

15" XGA Active Matrix LCD Monitor

CrystalPro

TFT LCD Monitor

User's Manual

FCC ID: DK445MXD

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

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.
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- 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 of 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 ergonomic function controls.

Package Contents

Included with your LCD monitor are following items:

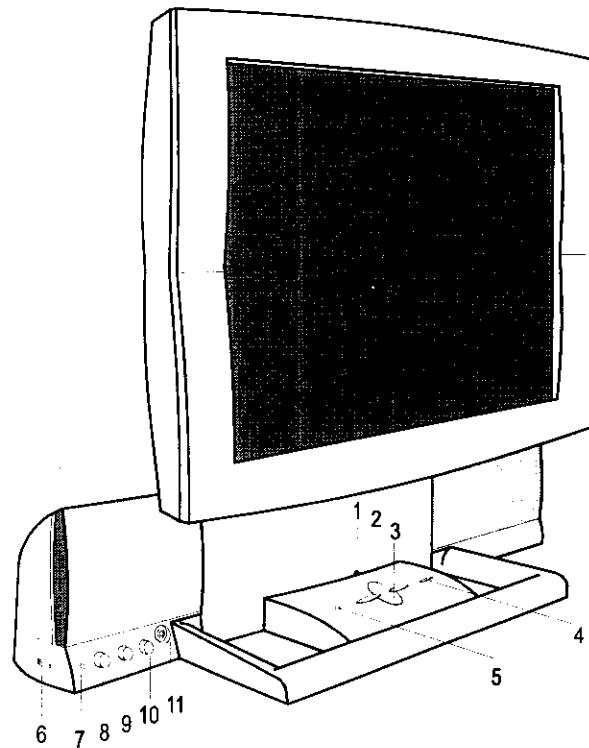
- 15" TFT liquid crystal monitor with video signal cable
- A pair of high performance speakers
- Digital signal VGA card
- AC power cable
- Audio cable
- Microphone cable
- Disk with VGA driver & portrait display software
- USB cable
- User's manual

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 function control panel and keyboard space saving.
- USB (Universal Serial Bus) supporting with 2 downstream ports.
- Equipped with TCO92 and TCO95 selection.

Taking a Look

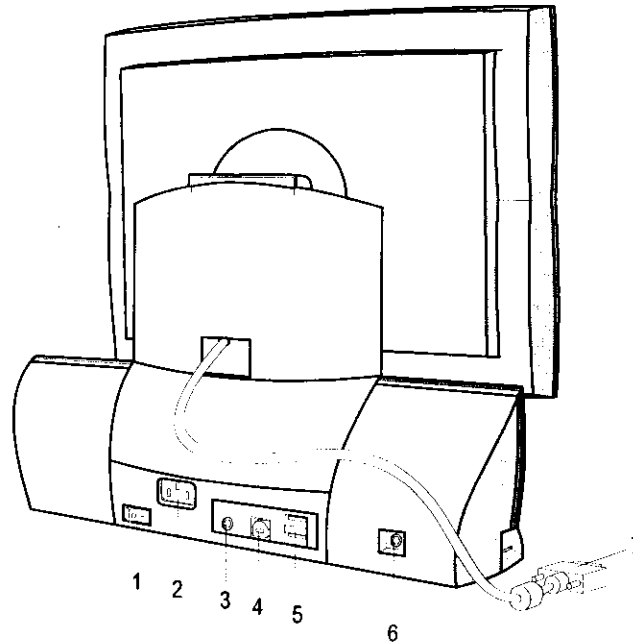
Front View



1. **Microphone** This is the built-in microphone.
2. **Brightness +** Pressing this button to adjust the increasing value of brightness.
3. **Brightness -** Pressing this button to adjust the decreasing value of brightness.
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. **Power LED** This LED indicates different status when this unit operates in different modes.
6. **Volume Control** This is for adjusting the sound volume.
7. **Speaker Power LED** This indicator illuminates when the audio system power is turned on.
8. **Speaker Power Switch** This turns the audio system power **on** or **off**.
9. **Bass** This turns the bass sound effect **on** or **off**.
10. **3D** This turns the surrounding sound effect **on** or **off**.
11. **Earphone Plug** This is for connecting the earphone.

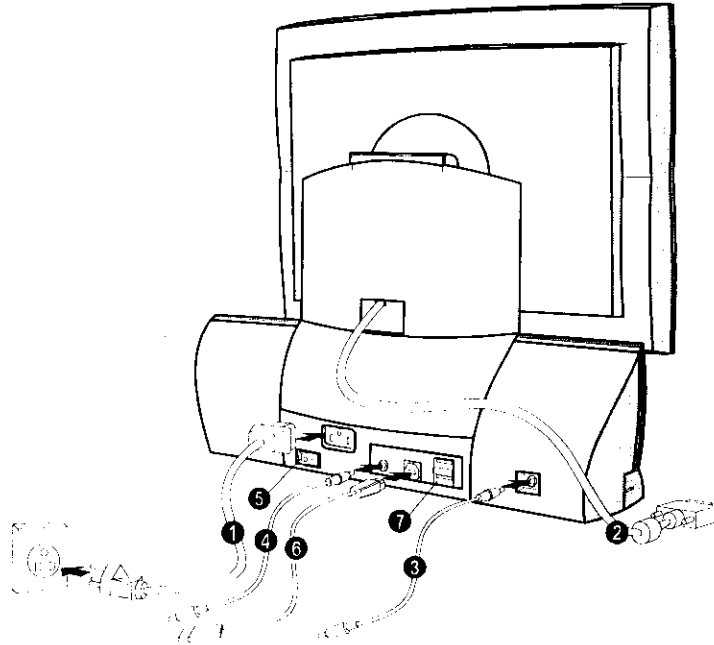
Rear View



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 digital VGA card.

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 connector of digital VGA card. (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.

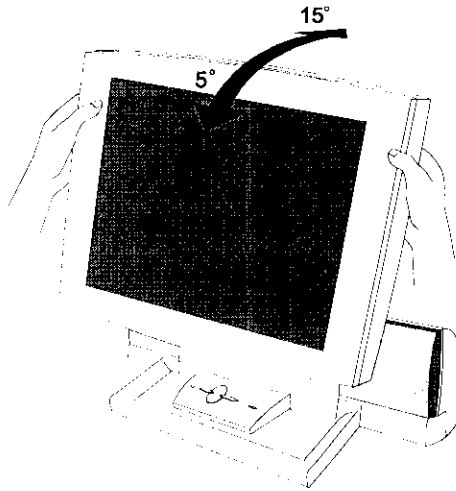
If the display is unsatisfactory, refer to the *Controls and Adjustments* section.

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.)



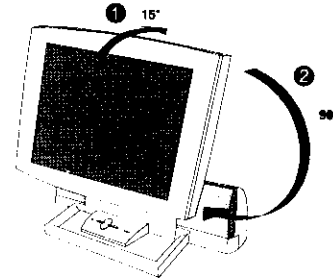
CAUTION In order to protect the LCD, be sure to hold the base when you adjust the LCD, and, **do not** touch the screen.

Rotating

You can change the orientation of the LCD:

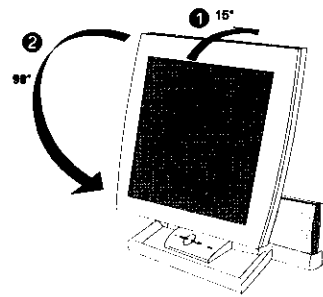
Landscape to Portrait

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.



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	H. and V. Sync
On	Green	25W	On
Suspend	Orange	<8W	H. or V. Off
Off	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	Auto Dimming	ASB Dimming
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.

- 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.
- 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

Model		L5MX
Type Configuration		L5MX-TD-SR5
LCD Display		15.0" TFT Active Matrix Panel
Display Size		304(H) x 228(V) mm
Pixel Pitch		0.297(H) x 0.297(V) mm
Max. Resolution		XGA 1024 x 168 N.I.
Contrast Ratio		300 : 1
Brightness		200 Cd/m ² (Typical)
Response Time		45 ms
Display Color		16M
Viewing Angle		+70° ~ -70° (L/R), +60° ~ -60° (U/D)
PC Interface		C&T 65555 VGA, LVDS Interface 2M DRAM EDO On Board, Upgradable to 4M Dual Connector (MDR 26 Pin & D-sub 15 Pin)
Signal Cable Connector		MDR 26 Pin
Front Control		Soft Power Switch, Brightness Adjustment
Rear Control		Main Power Switch
Rotation		90o Clockwise Rotate For Portrait Display
Plug & Play		DDC1 / 2B
Audio System	Speaker	3W / Per Channel
	Control	Audio Power Switch, Volume, 3D, Bass
	Connector	Earphone Plug, Audio-In
Microphone		Imbedded Omnidirectional Mic.
USB		1 Upstream Port, 2 Downstream Ports

Power		Imbedded AC Input, Universal 90 ~ 264 V
Operating Conditions	Temperature	0°C ~ 40°C (32°F ~ 104°F)
	Humidity	10% ~ 80% (No Condensation)
	Altitude	To 10,000 Feet
Storage Conditions	Temperature	-20°C ~ 60°C (-4°F ~ 140°F)
	Humidity	10% ~ 80% (No Condensation)
Dimensions		408.6 x 385 x 230.7 mm (With Audio System, Width is 426.6 mm)
Weight (Net)		5.5 Kg
Certifications		UL, C-UL, FCC-B, TUV/GS, CE, MPR II, EPA, D.N.S.F., ISO9241-3, ISO9241-8, TCO92/95 (Option)

L5MX-TD Display Mode List

<i>Analog Signaling</i>		
<i>Resolution</i>	<i>Vertical Frequency</i>	<i>Horizontal Frequency</i>
640 x 480	60 Hz	31.5 KHz
	75 Hz	37.5 KHz
	85 Hz	43.3 KHz
800x600	60 Hz	37.9 KHz
	75 Hz	46.9 KHz
	85 Hz	53.7 KHz
1024x768	60 Hz	48.4 KHz
	75 Hz	60.0 KHz
	85 Hz	68.7 KHz
1280x1024	60 Hz	64.0 KHz
	75 Hz	79.98 KHz

<i>Digital Signaling</i>		
<i>Resolution</i>	<i>Vertical Frequency</i>	<i>Horizontal Frequency</i>
1024x768	60 Hz	48.4 KHz