug and Play: Allowing the monitor to send its capabilities (such as screen size and resolutions supported) directly to your computer, automatically optimizing display performance.

IPM (Intelligent Power Manager) System: Provides innovative power-saving methods that allow the monitor to shift to a lower power consumption level when on but not in use, saving two-thirds of your monitor energy costs, reducing emissions and lowering the air conditioning costs of the workplace.

Multiple Frequency Technology: Automatically adjusts monitor to the display card's scanning frequency, thus displaying the resolution required.

FullScan Capability: Allows you to use the entire screen area in most resolutions, significantly expanding image size.

VESA 100mm x 100mm 4 Holes Standard Mounting Interface: Allows users to connect their MultiSync monitor to any VESA standard third party mounting arm or bracket. Allows for the monitor to be mounted on a wall or an arm using any third party compliant device.

4-position Joy Stick: Quick and easy OSD adjustment.

Troubleshooting

No picture

- DVI mode assure that a timing with separate sync is running.
- The signal cable should be completely connected to the display card/computer.
- The display card should be completely seated in its slot.
- Check the Master Power Switch should be in the ON position.
- Front Power Switch and computer power switch should be in the ON position.
- Check to make sure that a supported mode has been selected on the display card or system being used. (Please consult display card or system manual to change graphics mode.)
- Check the monitor and your display card with respect to compatibility and recommended settings.
- Check the signal cable connector for bent or pushed-in pins.

Power Button does not respond

- Unplug the power cord of the monitor from the AC outlet to turn off and reset the monitor.
- Check the Master Power Switch on the back side of the monitor.

Residual Image

- Please be aware that LCD Technology may experience a phenomenon known as Image Persistence. Image Persistence occurs when a residual or “ghost” image of a previous image remains visible on the screen. Unlike CRT monitors, LCD monitors’ image persistence is not permanent, but constant images being displayed for a long period of time should be avoided. To alleviate image persistence, turn off the monitor for as long as the previous image was displayed. For example, if an image was on the monitor for one hour and a residual image remains, the monitor should be turned off for one hour to erase the image.

NOTE: As with all personal display devices, Sun Microsystems recommends displaying moving images and using a moving screen saver at regular intervals whenever the screen is idle or turning off the monitor when not in use.

Image is unstable, unfocused or is degreated

- Check to be sure the timing is 1280 x 1024.
- Signal cable should be completely attached to the computer.
- Use the OSD Image Adjust controls to focus and adjust display by increasing or decreasing the fine total. When the display mode is changed, the OSD Image Adjust settings may need to be re-adjusted. (Analog input only)
- Check the monitor and your display card with respect to compatibility and recommended signal timings.
- If your text is garbled, change the video mode to non-interlace and use 60Hz refresh rate.

LED on monitor is not lit (no green or amber color can be seen)

- Power Switch should be in the ON position and power cord should be connected.
- Check the Master Power Switch should be in the ON position.

Display image is not sized properly

- Use the OSD Image Adjust controls to increase or decrease the H. SIZE.
- Check to make sure that a supported mode has been selected on the display card or system being used. (Please consult display card or system manual to change graphics mode.)

No Video

- If no video is present on the screen, turn the Master Power switch off and on again.
- Make certain the computer is not in a power-saving mode (touch the keyboard or mouse).

TCO Development

Congratulations!

The display you have just purchased carries the TCO’03 Displays label. This means that your display is designed, manufactured and tested according to some of the strictest quality and environmental requirements in the world. This makes for a high performance product, designed with the user in focus that also minimizes the impact on our natural environment.

Some of the features of the TCO’03 Display requirements:

Ergonomics

- Good visual ergonomics and image quality in order to improve the working environment for the user and to reduce sight and strain problems. Important parameters are luminance, contrast, resolution, reflectance, colour rendition and image stability.

Energy

- Energy-saving mode after a certain time – beneficial both for the user and the environment
- Electrical safety

Emissions

- Electromagnetic fields
- Noise emissions

Ecology

- The product must be prepared for recycling and the manufacturer must have a certified environmental management system such as EMAS or ISO 14 001.
- Restrictions on:
  - chlorinated and brominated flame retardants and polymers
  - heavy metals such as cadmium, mercury and lead.

The requirements included in this label have been developed by TCO Development in co-operation with scientists, experts, users as well as manufacturers all over the world. Since the end of the 1980s TCO has been involved in influencing the development of IT equipment in a more user-friendly direction. Our labelling system started with displays in 1992 and is now requested by users and IT-manufacturers all over the world.

For more information, please visit
www.tcodevelopment.com

Manufacturer's Recycling and Energy Information

Recycling It is necessary in many countries to dispose of the LCD monitor in an environmentally responsible manner using acceptable recycling means. These include sending the monitor to any of the following recycling facilities.

United Datatech/ECS Refining
705 Reed Street
Santa Clara, CA 95050
Tom Hogye 408-998-0700

Citiraya Uk Ltd
3 Drummond Crescent
Riverside Business Park
Irvine
North Ayrshire KA11 5AN
Tel: +44 (0) 1294 277760
Email: info@citiraya.co.uk

Citiraya (HQ)
65 Tech Park Crescent
Singapore 637787
Tel: + (65) 6264 4338
Fax:+ (65) 6266 6731
Email: citiraya@singnet.com.sg

MIREC Asset Management Ltd.
Irongray Business Park Lochside
Industriale Estate Dumfries
DG2 ONR United Kingdom
Tel: +44 (0)1387 723 000
Fax: +44 (0)1387 723 020
Email: infouk@MIREC.com

MIREC Asset Management
Dillenburgstraat 4
Postbus 8712 Route
5605 LS Eindhoven
The Netherlands
Tel: +31 (0)40 250 88 62/77
Fax: +31 (0)40 250 88 92
Email : info@MIREC.com

MIREC Asset Management
Importgatan 20
S-602 28 Norrkoping
Sweden
Tel: +46 (0)11 36 95 90
Fax: +46 (0)11 36 95 99
Email: infosweden@MIREC.com

It is the sole responsibility of the user to utilize these facilities in a manner required by applicable law. Sun Microsystems assumes no responsibility of any kind for the recycling of this monitor.

Listed facilities are subject to change. Users should verify that the facility they wish to use is operational.

Energy saving:

This monitor features an advanced energy saving capability. When a VESA Display Power Management Signaling (DPMS) Standard signal is sent to the monitor, the Energy Saving mode is activated. The monitor enters a single Energy Saving mode.

Mode	Power consumption	LED color
Normal Operation	Approx. 38W	Green
Energy Saving Mode	Less than 2W	Amber
Off Mode	Less than 1W	Unlit

この装置は、情報処理装置等電波障害自主規制協議会(VCCI)の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。取扱説明書に従って正しい取扱いをしてください。
本機は付属の電源コードおよび信号ケーブルを使用した状態でVCCI基準に適合しています。

Declaration of Conformlty

Compliance Model Number: L194RH
Product Family Name: 19” FD Color Monitor

EMC

USA-FCC Class B

This equipment complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This equipment may not cause harmful interference.
2. This equipment must accept any interference that may undesired operation.

European Union

This equipment complies with the following requirements of the EMC Directive 89/336/EEC:

EN55022: 1998/CISPR22: 1997 Class B
EN55024: 1998 Required Limits (as applicable):

EN61000-4-2	4 kV (Direct), 8kV (Air)
EN61000-4-3	3 V/m
EN61000-4-4	1 kV AC Power Lines, 0.5kV Signal and DC Power Lines
EN61000-4-5	1 kV AC Line-Line and Outdoor Signal Lines, 2 kV AC Line-Gnd, 0.5 kV DC Power Lines
EN61000-4-6	3 V
EN61000-4-8	1 A/m
EN61000-4-11	Pass
EN61000-3-2: 1955+A1, A2, A14	Pass
EN61000-3-3: 1995	Pass

Safety

This equipment complies with the following requirements of the Low Directive 73/23/EEC:

EC Type Examination Certificates:
EN60950-1: 2000, 3rd Edition
IEC 60950-1: 2000, 3rd Edition
Evaluated to all CB Countries
UL 60950-1, 3rd Edition, CSA C22.2 No. 60950-1