



PL2010M
LCD Monitor

USER'S GUIDE

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Preface

This manual is designed to assist users in setting up and using the LCD Monitor. Information in this document has been carefully checked for accuracy; however, no guarantee is given to the correctness of the contents. The information in this document is subject to change without notice. This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic or other means, in any form, without prior written permission of the manufacturer.

FCC Statement Warning

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 instruction, 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 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.

Any changes or modifications not expressly approved by the manufacturers may void the user's authority to operate this equipment.

Warning

Use only shielded signal cables to connect I/O devices to this equipment. You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

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.

Important Safety Instructions

Please read the following instructions carefully. This manual should be retained for future use.

1. To clean LCD Monitor screen:
 - Power off LCD Monitor and unplug the AC Cord.
 - Spray a non-solvent cleaning solution onto a rag.
 - Gently clean the screen with dampened rag.
2. Do not place the LCD Monitor near a window. Exposing the monitor to rain water, moisture or sunlight can severely damage it.
3. Do not apply pressure to the LCD screen. Excess pressure may cause permanent damage to the display.
4. Do not remove the cover or attempt to service this unit by yourself. Servicing of any nature should be performed by an authorized technician.
5. Store LCD Monitor in a room with a room temperature of -20° ~ 60°C (or -4° ~ 140°F). Storing the LCD Monitor outside this range could result in permanent damage.
6. If any of the following occurs, immediately unplug your monitor and call an authorized technician.
 - * Monitor to PC signal cable is frayed or damaged.
 - * Liquid spilled into LCD Monitor or the monitor has been exposed to rain.
 - * LCD Monitor or the case is damaged.
7. A certified line is required to connect this device to a power outlet. For a nominal current up to 6A and a device weight above 3 kg, a line not lighter than H05VV-F, 3G, 0.75 mm² must be used.



Important Recycle Instruction:

LCD Lamp(s) inside this product contain mercury. This product may contain other electronic waste that can be hazardous if not disposed of properly. Recycle or dispose in accordance with local, state, or federal Laws. For more information, contact the Electronic Industries Alliance at WWW.EIAE.ORG. For lamp specific disposal information check WWW.LAMPRECYCLE.ORG

Chapter 1 Installation

Unpacking

Before unpacking the LCD Monitor, prepare a suitable workspace for your Monitor and computer. You need a stable and clean surface near a wall power outlet. Make sure that LCD Monitor has enough space around it for sufficient airflow. Though the LCD Monitor uses very little power, some ventilation is needed to ensure that the Monitor does not become too hot.

After you unpack the LCD Monitor, make sure that the following items were included in the box:

- * LCD Monitor
- * Monitor-to-PC VGA Cable
- * Monitor-to-PC DVI-D Cable
- * User's Manual
- * Power Cord
- * Stereo Jack Audio Cable

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Connecting the LCD Monitor and Base

When you open the box to take the base and put on the desk first. Then connect the LCD Monitor and base please. (See fig.1-1)

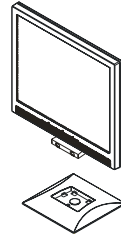


Figure 1-1

Viewing Angle Adjustment

The LCD Monitor is designed to allow users to have a comfortable viewing angle. The viewing angle can be adjusted from -5° to $+25^{\circ}$. (See fig. 1-2)

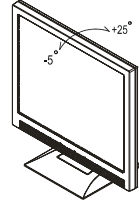


Figure 1-2

Warning: Do not force the LCD Monitor over its maximum viewing angle settings as stated above. Attempting this will result in damaging the Monitor and Monitor stand.

Connecting the Display to your Computer

1. Power off your computer.
2. Connect one end of the signal cable to the LCD Monitor's VGA port or DVI port. (See Fig 1-5)
3. Connect the other end of the signal cable to the VGA port or DVI port on your PC.
4. Make sure connections are secure.

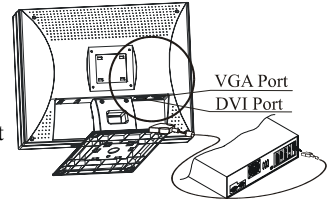


Figure 1-5

Connecting the AC Power

1. Connect the power cord to the AC adapter. (See Fig. 1-6)
2. Connect the AC adapter's DC output connector to the DC Power Jack of the monitor.
3. Connect the power cord to an AC power source.

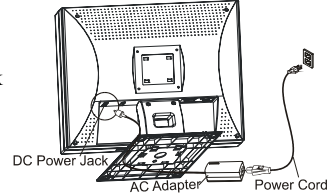


Figure 1-6

Connecting the Audio Cable

1. Connect the audio cable to the "LINE OUT" jack on your PC's audio card or to the front panel's "AUDIO OUT" jack of your CD ROM drive. (See Fig. 1-7)
2. Connect the other end of the audio cable to the LCD Monitor's "LINE IN" jack.

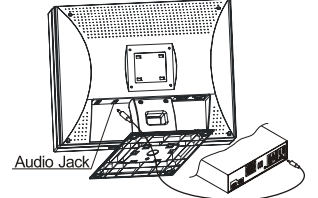


Figure 1-7

Optional Mounting Alternatives

Detaching LCD Monitor from Its Stand

Unscrew screws ❶ the swivel base support column and pull down ❷ the second.

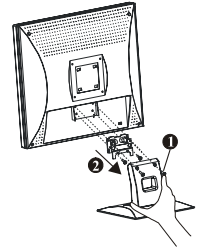


Figure 1-3

Interface for Arm Applications

Before installing to mounting device, please refer to Fig.1-3.

The rear of this LCD display has four integrated 4 mm, 0.7 pitches threaded nuts, as well as four 5 mm access holes in the plastic covering as illustrated in Figure 1-4. These specifications meet the **VESA Flat Panel Monitor Physical Mounting Interface Standard** (paragraphs 2.1 and 2.1.3, version 1, dated 13 November 1997).

Note :Please using \varnothing 4mm x 8mm (L) screw for this application.

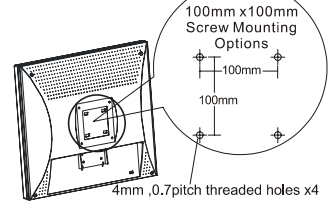


Figure 1-4

Power Management System

This LCD Monitor complies with the VESA DPMS (version 1.0) Power Management guidelines. The VESA DPMS provides four power saving modes through detecting a horizontal or vertical sync. signal. When the LCD Monitor is in power saving mode, the monitor screen will be blank and the power LED indicator will light yellow.

Chapter 2 Display Controls

User Controls

A brief description and the location of all LCD Monitor functions control and indicator:

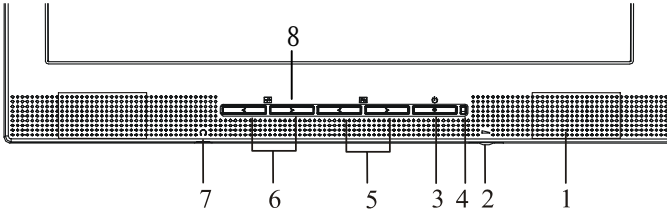


Figure 2-1

1	Stereo Speakers	PC Audio Stereo output.
2	Speaker Volume Control	Increase Volume - Turn the knob clock wise. Decrease Volume - Turn the knob counter clock wise.
3	Soft Power Switch	Press the soft power switch to switch the monitor ON/OFF.
4	Power-On Indicator	LED lights Green color --- Power is ON. LED lights Yellow --- Monitor is in "Power Saving Mode". LED is off --- Power is OFF.
5	Function Select Buttons	Press either left or right control button for OSD (On Screen Display) menu selection.
6	Adjustment Control Buttons	Press the left button to decrease the OSD setting and press the right button to increase the OSD setting.
7	External Headphone Jack	The monitor speakers will be disabled when using an external headphone or external speakers.
8	Input Select	Press this button to switch between Analog or Digital input.

Adjusting the Monitor's Display

The monitor has four function control buttons to select among functions shown on OSD menu, designed for easy user-viewing environments.

OSD Function Menu

To access OSD Main menu, simply press one of the Function Select control buttons, and the menu diagram will pop up on the screen as shown on Fig. 2-2:



















Continue pressing the Function Select buttons to scroll through the entire menu items, then press Adjustment Control buttons to adjust content of selected item.



Figure 2-2

Attention: Firmware revision may have been updated in your monitor. However, the version number shown on all OSD menus in this manual are listed Ver. 1.00.

Function Description

Icon	Function	Function Description
	Brightness	101 scales of brightness are available to choose from (0 to 100).
	Contrast	101 scales of contrast are available to choose from (0 to 100).
	Horizontal Position	This function adjusts the display's horizontal position
	Vertical Position	This function adjusts the display's vertical position.
	OSD Transparency	This function sets the transparency of the OSD menu. The transparency is adjustable from 0 to 5 scales are available.
	Phase	A total of 101 scales (0 to 100) are available to adjust the focus and clarity of the display.
	Clock	This function carries a frequency-tracking feature that offers users better stability and clarity. 101 scales (from -50 to +50) are available on the mode that is currently running. The adjustable range can be variable in different modes. This function records the deviated number of clock period between input timing and supported timing. The clock value may not be "0" after Auto Adjustment when the input timing is different from supported timing.
	Color Temperature	Push the () button to select a different color temperature. Please see the diagram below for function and description.
	Horizontal OSD Position	This function moves the OSD menu window horizontally.
	Vertical OSD Position	This function moves the OSD menu window vertically.
	Graph Text	Because the H and V-Frequencies of both 640 x 400 70Hz, and 720 x 400 70Hz, are the same, this function let's you manually select either 640 x 400 (graphics mode), or 720 x 400 (text mode).
	Recall	The recall function will return all adjusted parameters to factory preset values.
	Language	Five OSD language options are available: English, German, French, Spanish, and Italian. Press the left or right adjustment control button to select other language.
	Auto and Input Select	Press () button () to activate the selected function, Auto Adjustment, Use Analog Input or Use Digital Input. The Auto Adjustment function let you adjust the display size, clock and phase to obtain the best viewing settings. This process will take 3 ~ 5 seconds to complete. Attention : After Auto Adjustment, the display might display wrong position or size, if it has received a pattern which has no screen border. You may select either Analog or Digital Input video when VGA input or/and DVI Input is/are available.
	Exit	Saves the values of this setting and exits the OSD menu function.

Icon	Function	Description
9300	CIE coordinated Color Temperature of 9300°K	Sets the CIE coordinate color temperature to 9300°K
7500	CIE coordinated Color Temperature of 7500°K	Sets the CIE coordinate color temperature to 7500°K
6500	CIE coordinated Color Temperature of 6500°K	Sets the CIE coordinate color temperature to 6500°K
User	Three colors (Red, Green, Blue) can be adjusted from the OSD menu	Sets the settings to a by user defined CIE Temperature.

Notice:

“OSD Lock Out” Function:

When monitor is in normal display, you can enable the “OSD Lock Out” function.

**** How to enter “OSD Lock Out” function =>***

Step 1:

The monitor is displaying after power on.

Step 2:

To press the buttons “VOL –“ and “VOL+” and “Function >” at the same time for 3 seconds or more.

Step 3:

Monitor will show an “OSD Lock Out” message for 5~10 seconds and the message will disappear automatically.

While the monitor is in the state of “OSD Lock Out”, if press OSD button, “OSD Lock Out” message will appear for 5~10 seconds on screen.

**** How to exit “OSD Lock Out” function =>***

Step 1:

When the monitor is in the state of “OSD Lock Out” .

Step 2:

To press the buttons “VOL –“ and “VOL+” and “Function >” at the same time for 3 seconds or more.

Step 3:

Display will show main OSD menu. (Now the monitor already has escaped from “OSD Lock Out” function.)

Chapter 3 Technical Information

Specifications

LCD Panel

Size	20.1"
Display Type	Active matrix color TFT LCD
Resolution	1600x1200
Display Dot	1600 x (RGB) x 1200
Display Color	16.7M

Video

Input Signal	Analog RGB 0.7Vp-p	Digital TMDS
Input Impedance	75 Ohm \pm 2%	
Polarity	Positive, Negative	
Amplitude	0 - 0.7 \pm 0.05 Vp	TMDS
Multi-mode Supported	Horizontal Frequency: 24 ~ 80 KHz Vertical Frequency: 49 ~ 75 Hz	24~80KHz 49~75 Hz

Audio

Input	500mVrms
Output	2W+2W

Control

Power switch (hard and soft types)	On/Off switch with LED indicator
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OSD

Brightness	Digital
Contrast	Digital
Horizontal Position	Digital
Vertical Position	Digital
Phase	Digital
Clock	Digital
Display Mode Setup	Use EEPROM to save settings in memory
OSD Format	26 characters x 15 rows

Power Management

Mode	Power Consumption*	AC Input	LED Color
On	70W maximum	240 VAC	Green
Off	3W maximum	240 VAC	Yellow
Soft switch off	3W maximum	240 VAC	Dark
Disconnected	3W maximum	240 VAC	Yellow: Standby, Suspend, Off Dark: Power off

* Meeting VESA DPMS requirements measured from AC Input.

Sync Input

Signal	Separate TTL compatible horizontal and vertical synchronization Digital TMDS
Polarity	Positive and negative
<u>Plug & Play</u>	Supports VESA DDC2B functions

External Connection

Power Input (AC input)	Power cord
Video Cable	15-pin D-sub connector, 24-pin DVI-D
Audio Cable	Stereo Jack

Environment

Operating Condition:	Temperature	5°C to 40°C/41°F to 104°F
	Relative Humidity	20% to 80%
Storage Condition:	Temperature	-20°C to 60°C/-4°F to 140°F
	Relative Humidity	5% to 85%

Power Supply (AC Input)

Input Voltage	Single phase, 100 ~ 240VAC, 50 / 60 Hz
Input Current	1.2 A maximum

Size and Weight

Dimensions	451.4 (W) x 419.5 (H) x 210 (D) mm
Net Weight	7.0 ± 0.5 kg
Gross Weight	9.0 ± 0.5 kg

Standard Timing Table

If the selected timing is NOT included in table below, this LCD monitor will use the most suitable available timing.

TIMING	FH(KHZ)) FV(HZ)	SYNC POLARITY	TOTAL (DOT/ LINE)	ACTIVE (DOT/ LINE)	SYNC WIDTH (DOT/LINE)	FRONT PORCH (DOT/LINE)	BACK PORCH (DOT/LINE)	PIXEL FOREQ (MHZ)
640x350	31.469	+	800	640	96	16	48	25.175
VGA-350	70.087	-	449	350	2	37	60	
640x400	24.83	-	848	640	64	64	80	21.05
NEC PC9801	56.42	-	440	400	8	7	25	
640x400	31.469	-	800	640	96	16	48	25.175
VGA-GRAPH	70.087	+	449	400	2	12	35	
640x400	31.5	-	800	640	64	16	80	25.197
NEC PC9821	70.15	-	449	400	2	13	34	
640X480	31.469	-	800	640	96	16	48	25.175
VESA-PAL	50.030	-	629	480	2	62	85	
640x480	31.469	-	800	640	96	16	48	25.175
VGA-480	59.94	-	525	480	2	10	33	
640x480	35.00	-	864	640	64	64	96	30.24
APPLE MAC-480	66.67	-	525	480	3	3	39	
640x480	37.861	-	832	640	40	16	120	31.5
VESA-480-72Hz	72.809	-	520	480	3	1	20	
640x480	37.5	-	840	640	64	16	120	31.5
VESA-480-75Hz	75	-	500	480	3	1	16	
720x400	31.469	-	900	720	108	18	54	28.322
VGA-400-TEXT	70.087	+	449	400	2	12	35	
832x624 APPLE	49.725	-	1152	832	64	32	224	57.2832
MAC-800	74.55	-	667	624	3	1	39	
800x600	35.156	+	1024	800	72	24	128	36
SVGA	56.25	+	625	600	2	1	22	
800x600	37.879	+	1056	800	128	40	88	40
VESA-600-60Hz	60.317	+	628	600	4	1	23	
800x600	48.077	+	1040	800	120	56	64	50
VESA-600-72Hz	72.188	+	666	600	6	37	23	
800x600	46.875	+	1056	800	80	16	160	49.5
VESA-600-75Hz	75	+	625	600	3	1	21	
1024x768	48.363	-	1344	1024	136	24	160	65
XGA	60.004	-	806	768	6	3	29	
1024x768	53.964	+	1328	1024	176	16	112	71.664
COMPAQ-XGA	66.132	+	816	768	4	8	36	
1024x768	56.476	-	1328	1024	136	24	144	75
VESA-768-70Hz	70.069	-	806	768	6	3	29	
1024x768	60.023	+	1312	1024	96	16	176	78.75
VESA-768-75Hz	75.029	+	800	768	3	1	28	
1024x768	60.24	-	1328	1024	96	32	176	80
APPLE MAC-768	75.02	-	803	768	3	3	29	
1152x864	54.054	+	1480	1152	96	40	192	80
(60Hz)	59.270	+	912	864	3	13	32	
1152x864	63.851	+	1480	1152	96	32	200	94.499
(70Hz)	70.012	+	912	864	3	1	44	
1152x864	67.50	+	1600	1152	128	64	256	108.00
(75Hz)	75.00	+	900	864	2	2	32	
1280x960	60.00	+	1800	1280	112	96	312	108.00
(60Hz)	60.00	+	1000	960	3	1	36	
1280x960	70.00	+	1800	1280	112	96	312	126.00
(70Hz)	70.00	+	1000	960	3	1	36	
1280x960	75.00	+	1800	1280	112	96	312	135.00
(75Hz)	75.00	+	1000	960	3	1	36	
1280x1024VESA-	64	+	1688	1280	112	48	248	108
1024-60Hz	60	+	1066	1024	3	1	38	
1280x1024VESA-	80	+	1688	1280	144	16	248	135
1024-75Hz	75	+	1066	1024	3	1	38	
16000x1200VESA	75	+	2160	1600	192	64	304	162
-1200-60Hz	60	+	1250	1200	50	1	46	

Note: Mode 640x350, 640x400 and 720x400 will locate on middle position but cannot be expanded to full screen on vertical direction.

Troubleshooting

This LCD Monitor has pre-adjusted using factory standard VGA timings. Due to the output timing differences among various VGA cards in the market, users may initially experience an unstable or unclear display whenever a new display mode or new VGA card is selected.

Attention

This LCD Monitor Supports Multiple VGA Modes.

Refer to the Standard Timing Table for a listing of modes supported by this LCD Monitor.

PROBLEM Picture is unclear and unstable

The picture is unclear and unstable, please perform the following steps :

1. Enter PC to “Shut Down Windows” status while you’re in MS-Windows environment.
2. Check the screen to see if there’s any black vertical stripes appear. If there are, take advantage of the “Clock” function in OSD menu and adjust (by increment or decrement numbers) until those bars disappear.
3. Move to “Phase” function in OSD menu again and adjust the monitor screen to its most clear display.
4. Click “No” on “Shut Down Windows” and back to the normal PC operating environment.

PROBLEM There is no picture on LCD Monitor

If there’s no picture on the LCD Monitor, please perform the following steps:

1. Make sure the power indicator on the LCD Monitor is ON, all connections are secured, and the system is running on the correct timing. Refer to Chapter 3 for information on timing.
2. Turn off the LCD Monitor and then turn it back on again. If there is still no picture, press the Adjustment Control button several times.
3. If step 2 doesn’t work, connect your PC system to another external CRT. If your PC system Functions properly with a CRT Monitor but it does not function with the LCD Monitor, the output timing of the VGA card may be out of the LCD’s synchronous range. Please change to an alternative mode listed in the Standard Timing Table or replace the VGA card, and then repeat steps 1 and 2.

PROBLEM There is no picture on LCD Monitor

If you have chosen an output timing that is outside of the LCD Monitor’s synchronous range (Horizontal: 24 ~ 80 KHz and Vertical: 49 ~ 75 Hz), the OSD will display a “**Out of Range**” message. Choose a mode that is supported by your LCD Monitor.

Also, if the signal cable is not connected to LCD monitor at all or properly, the monitor screen will display a message “**No Input Signal**”.

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