

# **APPENDIX F :**

## **USER'S MANUAL**

## Regulatory Information

### FCC Compliance Statement

This equipment has been tested and found to comply within the limits of 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 on and off), the user is encouraged to try to correct the interference by using one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the 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.

Caution: Changes or modifications not expressly approved by the party responsible for compliance could void the user's (or your) authority to operate the equipment. Only peripherals (digital input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this monitor. Operation with non-certified peripherals is likely to result in interference to radio and TV reception.

Only shielded signal cables may be used with this System.

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### Canadian DOC Notice

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 brouilleur du Canada.

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### CE Conformity Notice (for Europe)

Products with the CE Marking comply with the EMC Directive(89/336/EEC) and 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 :

- EN 55022:1998 ; Radio Frequency Interference
- EN 55024:1998 ; Electromagnetic Immunity
- EN 61000-3-2 ; Power Line Harmonics
- EN 61000-3-3 ; Voltage Fluctuations
- EN 60950 ; Product Safety

#### NOTICE

The regulations are applied only to the products with the ID LABEL indicating specific requirements.

### Low Radiation Compliance (MPR II)

This monitor meets one of the strictest guidelines available today for low radiation emissions, offering the user extra shielding and an antistatic screen coating. These guidelines, set forth by a government agency in Sweden, limit the amount of emission allowed in the Extremely Low Frequency (ELF) and Very Low Frequency (VLF) electromagnetic range.

### TCO95



#### 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 to the further development of environmentally-adapted electronic 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 electronic equipment are concerned is that environmentally harmful substances are used both in the products and during their manufacture. Since it has not been possible so far for the majority of electronic 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 both the working and natural environment viewpoints. Since all types of conventional electricity generation have a negative effect on the environment (acidic- and climatic-influencing emissions, radioactive waste, etc.), it is vital to conserve energy. Electronic equipment in offices consumes an enormous amount of energy, since it is often routinely left running continuously.

#### What does the environmental labelling involve?

This product meets the requirements for the TCO'95

## Regulatory Information cont.

scheme, which provides for international environmental labelling of personal computers. The labelling scheme was developed as a joint effort by the TCO (The Swedish Confederation of Professional Employees), Naturkyddsfröningen (The Swedish Society for Nature Conservation), and NUTEK (The National Board for Industrial and Technical Development in Sweden), and SEMKO AB (an international certification agency).

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, among other things, restriction on the presence and use of heavy metals, brominated and chlorinated flame retardants, CFCs (freons), and chlorinated solvents. 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.

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

The following is a brief summary of the environmental requirements met by this product. The complete environmental criteria document may be ordered from:

TCO Development Unit  
Lindegatan 14, S-11494 Stockholm, Sweden  
FAX +46-8 782 92 07  
E-mail (Internet): development@tco.se

Current information regarding TCO'95 approved and labelled products may also be obtained on the Internet using the address: <http://www.tco-info.com/>

TCO'95 is a co-operative project between:



Naturkydds  
föreningen



NUTEK

SEMKO

Närings- och teknikutvecklingsverket

### Environmental requirements

Brominated flame retardants are present in printed circuit boards, cabling, casings, and housings, and are added to delay the spread of fire. Up to 30% of the plastic in a computer casing can consist of flame-retardant substances. These are related to another group of environmental toxins, PCBs, and are suspected of giving rise to similar harm, including reproductive damage in fish-eating birds and mammals. Flame retardants have been found in human blood, and researchers fear that they can disturb fetus development.

Bio-accumulative<sup>1</sup> TCO'95 demands require that plastic components weighing more than 25 grams must not contain flame retardants with organically bound chlorine or bromine.

Lead can be found in picture tubes, display screens, solder, and capacitors. Lead damages the nervous system and in higher doses causes lead poisoning. The relevant bio-accumulative TCO'95 requirement permits the inclusion of lead, as no replacement has yet been developed.

Cadmium is present in rechargeable batteries and in the color-generating layers of certain computer displays. Cadmium damages the nervous system and is toxic in high doses. The relevant bio-accumulative TCO'95 requirement states that batteries may not contain more than 25 ppm (parts per million) of cadmium. The color-generating layers of display screens must not contain any cadmium.

Mercury is sometimes found in batteries, relays and switches. Mercury damages the nervous system and is toxic in high doses. The relevant bio-accumulative TCO'95 requirement states that batteries may not contain more than 25 ppm of mercury and that no mercury is present in any of the electrical or electronic components concerned with the display unit.

CFCs (freons) are sometimes used for washing printed circuit boards and in the manufacture of expanded foam for packaging. CFCs break down ozone and thereby damage the ozone layer in the atmosphere, causing increased reception on Earth of ultra-violet light with consequent increased risks of skin cancer (malignant melanoma). The relevant TCO'95 requirement: Neither CFCs nor HCFCs may be used during the manufacture of the product or its packaging.

<sup>1</sup> Bio-accumulative means that the substance accumulates within living organisms.

### Shipping Package

The packaging material can be recycled, or you can save it to return the monitor to a service center for repair or disposal.

### CFC Compounds in Distribution Packaging

Cushioning material used for shipping finished monitors are not manufactured with nor do they contain any CFC compounds.

### Design for Disassembly/Recycling

These monitors have been designed for easy end-of-life disassembly and recycling. Fasteners are generally of the same type for efficient disassembly. Components made of different materials can be easily separated and plastics have been identified using international symbols to aid in recycling.

### Monitor Disposal

#### WARNING

If you need to dispose of a monitor, ask a qualified service representative for the proper procedure. Improper disposal could result in personal injury from implosion.

## Regulatory Information cont.

### TCO'99



Congratulations!

You have just purchased a TCO'99 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 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.

Below 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

SE-114 94 Stockholm, Sweden

Fax: +46 8 782 92 07

Email (Internet): [development@tco.se](mailto:development@tco.se)

Current information regarding TCO'99 approved and labelled products may also be obtained via the Internet, using the address: <http://www.tco-info.com/>

#### 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.

## Regulatory Information cont.

### 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.

### 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. 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.

## EPA (U.S.A only)

ENERGYSTAR is a set of power-saving guidelines issued by the U.S. Environmental Protection Agency(EPA).



EPA POLLUTION PREVENTER

As an ENERGY STAR Partner LG Electronics U.S.A.,Inc. has determined that this product meets the ENERGY STAR guidelines for energy efficiency.

## NOM MARK (Mexico only)



## GOST MARK



BZ03

Internet Address:<http://www.lg.ru>  
Информационная служба LG  
Electronics (095)742-77-77

# User's Guide

## L2010P

**M**ake sure to read the **Important Precautions** before using the product.  
Keep the User's Guide(CD) in an accessible place for future reference.

**S**ee the label attached on the back cover and quote this information to your dealer when you require service.

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**This unit has been engineered and manufactured to ensure your personal safety, however improper use may result in potential e shock or fire hazards. In order to allow the proper operation of all safeguards incorporated in this display, observe the following basic rules for its installation, use, and servicing.**

## On Safety

Use only the power cord supplied with the unit. In case you use another power cord, make sure that it is certified by the applicable national standards if not being provided by the supplier. If the power cable is faulty in any way, please contact the manufacturer or the nearest authorized repair service provider for a replacement.

The power supply cord is used as the main disconnection device. Ensure that the socket-outlet is easily accessible after installation.

Operate the display only from a power source indicated in the specifications of this manual or listed on the display. If you are not sure what type of power supply you have in your home, consult with your dealer.

Overloaded AC outlets and extension cords are dangerous. So are frayed power cords and broken plugs. They may result in a shock or fire hazard. Call your service technician for replacement.

Do not Open the Display.

- There are no user serviceable components inside.
- There are Dangerous High Voltages inside, even when the power is OFF.
- Contact your dealer if the display is not operating properly.

To Avoid Personal Injury :

- Do not place the display on a sloping shelf unless properly secured.
- Use only a stand recommended by the manufacturer.

To Prevent Fire or Hazards:

- Always turn the display OFF if you leave the room for more than a short period of time. Never leave the display ON when leaving the house.
- Keep children from dropping or pushing objects into the display's cabinet openings. Some internal parts carry hazardous voltages.
- Do not add accessories that have not been designed for this display.
- During a lightning storm or when the display is to be left unattended for an extended period of time, unplug it from the wall outlet.

## On Installation

Do not allow anything to rest upon or roll over the power cord, and do not place the display where the power cord is subject to damage.

Do not use this display near water such as near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool.

Displays are provided with ventilation openings in the cabinet to allow the release of heat generated during operation. If these openings are blocked, built-up heat can cause failures which may result in a fire hazard. Therefore, NEVER:

- Block the bottom ventilation slots by placing the display on a bed, sofa, rug, etc.
- Place the display in a built-in enclosure unless proper ventilation is provided.
- Cover the openings with cloth or other material.
- Place the display near or over a radiator or heat source.

Do not rub or strike the Active Matrix LCD with anything hard as this may scratch, mar, or damage the Active Matrix LCD permanently.

Do not press the LCD screen with your finger for a long time as this may cause some afterimages.

Some dot defects may appear as Red, Green or Blue spots on the screen. However, this will have no impact or effect on the display performance.

If possible, use the recommended resolution to obtain the best image quality for your LCD display. If used under any mode except the recommended resolution, some scaled or processed images may appear on the screen. However, this is characteristic of the fixed-resolution LCD panel.

## On Cleaning

- Unplug the display before cleaning the face of the display screen.
- Use a slightly damp (not wet) cloth. Do not use an aerosol directly on the display screen because over-spraying may cause electrical shock.

## On Repacking

- Do not throw away the carton and packing materials. They make an ideal container in which to transport the unit. When shipping the unit to another location, repack it in its original material.



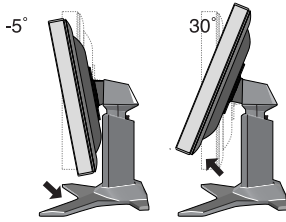
# Connecting the Display

- Before setting up the monitor, ensure that the power to the monitor, the computer system, and other attached devices is turned off.

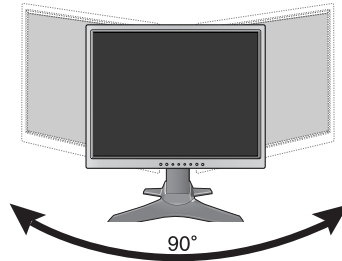
## Positioning your display

1. Adjust the position of the panel in various ways for maximum comfort.

■ Tilt Range :  $-5^{\circ} \sim 30^{\circ}$

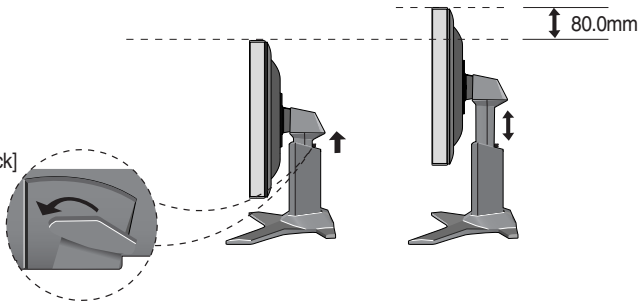


■ Swivel :  $90^{\circ}$



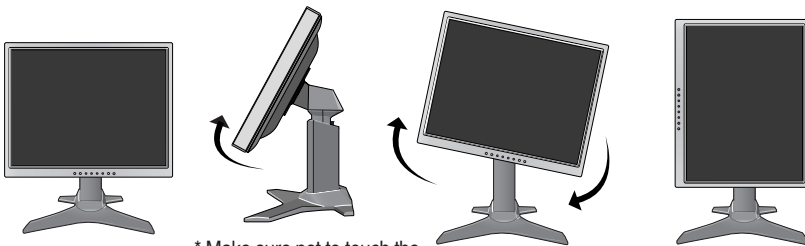
■ Height Range : maximum 3.15 inch (80.0mm)

Unfasten the [Stand lock] clockwise to adjust the height of the stand.



■ Landscape & Portrait : You can rotate the panel  $90^{\circ}$  clockwise.

(\* For detailed information, please refer to the Pivot Software CD provided.)



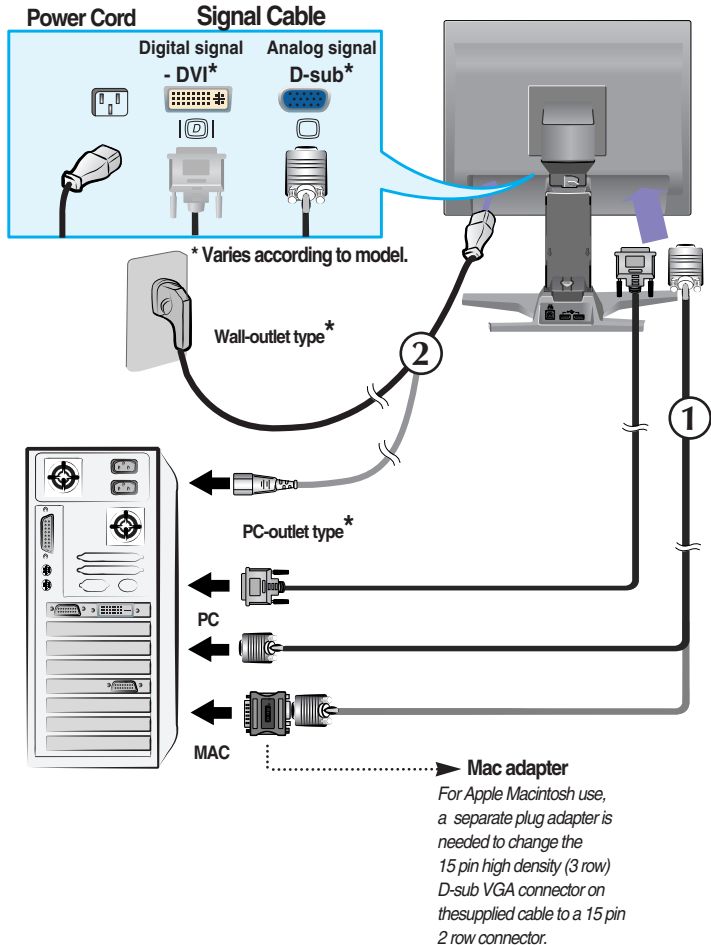
\* Make sure not to touch the floor when the head rotates to use the Pivot function.

## Ergonomic

It is recommended that in order to maintain an ergonomic and comfortable viewing position, the forward tilt angle of the monitor should not exceed 5 degrees.

## Using the Computer

1. Place the monitor in a convenient, well-ventilated location near your computer.  
To adjust height of your monitor, unlock the stand lock on top of the stand.
2. Connect the signal cable. When attached, tighten the thumbscrews to secure the connection.
3. Connect the power cord into a proper power outlet that is easily accessible and close to the display.

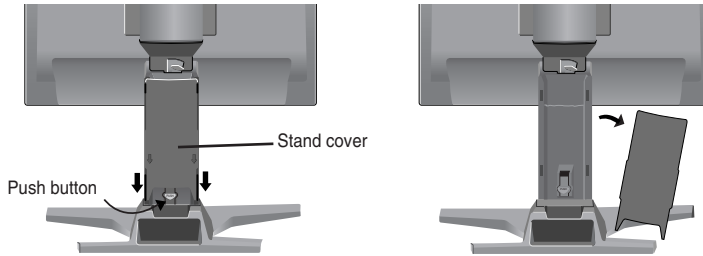


### NOTE

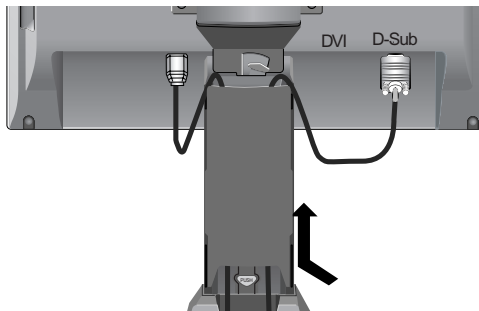
- This is a simplified representation of the rear view.
- This rear view represents a general model; your display may differ from the view as shown.

## To arrange cables in order

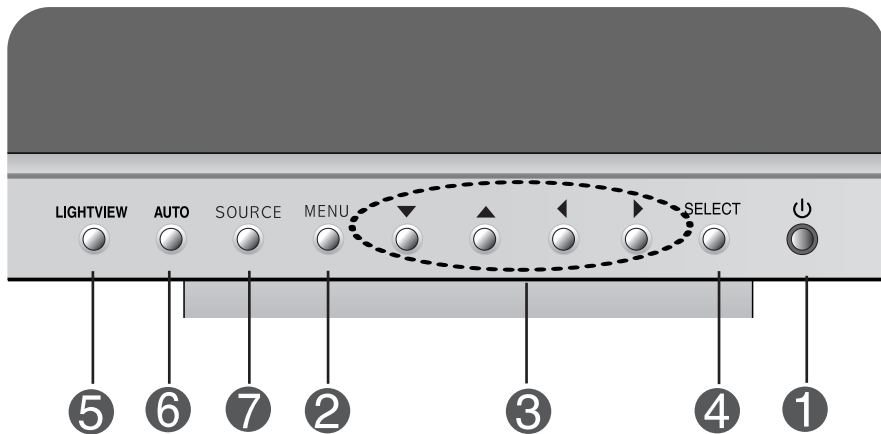
1. Press the **push button**, and pull the **stand cover** down to separate it from the stand.



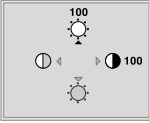




2. After connecting cables, put the **stand cover** correctly into the holes on the stand. If securely connected, you can hear the click sound from the latch.



## Front Panel Controls



Control	Function
<b>1</b> Power Button	Use this button to turn the display on or off.
Power (DPMS) Indicator	This Indicator lights up green when the display operates normally. If the display is in DPM (Energy Saving) mode, this indicator color changes to amber.
<b>2</b> MENU Button	Use this button to enter or exit the On Screen Display.
<b>3</b> ▼▲◀▶ Buttons	Use these buttons to choose or adjust items in the On Screen Display.
<b>4</b> SELECT Button	Use this button to enter a selection in the On Screen Display.

Control	Direct Access Function
	<p><b>3</b> ▼▲◀▶</p> <p>Bring up Contrast and Brightness adjustment.</p>
	<p><b>5</b> LIGHT VIEW:</p> <p>This feature lets you easily select the best desired image condition optimized to the environment (ambient illumination, image types etc.).</p> <ul style="list-style-type: none"> <li>• <b>DAY</b> : Bright ambient illumination</li> <li>• <b>NIGHT</b> : Dark ambient illumination</li> <li>• <b>TEXT</b> : For text images (Word processing etc.)</li> <li>• <b>MOVIE</b> : For animation images in videos or movies</li> <li>• <b>PHOTO</b> : For pictures or drawings</li> <li>• <b>USER MODE</b> : For use under user setup image conditions (Brightness, contrast and color tint are selected by the user in OSD Screen Setup Menu.)</li> </ul>
	<p><b>6</b> AUTO adjustment function</p> <p>When adjusting your display settings, always press the <b>AUTO</b> button before entering the On Screen Display(OSD). This will automatically adjust your display image to the ideal settings for the current screen resolution size (display mode). The best display mode is <b>1600 X 1200@60Hz</b>.</p>
	<p><b>7</b> SOURCE Selection: <b>SOURCE</b> → ▼▲ → <b>SELECT</b></p> <p>Use this button to make DVI DIGITAL, DVI ANALOG or DSUB ANALOG connector active. This feature is used when two computers are connected to the display. The default setting is Dsub.</p> <ul style="list-style-type: none"> <li>• DVI DIGITAL</li> <li>• DVI ANALOG</li> <li>• DSUB ANALOG</li> </ul>
	<p><b>CONTROLS LOCKED/UNLOCKED:</b> <b>MENU</b> and ▶</p> <p>This function allows you to secure the current control settings, so that they cannot be inadvertently changed. Press and hold the MENU button and ▶ button for 3 seconds: the message “<b>CONTROLS LOCKED</b>” appears. You can unlock the OSD controls at any time by pushing the MENU button and ▶ button for 3 seconds: the message “<b>CONTROLS UNLOCKED</b>” will appear.</p>

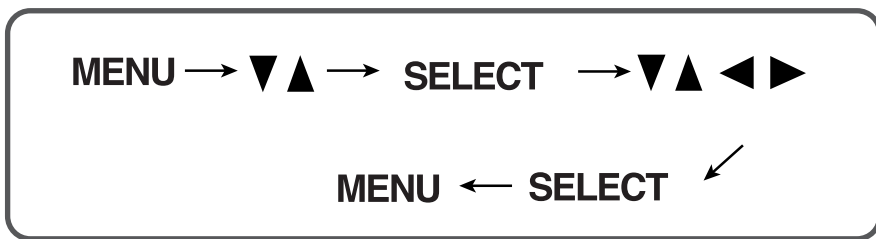
## Screen Adjustment

Making adjustments to the image size, position and operating parameters of the display is quick and easy with the On Screen Display Control system. A short example is given below to familiarize you with the use of the controls. The following section is an outline of the available adjustments and selections you can make using the OSD.

### NOTE

- Allow the display to stabilize for at least 30 minutes before making image adjustments.

To make adjustments in the On Screen Display, follow these steps:



- 1 Press the **MENU** Button, then the main menu of the OSD appears.
- 2 To access a control, use the ▼ or ▲ Buttons. When the icon you want becomes highlighted, press the **SELECT** Button.
- 3 Use the ▼ ▲ ◀ ▶ Buttons to adjust the item to the desired level.
- 4 Accept the changes by pressing the **SELECT** Button.
- 5 Exit the OSD by Pressing the **MENU** Button.

# On Screen Display(OSD) Selection and Adjustment

The following table indicates all the On Screen Display control, adjustment, and setting menus.

Main menu	Sub menu	A	D	Reference
CONTRAST/ BRIGHTNESS	CONTRAST	●		To adjust the brightness and contrast of the screen
	BRIGHTNESS	●	●	
COLOR ADJUSTMENT	USER(R/G/B)	●		To customize the color of the screen
	9300K	●		
	6500K	●		
IMAGE POSITION	H POSITION	●		To adjust the position of the screen
	V POSITION	●		
TRACKING	AUTO	●		To improve the clarity and stability of the screen
	CLOCK	●		
	PHASE	●		
SETUP	LANGUAGE	●	●	To customize the screen status for a user's operating environment
	IMAGE SIZE	●	●	
	TRANSPARENCY	●	●	
	ZOOM	●	●	
OSD POSITION	HORIZONTAL	●	●	To adjust position of the OSD window on the screen
	VERTICAL	●	●	
<p>● : Adjustable  A : Analog Input  D : Digital Input</p>				

## NOTE

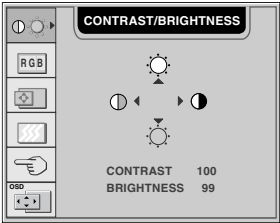




- The order of icons may differ depending on the model (A10~A12).

You were introduced to the procedure of selecting and adjusting an item using the OSD system. Listed below are the icons, icon names, and icon descriptions of the all items shown on the Menu.

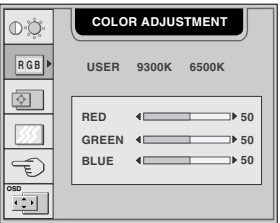
## NOTE

- OSD (On Screen Display) menu languages on the monitor may differ from the manual.

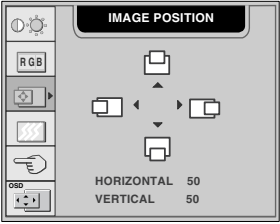


## To adjust the brightness and contrast of the screen

OSD Adjust	Description
 The screenshot shows the 'CONTRAST/BRIGHTNESS' OSD menu. It features a left sidebar with icons for Contrast/Brightness, RGB, Input, Image, Point, and OSD. The main area has two sliders: Contrast (set to 100) and Brightness (set to 99). Each slider has a sun icon and a half-circle icon.	  <b>CONTRAST</b> To adjust the contrast of the screen.
	  <b>BRIGHTNESS</b> To adjust the brightness of the screen.

## To customize the color of the screen

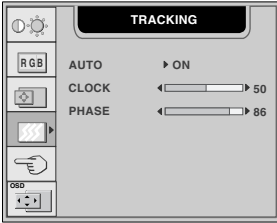
OSD Adjust	Description
 The screenshot shows the 'COLOR ADJUSTMENT' OSD menu. It features a left sidebar with icons for Contrast/Brightness, RGB, Input, Image, Point, and OSD. The main area shows 'USER' color levels for 9300K and 6500K. Below are three sliders for RED, GREEN, and BLUE, each set to 50.	<b>USER</b> <b>RED/GREEN/BLUE</b> Set your own color levels.
<b>9300K</b>	Select the screen color.
<b>6500K</b>	<ul style="list-style-type: none"><li>• 9300K: Slightly bluish white.</li><li>• 6500K: Slightly reddish white.</li></ul>

## To adjust the position of the screen

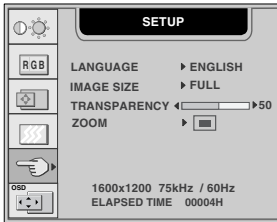
OSD Adjust	Description
 The screenshot shows the 'IMAGE POSITION' OSD menu. It features a left sidebar with icons for Contrast/Brightness, RGB, Input, Image, Point, and OSD. The main area has four directional arrows (up, down, left, right) around a central rectangle. Below are sliders for HORIZONTAL (set to 50) and VERTICAL (set to 50).	 <b>Horizontal Position</b> To move image left and right.
	 <b>Vertical Position</b> To move image up and down.



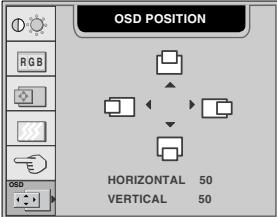
## To improve the clarity and stability of the screen

OSD Adjust	Description
 The image shows the OSD TRACKING menu. It has a title bar 'TRACKING' and a left sidebar with icons for brightness, RGB, tracking, image size, zoom, and OSD. The main area contains: 'AUTO' with a right arrow and 'ON' text; 'CLOCK' with a left-right slider and '50' on the right; 'PHASE' with a left-right slider and '86' on the right.	<p><b>AUTO</b> This function is suitable for analog signal input only. This button is for the automatic adjustment of the screen position, clock and phase.</p> <p><b>CLOCK</b> To minimize any vertical bars or stripes visible on the screen background. The horizontal screen size will also change.</p> <p><b>PHASE</b> To adjust the focus of the display. This item allows you to remove any horizontal noise and clear or sharpen the image of characters. <b>Phase</b> adjustment should be done after adjusting the <b>Clock</b>.</p>

## To customize the screen status for a user's operating environment

OSD Adjust	Description
 The image shows the OSD SETUP menu. It has a title bar 'SETUP' and a left sidebar with icons for brightness, RGB, tracking, image size, zoom, and OSD. The main area contains: 'LANGUAGE' with a right arrow and 'ENGLISH' text; 'IMAGE SIZE' with a right arrow and 'FULL' text; 'TRANSPARENCY' with a left-right slider and '50' on the right; 'ZOOM' with a right arrow and a square icon. At the bottom, it displays '1600x1200 75kHz / 60Hz' and 'ELAPSED TIME 00004H'.	<p><b>LANGUAGE</b> To choose the language in which the control names are displayed.</p> <p><b>IMAGE SIZE</b> This function displays the image in its original size or enlarged size so as to fit in the full screen of the LCD panel.</p> <p><b>TRANSPARENCY</b> To adjust the transparency of the OSD menu screen.</p> <p><b>ZOOM</b> To adjust horizontal and vertical image size simultaneously. If you want to move the zooming point, use the H/V POSITION function in the sub-menu. However, if the monitor turns off when zooming in and out the screen, the monitor will be returned to original screen.</p>

## To adjust position of the OSD window on the screen

OSD Adjust	Description
 <p>The screenshot shows the OSD POSITION menu. On the left is a vertical menu with icons for power, brightness, RGB, contrast, and OSD. The OSD icon is selected. The main area is titled 'OSD POSITION' and features a central icon of a monitor with four arrows pointing up, down, left, and right. Below this icon, the text reads 'HORIZONTAL 50' and 'VERTICAL 50'.</p>	<p><b>Horizontal Position</b> To adjust horizontal position of the OSD window on the screen.</p> <p><b>Vertical Position</b> To adjust vertical position of the OSD window on the screen.</p>

Check the following before calling for service.

No image appears	
● Is the power cord of the display connected?	<ul style="list-style-type: none"><li>• Check and see if the power cord is connected properly to the power outlet.</li></ul>
● Is the power indicator light on?	<ul style="list-style-type: none"><li>• Press the Power button.</li></ul>
● Is the power on and the power indicator green?	<ul style="list-style-type: none"><li>• Adjust the brightness and the contrast.</li></ul>
● Is the power indicator amber?	<ul style="list-style-type: none"><li>• If the display is in power saving mode, try moving the mouse or pressing any key on the keyboard to bring up the screen.</li><li>• Make sure if the power is on.</li><li>• Try to turn on the PC.</li></ul>
● Do you see an "OUT OF RANGE" message on the screen?	<ul style="list-style-type: none"><li>• This message appears when the signal from the PC (video card) is out of horizontal or vertical frequency range of the display. See the 'Specifications' section of this manual and configure your display again.</li></ul>
● Do you see a "CHECK SIGNAL CABLE" message on the screen?	<ul style="list-style-type: none"><li>• This message appears when the signal cable between your PC and your display is not connected. Check the signal cable and try again.</li></ul>

Do you see a "CONTROLS LOCKED" message on the screen.	
● Do you see "CONTROLS LOCKED" when you push MENU button?	<ul style="list-style-type: none"><li>• You can secure the current control settings, so that they cannot be inadvertently changed. You can unlock the OSD controls at any time by pushing the <b>MENU</b> button and <b>▶</b> button for 3 seconds: the message "<b>CONTROLS UNLOCKED</b>" will appear.</li></ul>

## Display image is incorrect

- **Display Position is incorrect.**
  - Press the **AUTO** button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, adjust the image position using the **H position and V position** icon in the on screen display.
  - Check **Control Panel --> Display --> Settings** and see if the frequency or the resolution were changed. If yes, readjust the video card to the recommend resolution.
  
- **On the screen background, vertical bars or stripes are visible.**
  - Press the **AUTO** button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, decrease the vertical bars or stripes using the **CLOCK** icon in the on screen display.
  
- **Any horizontal noise appearing in any image or characters are not clearly portrayed.**
  - Press the **AUTO** button to automatically adjust your display image to the ideal setting. If the results are unsatisfactory, decrease the horizontal bars using the **PHASE** icon in the on screen display.
  - Check **Control Panel --> Display --> Settings** and adjust the display to the recommended resolution or adjust the display image to the ideal setting. Set the color setting higher than 24 bits (true color).
  
- **The screen color is mono or abnormal.**
  - Check if the signal cable is properly connected and use a screwdriver to fasten if necessary.
  - Make sure the video card is properly inserted in the slot.
  - Set the color setting higher than 24 bits (true color) at **Control Panel - Settings**.
  
- **The screen blinks.**
  - Check if the screen is set to interlace mode and if yes, change it to the recommend resolution.
  - Make sure the power voltage is high enough, It has to be hgher than **AC100-240V 50/60Hz**.

## **"IMAGE SIZE" function on OSD menu does not work.**

### **● "IMAGE SIZE" function on OSD menu does not work?**

- Check if the resolution is set as 1600x1200 or less than 512x360.  
The optimal resolution is 1600x1200 and the image is fully displayed on the monitor and is not converted as 1:1 image size. If the resolution is less than 512x360, the image size is smaller than that of the OSD's and is also not converted as 1:1 image size.

## **Have you installed the display driver?**

### **● Have you installed the display driver?**

- Be sure to install the display driver from the display driver CD (or diskette) that comes with your display. Or, you can also download the driver from our web site: <http://www.lge.com>.

### **● Do you see an "Unrecognized monitor, Plug&Play (VESA DDC) monitor found" message?**

- Make sure to check if the video card supports Plug&Play function.

## **USB function**

### **● USB function cannot be setup.**

- Check if the USB cable is correctly connected.
- Check if the PC and OS are USB compliant. For verification of USB support, consult the manufacturer of each system.

# Specifications

<b>Display</b>	20.1 inches (51.0cm) Flat Panel Active matrix-TFT LCD Anti-Glare coating 20.1 inches viewable 0.255mm pixel pitch	
<b>Sync Input</b>	<b>Horizontal Freq.</b>	Analog : 28 - 92kHz (Automatic) Digital : 28-80kHz (Automatic)
	<b>Vertical Freq.</b>	56 - 85Hz (Automatic)
	<b>Input Form</b>	Separate TTL, Positive/Negative Composite TTL Positive/Negative SOG (Sync On Green) Digital
<b>Video Input</b>	<b>Signal Input</b>	15 pin D-Sub Connector DVI - I connector (Digital/Analog)
	<b>Input Form</b>	RGB Analog (0.7Vp-p/75ohm), Digital
<b>Resolution</b>	<b>Max</b>	D-Sub : Analog - VESA 1600 x 1200@60Hz DVI : Analog - VESA 1600 x 1200@60Hz Digital - VESA 1600 x 1200@60Hz VESA 1280 x 1024@70Hz
	<b>Recommend</b>	VESA 1600 x 1200@60Hz
<b>Plug&amp;Play</b>	DDC 2B	
<b>Power Consumption</b>	<b>Normal</b>	: 60W
	<b>Stand-by/Suspend</b>	≤ 3W
	<b>DPM Off</b>	≤ 3W
	<b>Power key Off</b>	≤ 3W
	<b>Power Cut-off switch off</b>	≤ 1W
	*( ) : with USB	
<b>Dimensions &amp; Weight (with tilt/ swivel stand)</b>	<b>Width</b>	44.6 0cm / 17.56 inches
	<b>Height</b>	44.56 cm / 17.54 inches(Min) 52.56cm / 20.69 inches(Max)
	<b>Depth</b>	23.73cm / 9.34 inches
	<b>Net</b>	9.5 kg
<b>Tilt/Swivel Range</b>	<b>Tilt range</b>	-5°~30°
	<b>Swivel range</b>	90°
	<b>Height range</b>	80/ 3.15 inches
	<b>Rotate</b>	90°clockwise(Landscape -> Portrait)
<b>Power Input</b>	AC 100-240V ~ 50/60Hz 1.2A	
<b>Environmental Conditions</b>	<b>Operating Conditions</b>	
	<b>Temperature</b>	10°C to 35 °C
	<b>Humidity</b>	10 % to 80 % non-Condensing
	<b>Storage Conditions</b>	
	<b>Temperature</b>	-20°C to 60 °C
<b>Humidity</b>	5 % to 95 % non-Condensing	

# Specifications

<b>Tilt/Swivel Stand</b>	Attached( O ), Detached ( )
<b>Signal cable</b>	Attached( ), Detached ( O )
<b>Power cord</b>	Wall-outlet type or PC-outlet type

## NOTE

- Information in this document is subject to change without notice.

## Preset Modes (Resolution)

Display Modes (Resolution)		Horizontal Freq. (kHz)	Vertical Freq. (Hz)
1	640 x 350	31.47	70
2	640 x 480	31.47	60
3	640 x 480	37.50	75
4	640 x 480	43.27	85
5	720 x 400	31.47	70
6	800 x 600	37.88	60
7	800 x 600	46.88	75
8	800 x 600	53.67	85
9	832 x 624	49.72	75
10	1024 x 768	48.36	60
11	1024 x 768	60.02	75
12	1024 x 768	68.68	85
13	1152 x 870	68.68	75
14	1152 x 900	61.80	65.96
15	1280 x 1024	63.98	60.02
16	1280 x 1024	79.98	75.02
17	1600 x 1024	62.11	60
18	1600 x 1200	75.00	60

## Indicator

MODE	LED Color
Normal	green
Stand-by/Suspend	amber
DPMS Off	amber



## VESA wall mounting

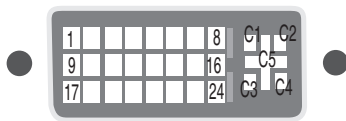
Connected to another object (stand type and wall-mounted type). This monitor accepts a VESA-compliant mounting interface pad.- **optional**  
For further information, refer to the VESA Wall Mounting Instruction Guide.



## Kensington Security Slot- optional

Connected to a locking cable that can be purchased separately at most computer stores

## Signal Connector Pin Assignment



### ■ DVI-I Connector

Pin	Signal(DVI-I)
1	T. M. D. S. Data2-
2	T. M. D. S. Data2+
3	T. M. D. S. Data2/4 Shield
4	T. M. D. S. Data4-
5	T. M. D. S. Data4+
6	DDC Clock
7	DDC Data
8	Analog Vertical Sync.
9	T. M. D. S. Data1-
10	T. M. D. S. Data1+
11	T. M. D. S. Data1/3 Shield
12	T. M. D. S. Data3-
13	T. M. D. S. Data3+
14	+5V Power
15	Ground (return for +5V, H. Sync. and V. Sync.)

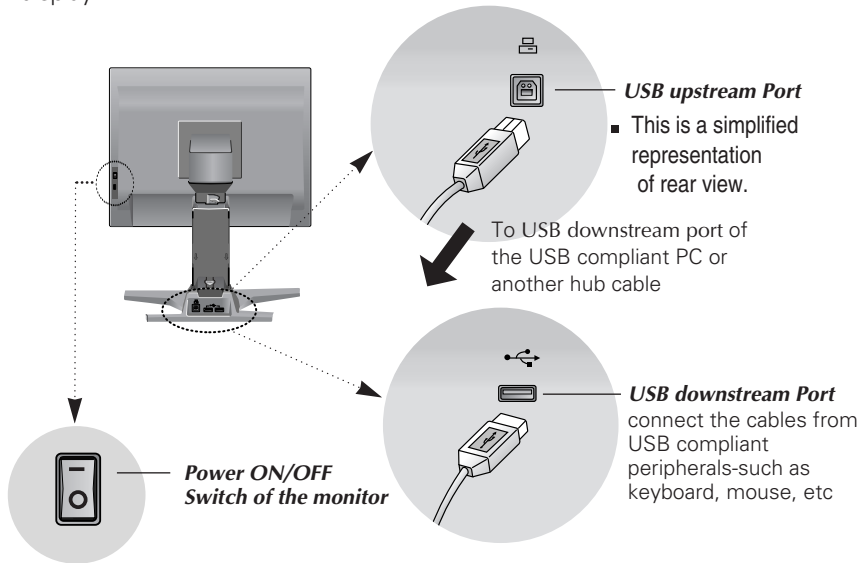
Pin	Signal(DVI-I)
16	Hot Plug Detect
17	T. M. D. S. Data0-
18	T. M. D. S. Data0+
19	T. M. D. S. Data0/5 Shield
20	T. M. D. S. Data5-
21	T. M. D. S. Data5+
22	T. M. D. S. Clock Shield
23	T. M. D. S. Clock+
24	T. M. D. S. Clock-
C1	Analog Red
C2	Analog Green
C3	Analog Blue
C4	Analog H. Sync.
C5	Analog Ground

T. M. D. S. (Transition Minimized Differential Signaling)

USB (Universal Serial Bus) is an innovation in connecting your different desktop peripherals conveniently to your computer. By using the USB, you will be able to connect your mouse, keyboard, and other peripherals to your display instead of having to connect them to your computer. This will give you greater flexibility in setting up your system. USB allows you to connect a chain of up to 120 devices on a single USB port; and you can “hot” plug (attach them while the computer is running) or unplug them while maintaining the Plug and the Plug auto detection and configuration. This display has an integrated BUS-powered USB hub, allowing up to 2 other USB devices to be attached it.

## USB connection

1. Connect the upstream port of the display to the downstream port of the USB compliant PC or another hub using the USB cable. (Computer must have a USB port)
2. Connect the USB compliant peripherals to the downstream ports of the display.



### NOTE

- To activate the USB hub function, the display must be connected to a USB compliant PC(OS) or another hub with the USB cable(enclosed).
- When connecting the USB cable, check that the shape of the connector at the cable side matches the shape at the connecting side.
- Even if the display is in a power saving mode, USB compliant devices will function when they are connected the USB ports(both the upstream and downstream) of the display.

## USB Specifications

<b>USB standard</b>	Rev. 1.1 complied BUS-powered hub
<b>Downstream power supply</b>	500mA for each (MAX)
<b>Communication speed</b>	12 Mbps (full), 1.5 Mbps (low)
<b>USB port</b>	1 Upstream port 2 Downstream ports

**IMPORTANT:** These USB connectors are not designed for use with high-power USB devices such as a video camera, scanner, etc. LGE recommends connecting high-power USB devices directly to the computer

Digitally yours ■■■■■.....

