MultiSync LCD1810X

User's Manual

NEC





Declaration of the Manufacture

We hereby certify that the colour monitors

MultiSync LCD1810X (LH-18S01)
MultiSync LCD1810X (LH-18S01-BK)

are in compliance with

Council Directive 73/23/EEC:

- EN 60950

Council Directive 89/336/EEC:

- EN 55022
- EN 61000-3-2
- EN 61000-3-3
- EN 55024

and marked with

CE

NEC Home Electronics, LTD.
686-1, Nishioi Oi-Machi
Ashigarakami-gun
Kanagawa 258-8533, Japan

Safety Instruction

WARNING

TO PREVENT FIRE OR SHOCK HAZARDS, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE. ALSO, DO NOT USE THIS UNIT'S POLARIZED PLUG WITH AN EXTENSION CORD RECEPTACLE OR OTHER OUTLETS UNLESS THE PRONGS CAN BE FULLY INSERTED.
REFRAIN FROM OPENING THE CABINET AS THERE ARE HIGH VOLTAGE COMPONENTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

CAUTION

CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, MAKE SURE POWER CORD IS UNPLUGGED FROM WALL SOCKET. TO FULLY DISENGAGE THE POWER TO THE UNIT, PLEASE DISCONNECT THE POWER CORD FROM THE AC OUTLET.DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

This symbol warns user that uninsulated voltage within the unit may have sufficient magnitude to cause electric shock. Therefore, it is dangerous to make any kind of contact with any part inside this unit.

This symbol alerts the user that important literature concerning the operation and maintenance of this unit has been included. Therefore, it should be read carefully in order to avoid any problems.

Caution:

When operating the LH-18S01/LH-18S01-BK with a 220-240V AC power source in Europe except UK, use the power cord provided with the monitor.

In UK, a BS approved power cord with moulded plug has a Black (five Amps) fuse installed for use with this equipment. If a power cord is not supplied with this equipment please contact your supplier.

When operating the LH-18S01/LH-18S01-BK with a 220-240V AC Power source in Australia, use the power cord provided with the monitor.

For all other cases, use a power cord that matches the AC voltage of the power outlet and has been approved by and complies with the safety standard of your particular country.

For the Customer to use in U.S.A or Canada.

Canadian Department of Communications Compliance Statement

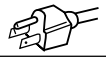
DOC: This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouiller du Canada.

C-UL: Bears the C-UL Mark and is in compliance with Canadian Safety Regulations according to C.S.A. C22.2 #950.
Ce produit porte la marque 'C-UL' et se conforme aux règlements de sûrele Canadiens selon CAN/CSA C22.2 No. 950.

FCC Information

1. Use the attached specified cables with the LH-18S01/LH-18S01-BK colour monitors so as not to interfere with radio and television reception.

   (1) The power supply cord you use must have been approved by and comply with the safety standards of U.S.A.,and meet the following condition.

Power supply cord	Non shield type,3-conductor
Length	1.8m
Plug shape	

   (2) Please use the supplied DVI to DFP adapter.

   (3) Please use the supplied shielded video signal cable, 15-pin mini D-SUB to DVI cable or DVI-D to DVI-D cable.

2. 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 reception, 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 your dealer or an experienced radio/TV technician for help.

If necessary, the user should contact the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: “How to Identify and Resolve Radio-TV Interference Problems. ” This booklet is available from the U.S. Government Printing Office, Washington, D.C., 20402, Stock No. 004-000-00345-4.

DECLARATION OF CONFORMITY

This device complies with Part 15 of 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.

U.S. Responsible Party:	**NEC Technologies,Inc.**
Address:	**1250 North Arlington Heights Road Itasca,Illinois 60143-1248**
Tel.No.:	**(630) 467-5000**
Type of Product:	Computer Monitor
Equipment Classification:	Class B Peripheral
Models:	MultiSync LCD1810X , LH-18S01
	MultiSync LCD1810X , LH-18S01-BK

FC

We hereby declare that the equipment specified above conforms to the technical standards as specified in the FCC Rules.

TCO'95

LH-18S01-BK

Congratulations! You have just purchased a TCO'95 approved and labelled product! Your choice has provided you with a product developed for professional use. Your purchase has also contributed to reducing the burden on the environment and also, to the further development of environmentally adapted electronics products.

Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during the manufacturing. Since it has not been possible for the majority of electronics equipment to be recycled in a satisfactory way, most of these potentially damaging substances sooner or later enter Nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of conventional electricity generation have a negative effect on the environment (acidic and climate-influencing emissions, radioactive waste, etc.), it is vital to conserve energy. Electronics equipment in offices consume an enormous amount of energy since they are often left running continuously.

What does labelling involve?

This product meets the requirements for the TCO'95 scheme which provides for international and environmental labelling of personal

computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturskyddsforeningen (The Swedish Society for Nature Conservation) and NUTEK (The National Board for Industrial and Technical Development in Sweden).

The requirements cover a wide range of issues: environment, ergonomics, usability, emission of electrical and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands concern restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental plan which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

On the back page of this folder, you will find a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

TCO Development Unit t
S-114 94 Stockholm
Sweden

Fax: +46 8 782 92 07

Email (Internet): development@tco.se

Current information regarding TCO'95 approved and labelled products may also be obtained via the Internet, using the address:

http://www.tco-info.com/

TCO'95 is a co-operative project between **TCO** (The Swedish Confederation of Professional Employees), **Naturskyddsforeningen** (The Swedish Society for Nature Conservation) and **NUTEK** (The National Board for Industrial and Technical Development in Sweden).

Environmental Requirements

Brominated flame retardants

Brominated flame retardants are present in printed circuit boards, cables, wires, casings and housings. In turn, they delay the spread of fire. Up to thirty percent of the plastic in a computer casing can consist of flame retardant substances. These are related to another group of environmental toxins, PCBs, which are suspected to give rise to similar harm, including reproductive damage in fisheating birds and mammals, due to the bio-accumulative * processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

TCO'95 demand requires that plastic components weighing more than 25 grams must not contain organically bound chlorine and bromine.

Lead**

Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning.

TCO'95 requirement permits the inclusion of lead since no replacement has yet been developed.

Cadmium**

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses.

TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of cadmium. The colour-generating layers of display screens must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches. Mercury damages the nervous system and is toxic in high doses.

TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of mercury. It also demands that no mercury is present in any of the electrical or electronics components concerned with the display unit. Mercury is, for the time being, permitted in the back light system of flat panel monitors as there today is no commercially available alternative. TCO aims on removing this exception when a mercury free alternative is available.

* Bio-accumulative is defined as substances which accumulate within living organisms

** Lead, Cadmium and Mercury are heavy metals which are Bio-accumul

CFCs (freons)

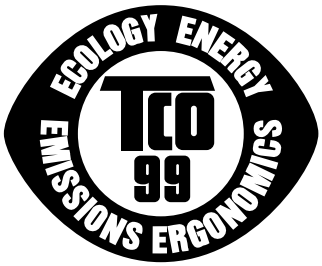
CFCs (freons) are sometimes used for washing printed circuit boards and in the manufacturing of expanded foam for packaging. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on Earth of ultraviolet light with consequent increased risks of skin cancer (malignant melanoma).

The relevant TCO'95 requirement: Neither CFCs nor HCFCs may be used during the manufacturing of the product or its packaging.

TCO'99

LH-18S01

Congratulations!



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Why do we have environmentally labelled computers?

In many countries, environmental labelling has become an established method for encouraging the adaptation of goods and services to the environment. The main problem, as far as computers and other electronics equipment are concerned, is that environmentally harmful substances are used both in the products and during their manufacture. Since it is not so far possible to satisfactorily recycle the majority of electronics equipment, most of these potentially damaging substances sooner or later enter nature.

There are also other characteristics of a computer, such as energy consumption levels, that are important from the viewpoints of both the work (internal) and natural (external) environments. Since all methods of electricity generation have a negative effect on the environment (e.g. acidic and climate-influencing emissions, radioactive waste), it is vital to save energy. Electronics equipment in offices is often left running continuously and thereby consumes a lot of energy.

What does labelling involve?

This product meets the requirements for the TCO'99 scheme which provides for international and environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees),

Svenska Naturskyddsforeningen (The Swedish Society for Nature Conservation) and Statens Energimyndighet (The Swedish National Energy Administration).

Approval requirements cover a wide range of issues: environment, ergonomics, usability, emission of electric and magnetic fields, energy consumption and electrical and fire safety.

The environmental demands impose restrictions on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons) and chlorinated solvents, among other things. The product must be prepared for recycling and the manufacturer is obliged to have an environmental policy which must be adhered to in each country where the company implements its operational policy.

The energy requirements include a demand that the computer and/or display, after a certain period of inactivity, shall reduce its power consumption to a lower level in one or more stages. The length of time to reactivate the computer shall be reasonable for the user.

Labelled products must meet strict environmental demands, for example, in respect of the reduction of electric and magnetic fields, physical and visual ergonomics and good usability.

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Environmental requirements

Flame retardants

Flame retardants are present in printed circuit boards, cables, wires, casings and housings. Their purpose is to prevent, or at least to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame retardant substances. Most flame retardants contain bromine or chloride, and those flame retardants are chemically related to another group of environmental toxins, PCBs. Both the flame retardants containing bromine or chloride and the PCBs are suspected of giving rise to severe health effects, including reproductive damage in fish-eating birds and mammals, due to the bio-accumulative* processes. Flame retardants have been found in human blood and researchers fear that disturbances in foetus development may occur.

The relevant TCO'99 demand requires that plastic components weighing more than 25 grams must not contain flame retardants with organically bound bromine or chlorine. Flame retardants are allowed in the printed circuit boards since no substitutes are available.

Cadmium**

Cadmium is present in rechargeable batteries and in the colour-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses.

The relevant TCO'99 requirement states that batteries, the colour-generating layers of display screens and the electrical or electronics components must not contain any cadmium.

Mercury**

Mercury is sometimes found in batteries, relays and switches. It damages the nervous system and is toxic in high doses.

The relevant TCO'99 requirement states that batteries may not contain any mercury. It also demands that mercury is not present in any of the electrical or electronics components associated with the labelled unit.

CFCs (freons)

The relevant TCO'99 requirement states that neither CFCs nor HCFCs may be used during the manufacture and assembly of the product. CFCs (freons) are sometimes used for washing printed circuit boards. CFCs break down ozone and thereby damage the ozone layer in the stratosphere, causing increased reception on earth of ultraviolet light with e.g. increased risks of skin cancer (malignant melanoma) as a consequence.

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Lead can be found in picture tubes, display screens, solders and capacitors. Lead damages the nervous system and in higher doses, causes lead poisoning.

The relevant TCO´99 requirement permits the inclusion of lead since no replacement has yet been developed.

* Bio-accumulative is defined as substances which accumulate within living organisms

** Lead, Cadmium and Mercury are heavy metals which are Bio-accumulative.





English

Introduction to the NEC MultiSync LCD1810X

Congratulations on your purchase of the NEC MultiSync LCD1810X true colour monitor!

ambix Technology

Dual input technology allowing both analog and digital inputs through one connector (DVI-I) as well as additional legacy analog support through a traditional 15-pin VGA connector. Provides traditional MultiSync technology compatibility for analog as well as TMDS (Transition Minimized Differential Signal) based digital compatibility for digital inputs. TMDS-based digital interfaces include DVI-D, DFP and P&D.

DVI-I

The integrated interface ratified by the Digital Display Working Group (DDWG) that allows both digital and analog connectors through one port. The “I” stands for integration for both digital and analog. The digital portion is TMDS based.

DVI-D

The digital only subset of DVI ratified by the Digital Display Working Group (DDWG) for digital connections between computers and displays. As a digital only connector, analog support is not provided for through a DVI-D connector. As a TMDS based digital only connection, only a simple adapter is necessary for compatibility between DVI-D and other TMDS based digital connectors such as DFP and P&D.

DFP

Digital Flat Panel - An all digital interface for flat panel monitors signal compatible with DVI. As TMDS based digital only connection, only a simple adapter is necessary for compatibility between DFP and other TMDS based digital connectors such as DVI and P&D.

English

P&D

Plug and Display - The VESA standard for digital flat panel monitor interfaces. It is more robust than DFP since it allows for other options through a single connector (options like USB, analog video and IEEE-1394- 995). The VESA committee has recognized that DFP is a subset of P&D. As a TMDS based connector (for the digital input pins), only a simple adapter is necessary for compatibility between P&D and other TMDS based digital connectors such as DVI and DFP.

NuCycle Plastic

A special silicone compound for PC resin, being extremely flame-retardant, safe and environmentally friendly.

Wide Viewing Angle Technology

Allows the user to be able to see the monitor from any angle(160 degrees) from any orientation – Portrait or Landscape. Provides full 160˚ viewing angles either up, down, left or right.

Reduced Footprint

Provides the ideal solution for environments requiring superior image quality but with size and weight limitations. The monitor's small footprint and low weight allow it to be moved or transported easily from one location to another.

Colour Control system

Allows you to adjust the colours on your screen and customize the colour accuracy of your monitor to a variety of standards.

OSM (On-Screen Manager) Controls

Allow you to quickly and easily adjust all elements of your screen image via simple to use on-sreen menus.

ErgoDesign Features

Enhance human ergonomics to improve the working environment, protect the health of the user and save money. Examples include OSM controls for quick and easy image adjustments, tilt/swivel pivot stand for preferred angle of viewing, small footprint and compliance with MPRII and TCO guidelines for lower emissions.

English

Pivoting Stand

Allows users to adjust the monitor to the orientation that best fits their application, either Landscape orientation for wide documents, or portrait orientation for the ability to preview a full page on one screen at one time. The Portrait orientation is also perfect for full screen video conferencing.

Plug and Play

The Microsoft solution with the Windows operating system facilitates setup and installation by allowing the monitor to send its capabilities (such as screen size and resolutions supported) directly to your computer, automatically optimizing display performance.

IPM (Intelligent PowerManager) System

Provides innovative power-saving methodes 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 cost, reducing emissions and lowering the air conditioning cost 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 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.

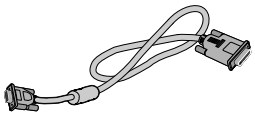
DVI/D-SUB

Offers dual inputs, allowing you to connect the monitor to one system via the included DVI cable and to another system via a standard D-Sub cable (not included). You can easily switch between computers with a touch of a button on the up-front control panel.

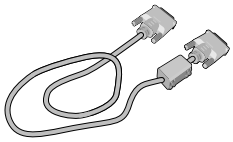
English

Contents of Package

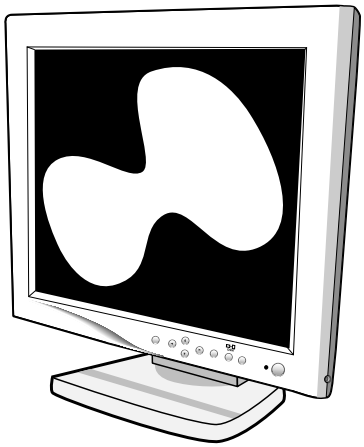
Your new MultiSync LCD monitor box should contain the following:



Video Signal Cable
(15-pin mini D-SUB to DVI)



Video Signal Cable
(DVI-D to DVI-D cable)



MultiSync LCD1810X monitor

- NEC MultiSync LCD1810X (Model LH-18S01/LH-18S01-BK)
- AC power cable
- DVI to DFP adapter
- Video Signal Cable (15-pin mini D-SUB to DVI)
- Video Signal Cable (DVI-D to DVI-D)
- User's manual.
- NEC LCD Setup Software, Pivot Software and other helpful files.

Remember to save the original box and packing materials to transport or ship the monitor.

English

Recommended Use

Safety Precautions and Maintenance

For optimum performance, please note the following when setting up and using the MultiSync LCD colour 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.
- 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.
- 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.
- 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 that is easily accessible.
- When operating the MultiSync LCD monitor with its AC100-120V power supply, use a power supply cord that matches the power supply voltage of the AC power outlet being used. The power supply cord you use must have been approved by and comply with the safety standards of your country.

English

- Handle with care when transporting. Save packaging for transporting.
- The inside of the fluorescent tube located within the LCD monitor contains mercury. Please follow the bylaws or rules of your local municipality to dispose of this tube properly.

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 is damaged.

English

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 height so that the top of the screen is at or slightly below eye level. Your eyes should look slightly downward when viewing the middle of the screen.
- Position your monitor no closer than 40 cm and no further away than 70 cm from your eyes. The optimal distance is 53 cm for the MultiSync LCD1810X monitor.
- Rest your eyes periodically by focusing on an object at least 6 m away. Blink often.
- Position the monitor at a 90° angle to windows and other light sources to minimize glare and reflections. Adjust the monitor tilt so that ceiling lights do not reflect on your screen.
- If reflected light makes it hard for you to see your screen, use an anti-glare filter.
- Clean the LCD monitor surface with a lint-free, non-abrasive cloth. Avoid using any cleaning solution or glass cleaner!
- 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.

English

Installation

Connection to your Personal Computer

The MultiSync LCD1810X true colour monitor complements PC compatible computers. Your system has one of two configurations:

- the video controller is built into the computer.
- the video controller is in the form of a display card (sometimes referred to as graphics card, video adapter or graphics board).

Both configurations have a video connector (or a CRT PORT on laptop computers). If you are not sure which connector is the video connector, refer to your computer or display card manual.

To attach the MultiSync LCD1810X monitor to your system, follow these instructions:

1. Turn off the power of your computer.
2. **For the PC with DVI digital output:** Connect the DVI-D to DVI-D signal cable to the connector of the display card in your system (Figure A.1). Tighten all screws.

   For the PC with DFP digital output: Connect DVI to DFP Adapter to the computer (Figure A.2).

   Attach DVI-D to DVI-D cable to the DVI to DFP Adapter. Tighten all screws.

   For the PC with Analog output: Connect the 15-pin mini D-SUB to DVI signal cable to the connector of the display card in your system (Figure A.3).

   To connect a secondary PC with analog output, connect the 15-pin mini D-SUB to 15-pin mini D-SUB signal cable (not include) to the connector of the display card in your system.

   For the Mac: Connect the MultiSync Macintosh cable adapter to the computer (Figure B.1). Attach the 15-pin mini D-SUB signal cable to the MultiSync Macintosh cable adapter (Figure B.1).

English

NOTE: Some Macintosh systems do not require a Macintosh cable adapter.

3. Remove connector cover. Connect the DVI signal cable to the connector on the back of the monitor. Connect the 15-pin mini D-SUB signal cable (not included) to the connector on the back of the monitor. Place the video signal cable (Figure C.1).

   Replace connector cover.

NOTE: Incorrect cable connections may result in irregular operation, damage display quality/components of LCD module and/or shorten the module's life.

4. Connect one end of the power cord to the AC inlet on the back of the monitor and the other end to the power outlet (Figure D.1).
5. Turn on the monitor (Figure E.1) and the computer.
6. To complete the setup of your MultiSync LCD monitor, use the following OSM controls:

   • Auto Adjust Contrast (Analog input only)

   • Auto Adjust (Analog input only)

   Refer to the Controls section of this User's Manual for a full description of these OSM controls.

NOTE: If you have any problems, please refer to the Troubleshooting section of this User's Manual.
NOTE: Refer to User's Manual in the NEC LCD Setup Software CD case for installation and operation of this software.

Using headphones

1. Connect the audio cable to "Line-in" on the back of the monitor and the other end to the "Audio out" terminal of the computer. Replace connector cover.
2. Headphones may be connected to the "Headphones" output on the right side of the monitor (Figure F.1). Headphones can be purchased from your local electronics store.

English

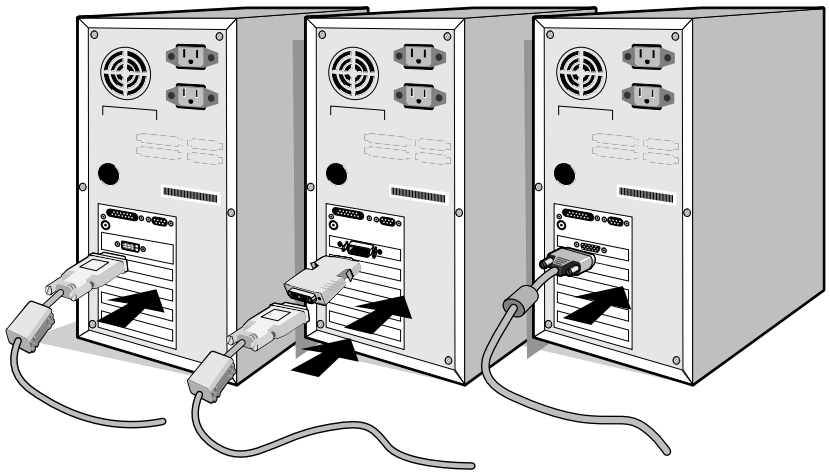


Figure A.1 Figure A.2 Figure A.3

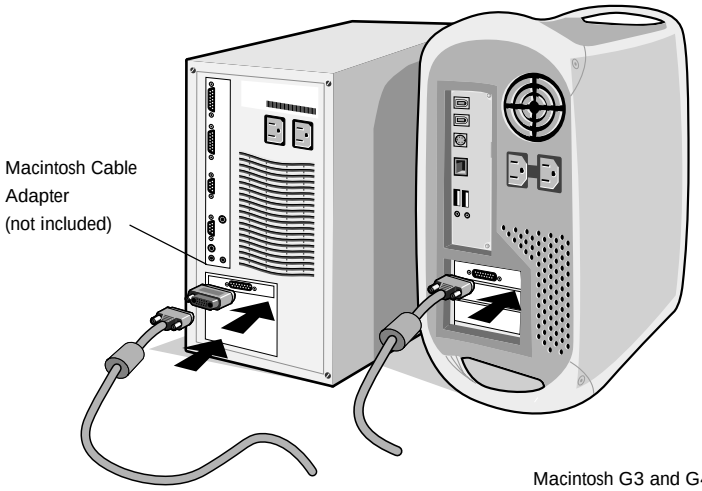
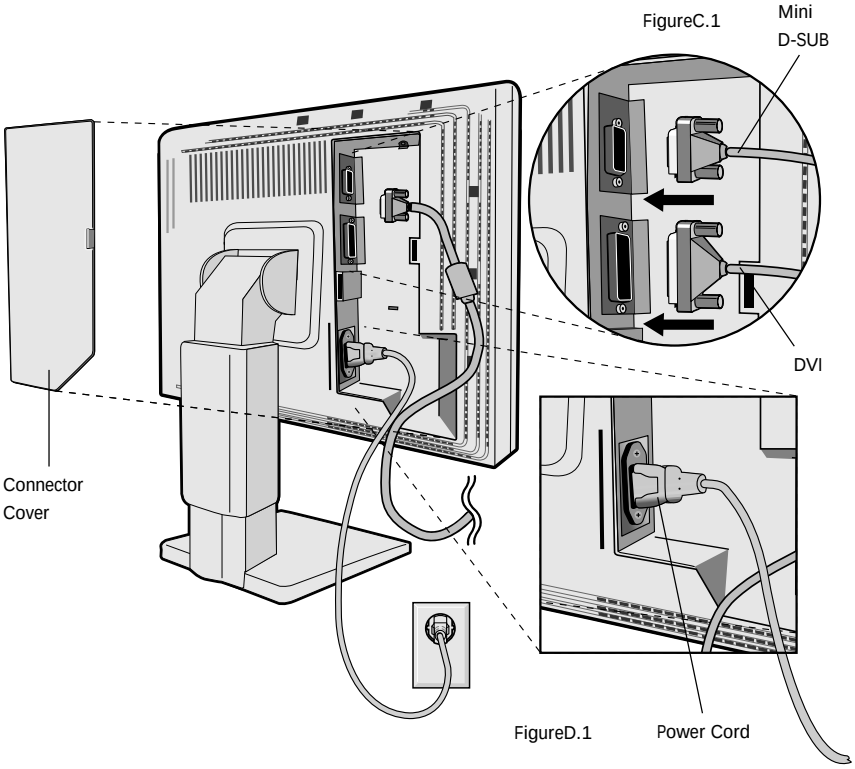


Figure B.1

Macintosh G3 and G4 do not need a Macintosh cable adapter

English

FigureC.1



FigureD.1

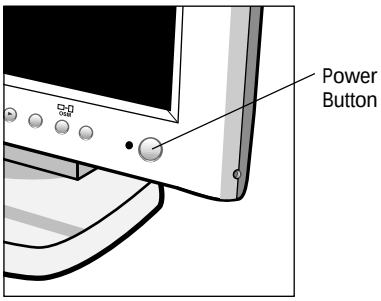


Figure E.1

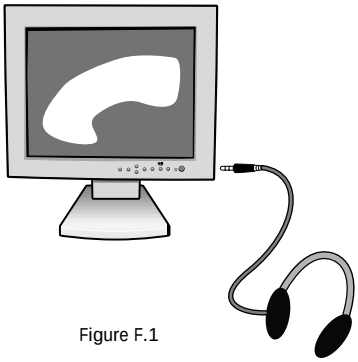


Figure F.1

English

Raise and Lower Monitor Screen

The monitor may be raised or lowered in either Portrait or Landscape mode.

To raise or lower screen, place hands on each side of the monitor and lift or lower to the desired height (Figure RL.1).

Screen Rotation

Before rotating, the screen must be raised to the highest level to avoid knocking the screen on the desk or pinching your fingers.

To raise the screen, place hands on each side of the monitor and lift up to the highest position (Figure RL.1).

To rotate screen, place hands on each side of the monitor screen and turn clockwise from Landscape to Portrait or counter-clockwise from Portrait to Landscape (Figure R.1).

To toggle the orientation of the OSM menu between Landscape and Portrait modes, press the RESET button while OSM menu is off.

Tilt and Swivel

Grasp both sides of the monitor screen with your hands and adjust the tilt and swivel as desired (Figure TS.1).

Remove Monitor Stand for Mounting

To prepare the monitor for alternate mounting purposes:

1. Disconnect all cables.
2. Place hands on each side of the monitor and lift up to the highest position (Figure RL.1).
3. Place monitor face down on a non-abrasive surface (Place the screen on a 55mm platform so that the stand is parallel with the surface.) (Figure S.1).
4. Press the " ▼ " portion with your index finger and at the same time slide the lower stand cover. (Figure S.2)

   Next, lift up the stand, remove the lower stand cover, then go on to remove the upper stand cover. (Figure S.3)

English

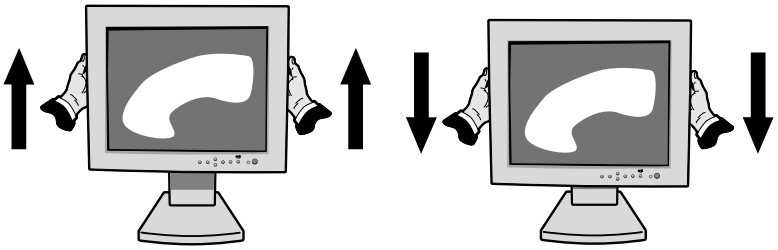


Figure RL.1

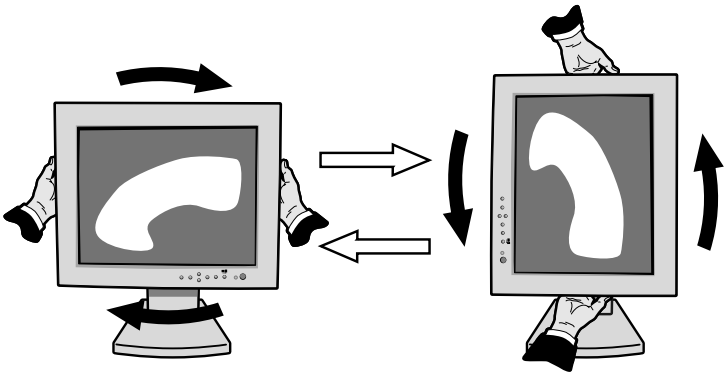


Figure R.1

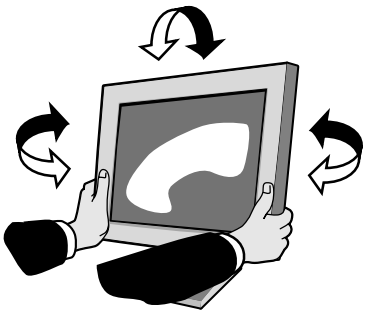


Figure TS.1

English

Return the stand to its original position, remove the 4 screws that connect the monitor to the stand, and lift off the stand assembly. (Figure S.4)

5. Reverse this process to reattach stand.

NOTE: Use only VESA-compatible alternative mounting method.

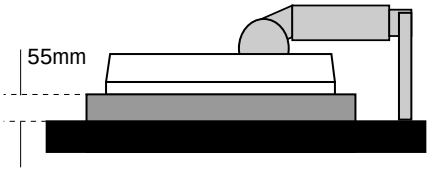


Figure S.1

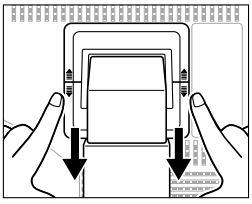


Figure S.2

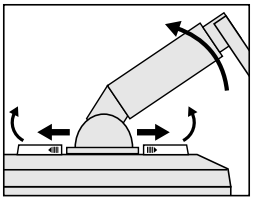


Figure S.3

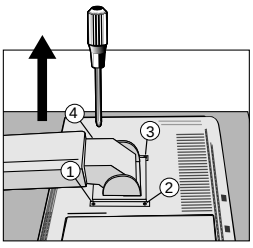


Figure S.4

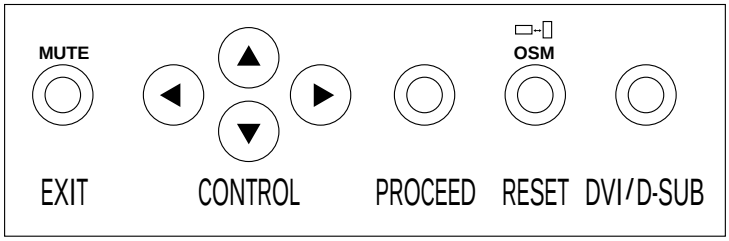
Caution: To fulfil the safety requirements the monitor must be mounted to an arm which guaranties the necessary stability under consideration of the weight of the monitor.
The LCD monitor shall only be used with an approved arm (e.g. GS mark).

English

Controls

DVI/D-SUB : Allows you to change between the DVI-analog, DVI-digital and D-SUB signal inputs.

OSM Controls



The OSM controls on the front of the monitor provide the following functions:

To access OSM menu, press any of the control buttons (◄ , ► , ▲ , ▼) or the PROCEED button.
To mute sound function, press the EXIT button.
To rotate OSM between Landscape and Portrait modes, press the RESET button.
NOTE: OSM menu must be closed in order to rotate and mute.

	Main Menu	Sub-Menu
EXIT	Exits the OSM controls.	Exits to the OSM main menu.
CONTROL ▲ / ▼	Moves the highlighted area up/down to select one of the controls	Moves the highlighted area up/down to select one of the controls
CONTROL ◄ / ►	Moves the highlighted area left / rights to select control menus.	Moves the bar left / right to increase or decrease the adjustment.
PROCEED	Has no function.	Activates Auto Adjust feature. In Tool and Information Mode, opens additional window.
RESET	Resets the highlighted contol menu to the factory setting.	Resets the highlighted contol 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 EXIT button.

English

☼◑ Brightness/Contrast Controls

BRIGHTNESS
Adjusts the overall image and background screen brightness.

CONTRAST
Adjusts the image brightness in relation to the background.

AUTO ADJUST CONTRAST (Analog input only)
Adjusts the image displayed for non-standard video inputs.

AUTO Auto Adjust (Analog input only)

Automatically adjusts the Image Position, H. Size and Fine settings.

NOTE: Manual adjustment of the H/V Position and Image Adjust H. Size / Fine controls may be required to complete setup of your MultiSync monitor.

Position 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.

AUTO ADJUST
Automatically sets the Horizontal and Vertical Image Position within the display area of the LCD.

Image Adjust Controls (Analog input only)

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.

AUTO ADJUST
Automatically adjust H.SIZE and FINE settings.

English

RGB Colour Control System

Five colour presets select the desired colour setting. Each colour setting is adjusted at the factory.

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

Tools 1

SMOOTHING
Select one of three image sharpness settings. This function is only valid when the expanded display function (expansion function) is on.

TEXT MODE
Use this to display text clearly.

NORMAL MODE
This sharpness is between TEXT and GRAPHIC MODE.

GRAPHIC MODE
This mode is suited for images and photographs.

EXPANSION MODE
Sets the zoom method.

FULL SCREEN
The image is expanded to 1280 x 1024, regardless of the resolution.

KEEP ASPECT
The image is expanded without changing the aspect ratio.

EXPANSION OFF
The image is not expanded.

CUSTOM (DIGITAL INPUT ONLY)
Select one of four expansion rates.

In this mode the resolution may be low and there may be blank areas. This mode is for use with special video cards.

English

VIDEO DETECT
Selects the method of video detection when two computers are connected.

NONE
The monitor will not switch the video inputs automatically, only by user control.

FIRST DETECT
The video input has to be switched to "FIRST DETECT" mode. When current video input signal is not present, then the monitor searches for a video signal from the other video input port. If the video signal is present in the other port, then the monitor switches the video source input port to the new found video source automatically. The monitor will not look for other video signals while the current video source is present.

LAST DETECT
The video input has to be switched to the "LAST DETECT" mode. When the monitor is displaying a signal from the current source and a new secondary source is supplied to the monitor, then the monitor will automatically switch to the new video source. When current video input signal is not present, then the monitor searches for a video signal from the other video input port. If the video signal is present in the other port, then the monitor switches the video source input port to the new found video source automatically.

DVI SELECTION
This function is selected the DVI input mode. When the DVI selection has been changed, you must restart your computer.

DIGITAL
DVI digital input is available.

ANALOG
DVI analog input is available.

SOUND
Adjusts the volume of the earphones jack.

English

Tools 2

LANGUAGE
OSM control menus are available in seven languages.

OSM POSITION
You can choose where you would like the OSM control image to appear on your screen. Selecting OSM Location allows you to manually adjust the position of the OSM control menu left, right, up or down.

OSM TURN OFF
The OSM control menu will stay on as long as it is in use. In the OSM Turn Off sub-menu, you can select how long the monitor waits after the last touch of a button to shut off the OSM control menu. The preset choices are 10, 20, 30, 60 and 120 seconds.

OSM LOCK OUT
This control completely locks out access to all OSM control functions. When attempting to activate OSM controls while in the Lock Out mode, a screen will appear indicating the OSM controls are locked out. To activate the OSM Lock Out function, simultaneously press and hold down the PROCEED and ▲ button(s). To de-activate the OSM Lock Out mode, again simultaneously press and hold down the PROCEED and ▲ button(s).

FACTORY PRESET
Selecting Factory Preset allows you to reset all OSM 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.

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.

English

Information

DISPLAY MODE
Provides information about the current resolution display and technical data including the preset timing being used and the horizontal and vertical frequencies.

MONITOR INFO
Indicates the model and serial numbers of your monitor.

OSM Warning

No Signal: This function gives a warning when there is no signal present. After power is turned on or when there is a change of input signal or video is inactive, the No Signal window will appear. The PROCEED button opens the DVI SELECTION CONTROL, as indicated in the section for DVI selection.

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 TOOL menu.

Out of Range: This function gives a recommendation of the optimized resolution and refresh rate. After the power is turned on or there is a change of input signal or the video signal doesn't have proper timing, the Out Of Range menu will appear. The PROCEED button opens the DVI SELECTION CONTROL, as indicated in the section for DVI selection.

NOTE: If " CHANGE DVI SELECTION" is displayed, switch to DVI SELECTION.

English

Specifications

MultiSync LCD1810X

Display	46 cm (18.1 inch) viewable image size; 1280 x 1024 native resolution (Pixel Count); active matrix; thin film transistor (TFT); liquid crystal display (LCD); 0.28 mm dot pitch; 200 cd/m^2 white luminance, typical; 300:1 contrast ratio, typical	
Input Signal (Analog)	Video	Analog 0.7 Vp-p 75 Ω
	Sync	Separate sync. TTL Level Horizontal sync. Positive/Negative Vertical sync. Positive/Negative Composite sync. (Positive/Negative) (TTL Level) Sync on Green video (Positive) 0.7 Vp-p and sync. Negative 0.3 Vp-p
Input Signal (Digital)		TMDS
Display Colours	Analog/Digital:	16,777,216 (Depends on the graphics board)
Synchronisation Range	Horizontal	31.0 kHz to 82.0 kHz (Automatically)
	Vertical	56.0 Hz to 85.0 Hz (Automatically)
Resolutions Supported (Analog/Digital)	Landscape	720 x 400*1: VGA text 640 x 480*1 at 60 Hz to 85 Hz 800 x 600*1 at 56 Hz to 85 Hz 832 x 624*1 at 75 Hz 1024 x 768*1 at 60 Hz to 85 Hz 1152 x 900*1*3 at 66 Hz (SUN) 1280 x 960*1*3 at 60 Hz to 75 Hz 1280 x 1024*2 at 60 Hz to 75 Hz
	Portrait	480 x 640*1 at 60 Hz to 85 Hz 600 x 800*1 at 56 Hz to 85 Hz 624 x 832*1 at 75 Hz 768 x 1024*1 at 60 Hz to 85 Hz 960 x 1280*1*3 at 60 Hz to 75 Hz 1024 x 1280*2 at 60 Hz to 75 Hz

English

Active Display Area*4	Landscape	Horizontal 359 mm Vertical 287 mm
	Portrait	Horizontal 287 mm Vertical 359 mm
Power supply		AC 100-120 V / 220-240 V 50/60 Hz
Current Rating		0.6 A @ 100-120 V / 0.3 A @ 220-240 V
Dimensions	Landscape	454mm(W) x 462mm(H) x 218mm(D)
	Portrait	382mm(W) x 498mm(H) x 218mm(D)
	Hight Adjust	70mm
Weight		8.4 kg
Operating Environmental Considerations	Temperature	5° C to + 35° C
	Humidity	30% to 80%
Storage Environmental Considerations	Temperature	-10° C to + 60° C
	Humidity	10% to 85%

*1 Interpolated Resolutions: when resolutions are shown that are lower than the pixel count of the LCD module, text may appear choppy or lines may appear to be bold. This is normal and necessary for all current 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. When the interpolated resolutions is not an exact multiple of the native resolution, the mathematical interpolation necessary may cause some lines to appear thicker than others.

*2 NEC cites recommended resolutions at 60 Hz for optimal display performance. The number of colors that can be displayed at frequencies above 70 Hz decreases.

*3 The number of colors that can be displayed decreases.

*4 Active display area is dependent upon the signal timing.

Technical specifications are subject to change without notice.

English

Troubleshooting/Support

Problem	Check These Items
No picture	- The signal cable should be completely connected to the display card/computer. - The display card should be completely seated in its slot. - Power button 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. - Check that the DVI/D-SUB button is in the correct position.
Power Button does not respond	Unplug the power cord of the monitor from the AC outlet to turn off and reset the monitor, or simultaneously press the RESET and Power buttons.
Image persistence	Image persistence is when a “ghost” of an image remains on the screen even after the monitor has been turned off. Unlike CRT monitors, LCD monitors’ image persistence is not permanent. To alleviate image persistence, turn the monitor off for as long as an image was displayed. If an image was on the monitor for one hour and a ”ghost” of that image remains, the monitor should be turned off for one hour to erase the image. **NOTE:** As with all personal display devices, NEC recommends using a screen saver at regular intervals whenever the screen is idle.

English

Problem	Cheak These Items
Image is unstable, unfocused or swimming is apparent	- Signal cable should be completely attached to the computer. - Use the OSM Image Adjust controls to focus and adjust display by increasing or decreasing the Fine Control. When the display mode is changed, the OSM Image Adjust settings may need to be re-adjusted. - 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 colour can be seen)	- Power Switch should be in the ON position and power cord should be connected. - Make certain the computer is not in a power-saving mode (touch the keyboard or mouse).
Display image is not sized properly	- Use the OSM Image Adjust controls to increase or decrease the H. Size. - Check to make sure that a supported mode and signal timing has been selected on the display card or system being used. (Please consult display card or system manual to change graphics mode or refresh rate.)
No Video	If no video is present on the screen, turn the Power button off and on again.