

15" XGA Active Matrix LCD Monitor

# ***CrystalPro***

TFT LCD Monitor

**User's Manual**

FCC ID: DK4L5M1XA

## Precautions

- Read all of these instructions and save them for later use.
- Follow all warnings and instructions on the product.
- Product
  - Do not cover or block the vent holes in the case.
  - Do not insert sharp objects or spill liquid into the LCD monitor through cabinet slots. They may cause accident fire, electric shock or failure.
  - Disconnect the power plug from the AC outlet if you will not use it for an indefinite period of time.
  - Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks.
  - Do not touch the screen directly with your fingers. You may damage the screen, and oil from your skin is difficult to move.
  - Do not apply pressure to the screen. The LCD is very delicate.
- Power
  - Use the type of power indicated on the marking label.
- Plugs
  - Do not remove any of the prongs of the monitor's three-pronged power plug.
  - Disconnect the power plug from the AC outlet under following conditions:
    - ◆ If you will not use it for an indefinite period time.
    - ◆ When the power cord or plug is damaged or frayed.
    - ◆ If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to

normal operation.

- ◆ If the product has been dropped or the cabinet has been damaged.
  - ◆ If the product exhibits a distinct change in performance, indicating a need for service.
- Power and extension cords
    - Do not allow anything to rest on the power cord.
    - Do not locate this product where persons will walk on the cord.
    - Use the proper power cord with correct attachment plug type. If the power source is 120 V AC, use a power cord that has UL and C-UL approvals. If the power source is a 240 V AC supply, use the tandem (T blade) type attachment plug with ground conductor power cord that meets the respective European country's safety regulations, such as VDE for Germany.
    - Do not overload wall outlets or power cords. Ensure that the total of all units plugged into the wall outlet does not exceed 10 amperes.
    - Ensure that the total ampere ratings on all units plugged into the extension cord is not above the cord's rating.
    - If the power supply cord, which came with your monitor, is to be connected to the PC instead of the wall outlet, this equipment is to be used with UL/TÜV approved computers with receptacle rated 100~240V AC, 50/60Hz, 2.0A (minimum).
  - Environment
    - Place the monitor on a flat and leveled surface.
    - Place the monitor in a well-ventilated place.
    - Keep the monitor away from:  
overly hot, cold or humid places, places directly under sunlight,  
dusty surroundings, equipment that generate strong magnetic fields.

**Federal Communication Commission  
Radio Frequency  
International Statement**

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 the following measures:

- Reorient / Relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

***Notice (optional):***

1. The use of non-shielded interface with this equipment is prohibited.
2. **A shielded AC power cord must be used with this equipment.**

If necessary, the user should consult 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. This booklet is available from the U.S. Government Printing Office Washington DC, 20402, Stock No. 004-000-00345-4.

The manufacture is not responsible for any radio or TV interference caused by unauthorized modification of this equipment. It is the responsibility of the user to correct such interference.

**Caution: To meet FCC limits for a Class B computing device, a shielded signal cable should be used.**

- 1. If you find some parts of the monitor display discolored due to magnetic fields generated by electrical facilities or appliances, turn off the monitor for at least 15 minutes. The degaussing circuit of the monitor will eliminate the discoloration.*
- 2. Do not remove the monitor on its swivel base while the power is on, or it may cause discoloration. If discoloration occurs, follow the above mentioned procedure for adjustment.*

**Canadian Department Of  
Communications Compliance  
Statement**

This equipment does not exceed Class B limits per radio noise emissions for a digital apparatus, set out in the Radio Interference Regulation of the Canadian Department of Communications. Operation in a residential area may cause unacceptable interference to radio and TV reception requiring the owner or operator to take whatever steps necessary to correct the interference.

## **Product Description**

Congratulations on your purchasing this new generation of monitor. Your LCD monitor incorporates high quality display into a small light weighted module. It has power-saving capabilities and emits no X-ray radiation. You will certainly benefit from this monitor in lots of ways; to name some of them, comfort, safety, health, and environmental protection.

This LCD monitor incorporates 15" true color active matrix thin-film-transistor (TFT) liquid crystal display to provide superior display performance. A maximum resolution of XGA 1024x768 is ideal for displaying complex graphics and high definition images. Other outstanding designs that enhance this LCD monitor's performance are Plug & Play compatibility, high performance audio system, USB supporting, portrait display and OSD (On Screen Display) controls.

## **Package Contents**

Included with your LCD monitor are following items:

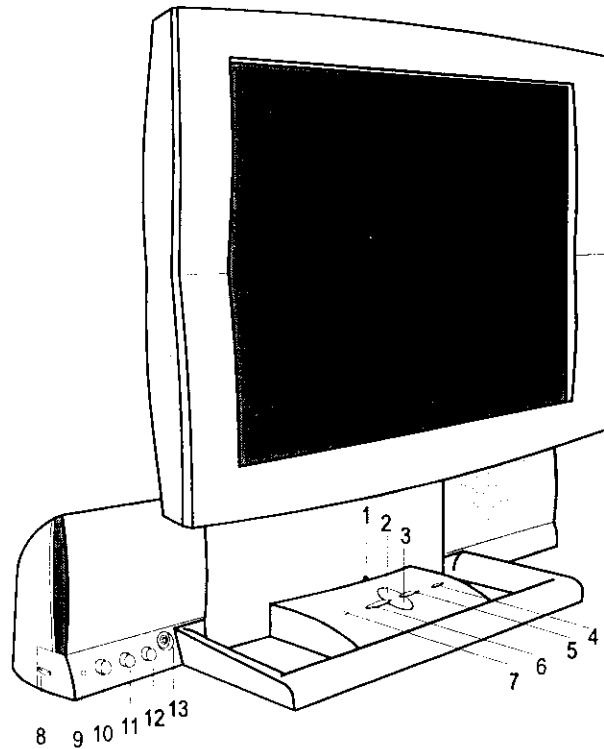
- 15" TFT liquid crystal monitor with video signal cable
- A pair of high performance speakers
- AC power cable
- Audio cable
- Microphone cable
- Disk with portrait display software
- USB cable
- User's manual

## Product Features

- High contrast color TFT LCD display support resolution up to XGA 1024x768. Compatible with IBM VGA, VESA, and Macintosh standards.
- High-end detachable audio system provide 3D and base sound performance.
- Omnidirectional microphone for multimedia usage.
- Landscape / Portrait display modes provide versatile ways to view the screen image.
- Power management system conform to VESA DPMS standard.
- Embedded universal power system.
- Support DDC1/2B for Plug & Play compatibility.
- Ergonomic identify design for OSD control panel and keyboard space saving.
- USB (Universal Serial Bus) supporting with 2 downstream ports.
- Equipped with TCO92 and TCO95 selection.

## Taking a Look

### Front View

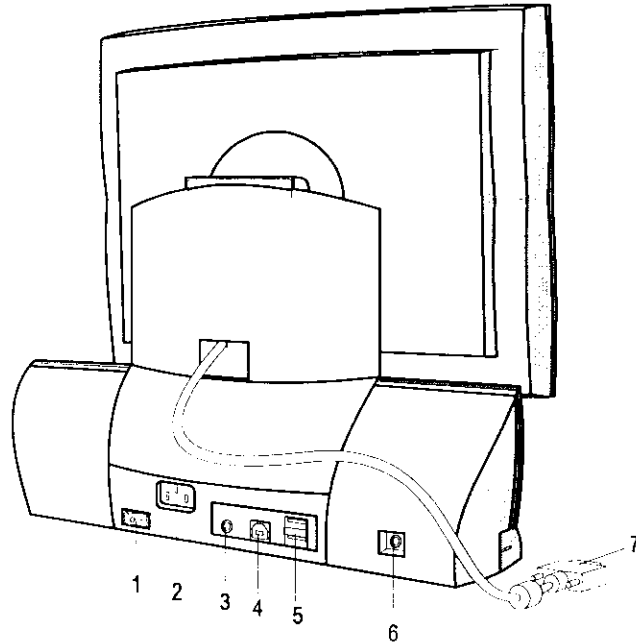


1. **Microphone** This is the built-in microphone.
2. **Menu** Pressing this button pops up the OSD menus on the screen, and used to select the OSD control options select the OSD function on the screen.
3. **Reset** Pressing this button to reset all OSD control setting back to factory setting.
4. **Soft Power Switch** When Main Power Switch (on rear side) turns **on**, this switch control the display system power **on** or **entering *Monitor Sleep Mode***.



5. **+** This button is used to adjust the increasing value of the selected OSD control option.
6. **-** This button is used to adjust the decreasing value of the selected OSD control option.
7. **Power LED** This LED indicates different status when this unit operates in different modes.
8. **Volume Control** This is for adjusting the sound volume.
9. **Speaker Power LED** This indicator illuminates when the audio system power is turned on.
10. **Speaker Power Switch** This turns the audio system power **on** or **off**.
11. **Bass** This turns the bass sound effect **on** or **off**.
12. **3D** This turns the surrounding sound effect **on** or **off**.
13. **Earphone Plug** This is for connecting the earphone.

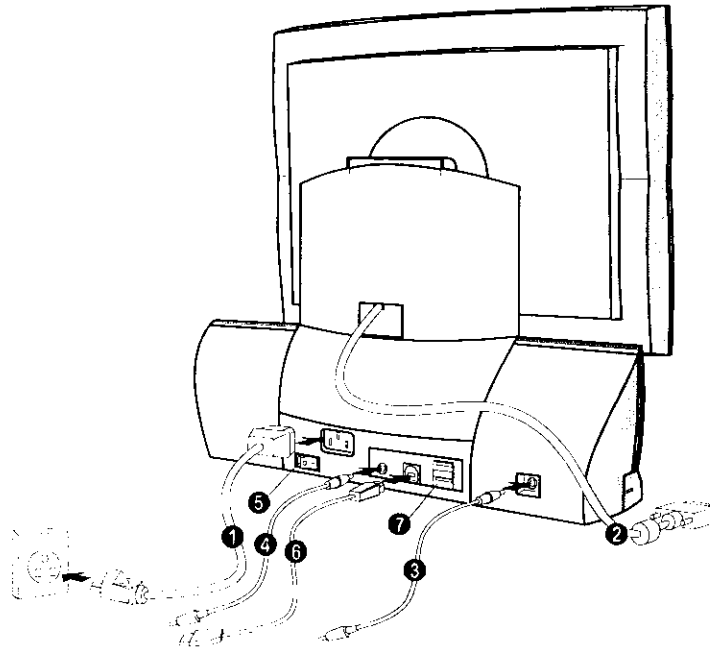
## Rear View



1. **Main Power Switch** This turns the monitor main power **on** or **off**.
2. **Power Connector** This is for connecting the power cable.
3. **Mic Out** This can be connected to the mic-in connector of the computer.
4. **USB Up** This upstream port is for connecting a USB hub.
5. **USB Down** Each of these two downstream ports are for connecting a USB device.
6. **Audio In** This can be connected to the audio-out connector of the computer.
7. **Signal Cable** This can be connected to the signal connector of the computer.

## Setting Up

**WARNING** When you disconnect the cord/cables, be sure to hold the connector instead of the wire part.



1. Connect one end of the power cord to the monitor and the other end to the AC outlet. (1)
2. Connect one end of the signal cable to the rear side of computer. Tighten by turning clockwise the two thumb screws to ensure proper grounding. (2)
3. Connect either end of the audio cable to the **Audio In** connector on the monitor and the other end to the audio-out connector of your computer (3)
4. Connect either end of the other audio cable to the **Mic Out** connector on the monitor and the other end to the mic-in connector of your computer. (4)
5. Turn on the monitor by pressing the Main Power Switch to the **on** position (-) (5). Then, turn on the computer.

**NOTE** You have to press the “Soft Power Switch” on front control side (as section **Front View** item 4 described) to turn **on** the LCD monitor.

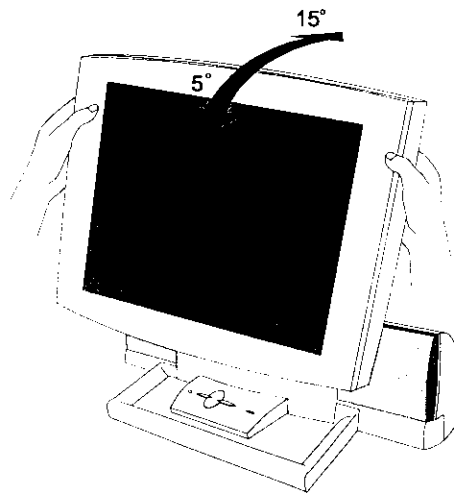
If the display is unsatisfactory, refer to the *Controls and Adjustments* section.

1. If you have USB device need to work, you should connect one end of the USB cable to **USB Up** port on the monitor and the other end to the USB port of your computer first(⑥), then connect the USB device to one of the **USB Down** ports(⑦).
2. **USB Down** (⑦) have 2 ports to support 2 USB devices.

## Display Angle

### Tilting

For viewing clarity, you can tilt the LCD forward (up to 5 degrees) or backward (up to 15 degrees.)



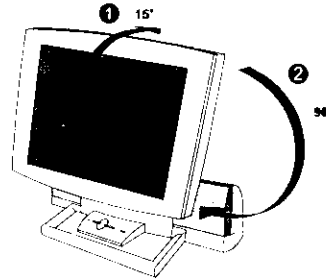
**CAUTION** In order to protect the LCD, be sure to hold the base when you adjust the LCD, and, **do not** touch the screen.

## Rotating

You can change the orientation of the LCD:

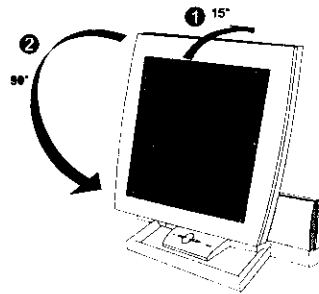
### *Landscape to Portrait*

Tilt the LCD fully backward (15 degrees) and rotate it **clockwise** until it clips into place.



### *Portrait to Landscape*

Tilt the LCD fully backward (15 degrees) and rotate it **counter clockwise** until it clips into place.

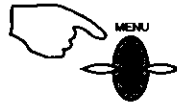


## Controls and Adjustment

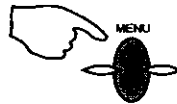
### Adjusting with the OSD Control

- *To Display and Select the OSD Functions:*

Pressing **Menu** once pops up the first OSD function.



Pressing **Menu** a second time shows the next OSD control option.



- *To Adjust the Value of the Control Option:*

Pressing + / - button changes the value of the selected OSD control option.



After adjusting values, the monitor will automatically save the changes.

**NOTE** The OSD screen will disappear if no input activities are detected for 5 seconds.

## OSD Control Options

- **BRIGHTNESS**



Adjust the brightness using + and – buttons.

- **CONTRAST**



Adjust the contrast using + and – buttons.

- **CLOCK**



This item is used to decrease the vertical interference.

1. Select one display pattern from your computer.

*Example* : Select the pattern from *Desktop* of *Control Panel*, and set the *Wallpaper* item to **Field Effect**.

2. Use + and – buttons on the LCD monitor to decrease the vertical interference to get the optimal display.
3. Reload the pattern and wallpaper settings if needed.

- **PHASE**



This item is used to decrease the horizontal interference.

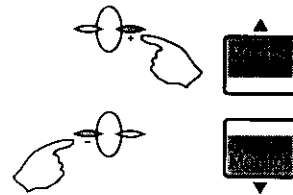
1. Select one display pattern from your computer.

*Example* : Select the pattern from *Desktop* of *Control Panel*, and set the *Wallpaper* item to **Field Effect**.

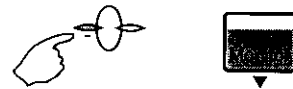
2. Use + and – buttons on the LCD monitor to decrease the horizontal interference to get the optimal display.
3. Reload the pattern and wallpaper settings if needed.

- **VERTICAL POSITION**

Pressing + moves the image upward;

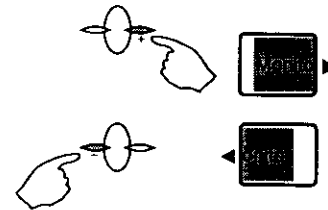


Pressing – moves the image downward.

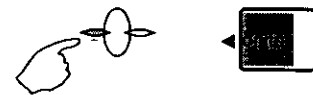


- **HORIZONTAL POSITION**

Pressing + moves the image to the right;



Pressing – moves the image to the left.



- **RESET**



Pressing **RESET** key over 2 seconds to reset all OSD control setting back to the factory setting.



## Power LED Display & Power Saving

### General Power Saving Mode

When both the Main Power Switch on the rear side and the Soft Power Switch on the front control panel are switch **on**, this LED lights in **green**.

The LED indicates the different power status with altered LED colors when monitor operates in different modes (see following table).

Mode	Power LED Color	Power Consumption	Screen State
<b>On</b>	Green	25W	On
<b>Suspend</b>	Orange	<8W	H. or V. Off
<b>Off</b>	Orange	<5W	Off

### Soft Power Switch & Monitor Sleep Mode

The LCD monitor provide the **Soft Power Switch** feature for users to manually control monitor itself :

- Entering sleep mode
- Waking up from sleep mode

When the LCD monitor on *Picture Display* situation, if you push the **Soft Power Switch**, the monitor will enter *Monitor Sleep Mode* (picture will become all dark) immediately. Vice versa, when the LCD monitor on *Monitor Sleep Mode*, if you push the **Soft Power Switch**, the monitor will wake up from *Monitor Sleep Mode* immediately, and display the picture as normal situation.

The LED also indicate the **Soft Power Switch** control status (see following table).

Main Power Switch	Soft Power Switch	Power LED Color	Audio Function	ESR Function
On	On	Green	Action	Action
On	Off	Yellow	No Action	Action
Off	On	No Signal	No Action	No Action
Off	Off	No Signal	No Action	No Action

## Troubleshooting

**The monitor does not respond after you turn on the system.**

- Check if the **Main Power Switch** and **Soft Power Switch** of monitor are both turned **on** .
- Turn off the power and check the monitor's power cord and signal cable for proper connection.

**The characters on the screen are dim.**

- Refer to the *Controls and Adjustments* section to adjust the brightness.

**The screen is blank.**

- During operation, the monitor screen may automatically turn off as a result of Power Saving feature. Press any key to see if the screen comes back.
- Refer to the *Controls and Adjustments* section to adjust the brightness.

**The screen flashes when it's initialized.**

- Turn off the monitor and turn it on again.

**WARNING** Do not disassemble the monitor. Contact your dealer if needed.

## Specifications

<b>Model</b>		<b>L5MX</b>
<b>Type Configuration</b>		L5MX-TA-NC0
<b>LCD Display</b>		15.0" TFT Active Matrix Panel
<b>Display Size</b>		304(H) x 228(V) mm
<b>Pixel Pitch</b>		0.297(H) x 0.297(V) mm
<b>Display Mode</b>		640 x 480 (V: 70Hz, H: 31.47KHz)
		640 x 480 (V: 75Hz, H: 37.50KHz)
		800 x 600 (V: 75Hz, H: 46.88KHz)
		1024 x 768 (V: 75Hz, H: 60.00KHz)
<b>Max. Resolution</b>		XGA 1024 x 168 N.I.
<b>Contrast Ratio</b>		150 : 1 (Typical)
<b>Brightness</b>		200 Cd/m <sup>2</sup> (Typical)
<b>Response Time</b>		50 ms
<b>Display Color</b>		16M
<b>Viewing Angle</b>		+50° ~ -50° (L/R), +30° ~ -40° (U/D)
<b>Input Signal</b>	<b>Video</b>	R.G.B. Analog 0.7V <sub>peak-peak</sub>
	<b>Sync</b>	TTL Positive or Negative
<b>Signal Connector</b>		15 Pin Mini D-Sub
<b>Front Control</b>		Soft Power Switch, Menu, Reset, Adjust (+, -)
<b>Rear Control</b>		Main Power Switch
<b>OSD</b>		Brightness, Contrast, Clock, Phase,
		H-Position, V-Position, Reset
<b>Rotation</b>		90° Clockwise Rotate For Portrait Display
<b>Plug &amp; Play</b>		DDC1 / 2B

<b>Audio System</b>	<b>Speaker</b>	3W / Per Channel
	<b>Control</b>	Audio Power Switch, Volume, 3D, Bass
	<b>Connector</b>	Earphone Plug, Audio-In
<b>Microphone</b>		Imbedded Omnidirectional Mic.
<b>USB</b>		1 Upstream Port, 2 Downstream Ports
<b>Power</b>		Imbedded AC Input, Universal 90 ~ 264 V
<b>Operating Conditions</b>	<b>Temperature</b>	0°C ~ 40°C (32°F ~ 104°F)
	<b>Humidity</b>	10% ~ 80% (No Condensation)
	<b>Altitude</b>	To 10,000 Feet
<b>Storage Conditions</b>	<b>Temperature</b>	-20°C ~ 60°C (-4°F ~ 140°F)
	<b>Humidity</b>	10% ~ 80% (No Condensation)
<b>Dimensions</b>		408.6 x 385 x 230.7 mm
		(With Audio System, Width is 426.6 mm)
<b>Weight (Net)</b>		5.5 Kg
<b>Certifications</b>		UL, C-UL, FCC-B, TUV/GS, CE, MPR II, EPA,
		D.N.S.F., ISO9241-3, ISO9241-8,
		TCO92/95 (Option)