



PL2011
LCD Monitor

USER'S GUIDE

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Preface

This manual is designed to assist users in setting up and using the PL2011M 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 $-20^{\circ} \sim 60^{\circ}\text{C}$ (or $-4^{\circ} \sim 140^{\circ}\text{F}$). 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
- * Planar Connections CD-ROM
- * User's Manual
- * Power Cord
- * Stereo Jack Audio Cable

If you find that any of these items is missing or appears damaged, contact your dealer immediately.

| Reference Information | |
|---|-------|
| For future reference, write the following information about your monitor in the space below. The serial number is on the back of the product or on the bottom of its stand. | |
| Monitor Information | |
| Product Name: | _____ |
| Serial Number: | _____ |
| Date of Purchase: | _____ |
| Reseller Information | |
| Reseller: | _____ |
| Telephone Number: | _____ |
| Address: | _____ |

Height Adjustment Stand

To unlock the height adjustment feature of the stand, locate the pin on the back of the stand column and turn the pin knob counter-clockwise. (See fig.1-1)

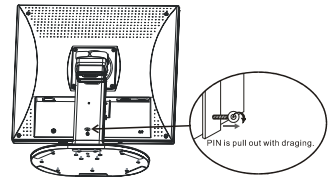


Figure 1-1

Tilt, Swivel and Pivot Rotation

The LCD Monitor is designed to have a tilt range of -5° to $+25^{\circ}$, a swivel range of -35° to $+35^{\circ}$, and a 90° pivot rotation. (See fig. 1-2)

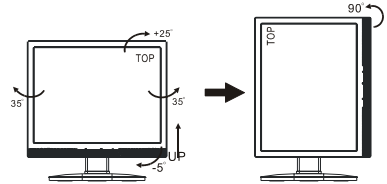


Figure 1-2

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. The monitor stand base may forcefully extend and cause injury. Raise the monitor to its "Full Up" position before removing the 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.

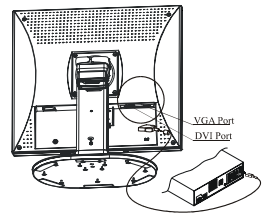


Figure 1-5

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.

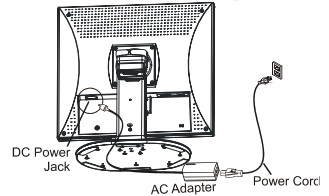


Figure 1-6

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.

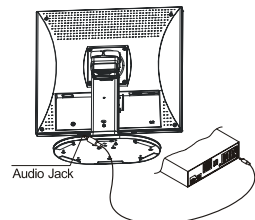


Figure 1-7

Optional Mounting Alternatives

Warning: The monitor stand base may forcefully extend and cause injury. Raise the monitor to its "Full Up" position before removing the monitor stand.

Detaching LCD Monitor from Its Stand

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

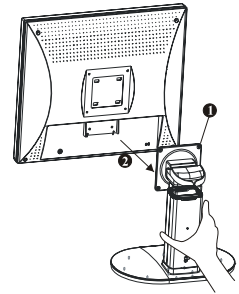


Figure 1-3

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 $\varnothing 4\text{mm} \times 8\text{mm}$ (L) screw for this application.

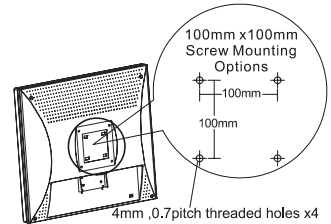


Figure 1-4

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:

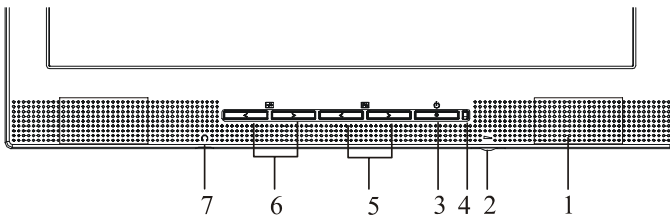


Figure 2-1

| | | |
|---|-----------------------------------|---|
| 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. |

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. |

Chapter 3 Technical Information

Specifications

LCD Panel

| | |
|-------------------|---|
| | <u>PL2011M</u> |
| Size | 20.1" |
| Display Type | Active matrix color TFT LCD |
| Resolution | 1600x1200 |
| Display Dot | 1600 x (RGB) x 1200 |
| Display Area (mm) | 408.0x306.0 (H x V) |
| Display Color | 16.7M |
| Brightness | 300 cd/m ² (typical) / 240 cd/m ² (minimum) |
| Contrast Ratio | 1000:1 (typical) |
| Response Time | Ta=25°C Tr+Tf=16ms Gray to Gray: 8ms |
| Lamp Voltage | 744 Vrms (typical) |
| Lamp Current | 7.0 mA rms. (typical) |
| Viewing Angle | Vertical: -85° ~ +85° Horizontal: -85° ~ +85° |

Video

| | | |
|----------------------|---|----------------------|
| Input Signal | Analog RGB 0.7Vp-p | Digital TMDS |
| Input Impedance | 75 Ohm ± 2% | |
| Polarity | Positive, Negative | |
| Amplitude | 0 - 0.7 ± 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 |
|------------------------------------|----------------------------------|

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

Plug & Play

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 451.8 (H) x 214 (D) mm
Net Weight 12.9 ± 0.5 kg
Gross Weight 14.9 ± 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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