

# *AL2002W LCD Monitor*



## *User's Manual*

**acer**

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**For more information and help in recycling, please visit the following websites:**

**Worldwide: <http://global.acer.com/about/sustainability.htm>**

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## **SPECIAL NOTES ON LCD MONITORS**

The following symptoms are normal with LCD monitor and do not indicate a problem.

### **NOTES**

- Due to the nature of the fluorescent light, the screen may flicker during initial use. Turn off the Power Switch and then turn it on again to make sure the flicker disappears.
- You may find slightly uneven brightness on the screen depending on the desktop pattern you use.
- The LCD screen has effective pixels of 99.99% or more. It may include blemishes of 0.01% or less such as a missing pixel or a pixel lit all of the time.
- Due to the nature of the LCD screen, an afterimage of the previous screen may remain after switching the image, when the same image is displayed for hours. In this case, the screen is recovered slowly by changing the image or turning off the Power Switch for hours.

### **JAPANESE MATERIAL CONTENT DECLARATION**

A Japanese regulatory requirement, defined by specification JIS 0950, 2005, mandates that manufactures provide Material Content Declarations for certain categories of electronic products offered for sale after July 1, 2006.

To view the JIS C 0950 material declaration for this product. Visit <http://global.acer.com/about/sustainability.htm>

## **INTRODUCTION**

Congratulations for purchasing model AL2002W , a high performance 20-inch color TFT LCD monitor. The AL2002W monitor provides flicker-free and color images at optional resolutions. Through this user guide, we will introduce you step-by-step all the features, functions and technical specifications of the LCD monitor. Surely you will have a refreshing experience working with the monitor.

## **FEATURES**

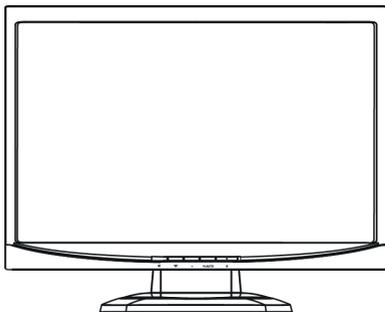
The AL2002W is a 20-inch TFT LCD monitor that is intelligent, microprocessor-based and ergonomically designed display, compatible with most analog RGB (Red, Green, Blue) and Digital display standards, including PS/V, PS/2, optional for Apple Macintosh Centris, Quadra, and Macintosh II family signals. The LCD monitor is capable of displaying crisp and vibrant color graphics with VGA, SVGA, XGA, SXGA (non-interlaced), SXGA, WSXGA and most Macintosh compatible color video cards.

- The monitor is able to properly function even in case of upgrade video cards or software because of the wide auto-scanning compatibility range without requiring to buy a new monitor.
- The internal microprocessor digitally controls auto-scanning. For horizontal scan frequencies between 30 KHz and 81 KHz, and vertical scan frequencies between 56 Hz and 76 Hz. In each frequency mode, the microprocessor-based circuitry allows the monitor to function at the precision-of a fixed frequency.
- The resident memory allows for storing factory default settings and also additional user adjustment parameters.
- The maximum resolution achievable is WSXGA (1680 x 1050), best suited for Windows applications
- The compact and sleek cabinet design saves lot of your desk space and makes your desk look neat and tidy.
- The monitor complies with TCO99 guidelines. In this scheme, no environmental harmful substances are used during the entire manufacturing process.

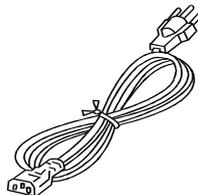
## UNPACKING

Please check the following items are present when you unpack the box, and save the packing materials in case you will need to ship or transport the monitor in future.

- LCD Monitor



- AC Power



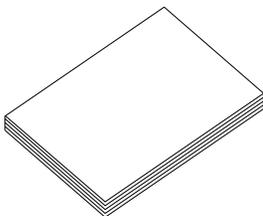
- DVI Cable  
(Only Dual-Input Model)



- DSUB Cable



- User Manual



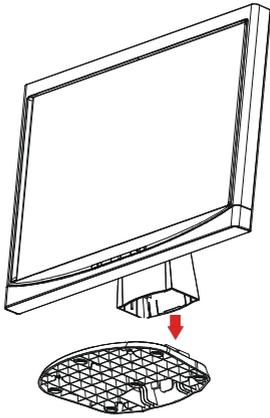
- Quick Start Guide



## Attaching / Removing the Base

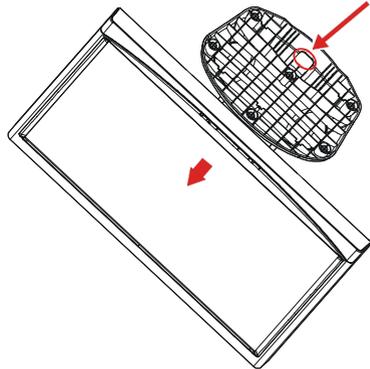
### Install:

Align the four hooks on the bottom of the monitor with the corresponding slots on the bottom of the base.



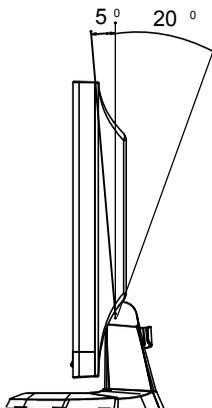
### Remove:

Depress the hook as indicated first before removing the base and follow the arrow direction to remove it.



## SCREEN POSITION ADJUSTMENT

In order to optimize the best viewing position, you can adjust the tilt of the monitor by using both of your hands to hold the edges of the monitor as shown in the figure below. The monitor can be adjusted to 20 degrees up or 5 degrees down as indicated by arrow below.



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## **CONNECTING THE POWER CORD**

- Check first to make sure that the power cord you use is the correct type required for your area.
- This monitor has a universal power supply that allows operation in either 100/120V AC or 220/240 V AC voltage area. No user-adjustment is required.
- Plug one end of the power cord to the AC Inlet, plug another end to a proper AC outlet.
- For unit using at 120 V AC:  
Use a UL Listed Cord Set, Type SVT wire and plug rated 10 A/125 V.
- For unit using at 220/240 V AC (outside of U.S.):  
Use a Cord Set consisting of H05VV-F cord and plug rated 10 A, 250 V. The cord set should have the appropriate safety approvals for the country in which the equipment will be installed.

## **SAFETY PRECAUTION**

- *Avoid placing the monitor, or any other heavy object, on the power cord to prevent it from fire or electrical shock.*
- *Do not expose the monitor to rain, excessive moisture, or dust to avoid fire or shock hazard.*
- *Do not cover the slots or openings of the monitor for proper heat dissipation. Always put the monitor in a place where there is adequate ventilation.*
- *Avoid placing the monitor against a bright background or where sunlight or other light sources may reflect on the face of the monitor. Place the monitor just below eye level.*
- *Handle with care when transporting the monitor.*
- *Refrain from giving shock or scratch to the screen, as screen is fragile.*

## **CLEANING YOUR MONITOR**

Please carefully follow the below guidelines when cleaning the monitor.

- Always unplug the monitor before cleaning.
- Use a soft cloth to wipe the screen and cabinet front and sides.

## PRESET MODES

To reduce the need for adjustment for different modes, the monitor has default setting modes that are most commonly used as given in the table below. For optimum adjustment, the user is suggested to perform the Auto Setup under Windows "Full Screen" pattern or using the pattern in the floppy disk provided. When none of the mode is matched, the user can store their preferred modes in the user modes. The monitor is capable of storing up to 9 user modes. The only condition to store as a user mode is the new display information must have 1 KHz difference for horizontal frequency or 1 Hz for vertical frequency or the sync signal polarities are different from the default modes.

| Mode | Resolution |             |       | H. Freq.<br>(KHz) | Band Width<br>(MHz) | Polarity |   |
|------|------------|-------------|-------|-------------------|---------------------|----------|---|
|      |            |             |       |                   |                     | H        | V |
| 1    | VGA        | 720 x 400   | 70 Hz | 31.47             | 28.322              | -        | + |
| 2    | VGA        | 640 x 480   | 60 Hz | 31.47             | 25.175              | -        | - |
| 3    | VESA       | 640 x 480   | 75 Hz | 37.50             | 31.5                | -        | - |
| 4    | VESA       | 800 x 600   | 60 Hz | 37.88             | 40                  | +        | + |
| 5    | VESA       | 800 x 600   | 75 Hz | 46.88             | 49.5                | +        | + |
| 6    | VESA       | 1024 x 768  | 60 Hz | 48.36             | 65                  | -        | - |
| 7    | VESA       | 1024 x 768  | 75 Hz | 60.02             | 78.75               | +        | + |
| 8    | MAC        | 1152 x 864  | 75 Hz | 67.5              | 108                 | +        | + |
| 9    | SXGA       | 1280 x 1024 | 60 Hz | 64                | 108                 | +        | + |
| 10   | SXGA       | 1280 x 1024 | 75 Hz | 79.976            | 135                 | +        | + |
| 11   | WSXGA      | 1680 x 1050 | 60 Hz | 65.3              | 146.25              | -        | + |

## **POWER SAVING**

The monitor will be driven into “Power Saving” mode by the control signal from the display controller, as indicated by the amber-color power LED.

| <b>State</b>      | <b>Power Consumption</b> | <b>LED Light</b> |
|-------------------|--------------------------|------------------|
| ON                | Normal                   | Green            |
| Power Saving Mode | <2 W                     | Amber            |

The power saving states will be kept until a control signal has been detected or the keyboard or mouse is activated. The recovery time from Active OFF state back to ON state is around 5 seconds.

## **DDC**

To make your installation easier, the monitor is able to Plug and Play with your system if your system also supports DDC protocol. The DDC (Display Data Channel) is a communication protocol through which the monitor automatically informs the host system about its capabilities, for example, supported resolutions and corresponding timing. The monitor supports DDC2B standard.

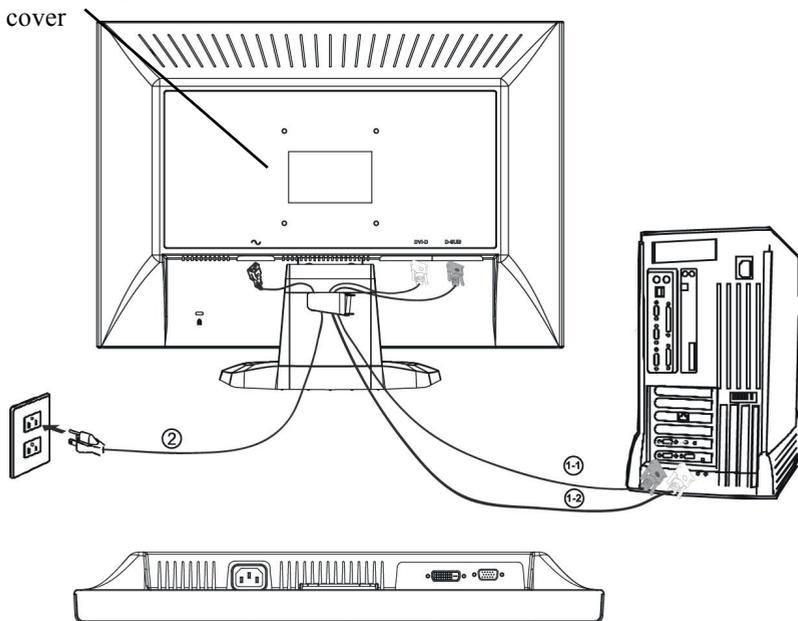
## INSTALLATION

To install the monitor to your host system, please follow the steps as given below:

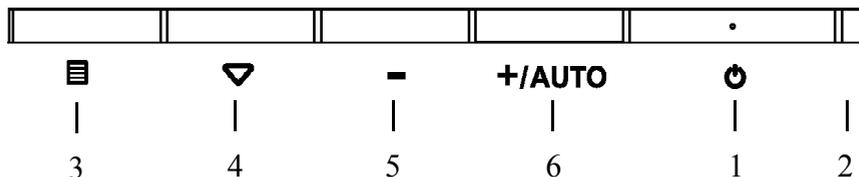
### Steps

1. 1-1 Connect Video Cable
  - a. Make sure both the monitor and computer are powered-OFF.
  - b. Connect the VGA video cable to the computer.
- 1-2 Digital Cable (Only Dual-Input Model)
  - a. Make sure both the monitor and computer are powered-OFF.
  - b. Connect the DVI video cable to the computer.
2. Connect power cord  
Connect the power cord to the monitor, then to a properly grounded AC outlet.
3. Power-ON Monitor and Computer  
Power-ON the monitor first, then power-ON the computer.  
This sequence is very important.
4. If the monitor still does not function properly, please refer to the troubleshooting section to diagnose the problem.

Please don't open  
the cover



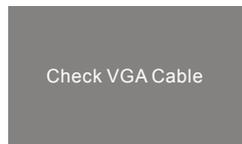
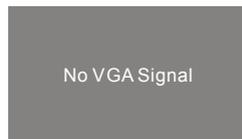
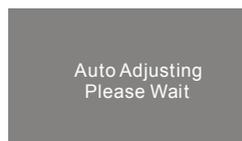
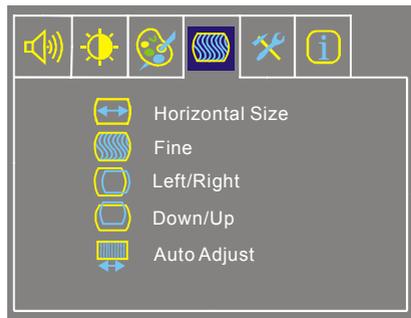
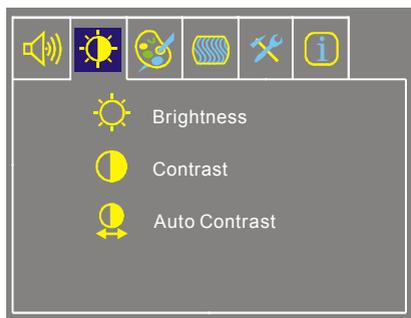
## USER CONTROLS



### Front Panel Controls

1. Power Switch: To turn ON or OFF the power.
  2. Power LED : Lights up to indicate the power is turned ON.
  3. Select MENU: To exit and enter OSD menu.
  4. Select ▼ : To move downward in the OSD Item.  
ACT as Digital and Analog switching hot key when OSD is not displayed.(Only Dual-Input Model)
  5. - : To decrease the value of the parameter in the OSD, which has been selected for adjustment.  
- : Choose the previous OSD MENU page.
  6. + : To increase the value of the parameter in the OSD, which has been selected for adjustment.  
+ : Choose the next OSD MENU page.
- AUTO : Act as AUTO adjustment hot key when OSD is not displayed.

## Basic Sections of a OSD Screen



## Standard OSD Operation

1. Press **MENU** key to activate the OSD menu, when OSD is not displayed.
2. Use **Select** key to move down through the menu cyclically. The parameter will be highlighted when selected.
3. Then use **+** or **-** to increase or decrease the value of the parameter, or make selection between different options.
4. To quit the OSD screen at any time during the operation, press **MENU** key. If no keys are pressed for a time period, the OSD automatically disappears.
5. When OSD is not displayed, press **+** key to start Auto-Adjust.
6. When OSD is not displayed, press **▼** key to switch Analog and Digital mode. (Only Dual-Input Model)

## OSD Function Description

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|                                                                                   |                        |                                                                                                                                       |
|-----------------------------------------------------------------------------------|------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>• Brightness</b>    | To increase or decrease the brightness.                                                                                               |
|  | <b>• Contrast</b>      | To increase or decrease the contrast.                                                                                                 |
|  | <b>• Auto Contrast</b> | Press “+” key to start auto analog contrast.<br>[When staying at Digital mode, Auto Contrast will be disabled](Only Dual-Input Model) |

---

|                                                                                   |                            |                                                                                                                                                           |
|-----------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | <b>• Color Temperature</b> | Press “-” or “+” to select 5000, 6500, 7500, 8200, 9300 and USER. Only when selecting USER, you can make adjustments to the R/G/B content, otherwise not. |
|-----------------------------------------------------------------------------------|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|

---

When staying at Digital mode, this page will be disabled.(Only Dual-Input Model)

|                                                                                     |                          |                                                      |
|-------------------------------------------------------------------------------------|--------------------------|------------------------------------------------------|
|  | <b>• Horizontal Size</b> | To increase or decrease the size of image.           |
|  | <b>• Fine</b>            | To increase or decrease the snow noise of the image. |
|  | <b>• Left / Right</b>    | To move the screen toward left or right.             |
|  | <b>• Down / Up</b>       | To move the screen upward or downward.               |

- 
-  • **Auto Adjust**      Press “+” to turn on this function. The Auto-Adjust will automatically adjust V-Position, H-Position, Clock, and Clock-Phase, the whole process takes about 5 seconds.
- 
-  • **Language**      Select among English, French, Italian, German, Spanish, 日本語, 繁中 and 简中.
-  • **Factory Reset**      To return the monitor to its default settings.
-  • **OSD TimeOut**      To adjust the period of OSD auto turn-off time.
-  • **OSD Left / Right**      To move the OSD position horizontally on the screen. When the “+” key is pressed, the OSD control menu will move to the right side of the screen. Likewise when the “-” key is pressed, the OSD control menu will move to the left side.
-  • **OSD Down / Up**      To move the OSD position vertically on the screen. When the “+” key is pressed, the OSD control menu will move to the up side of the screen. Likewise when the “-” key is pressed, the OSD control menu will move to the lower side.
- 
-  • **Information**      Indicates the current resolution and V-Frequency.
-

## TROUBLESHOOTING

Before sending your LCD monitor for servicing, please check the troubleshooting list below to see if you can self-diagnose the problem.

### (VGA Mode)

| Problems                 | Current Status                                                                                                              | Remedy                                                                                                                                                                                        |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| No Picture               | LED ON                                                                                                                      | <ul style="list-style-type: none"> <li>Using OSD, adjust brightness and contrast to maximum or reset to their default settings.</li> </ul>                                                    |
|                          | LED OFF                                                                                                                     | <ul style="list-style-type: none"> <li>Check the power switch.</li> </ul>                                                                                                                     |
|                          |                                                                                                                             | <ul style="list-style-type: none"> <li>Check if AC power cord is properly connected to the monitor.</li> </ul>                                                                                |
| LED displays amber color | <ul style="list-style-type: none"> <li>Check if video signal cable is properly connected at the back of monitor.</li> </ul> |                                                                                                                                                                                               |
|                          | <ul style="list-style-type: none"> <li>Check if the power of computer system is ON.</li> </ul>                              |                                                                                                                                                                                               |
| Abnormal Picture         | Unstable Picture                                                                                                            | <ul style="list-style-type: none"> <li>Check if the specification of graphics adapter and monitor is in compliance which may be causing the input signal frequency mismatch.</li> </ul>       |
|                          | Display is missing, center shift, or too small or too large in display size                                                 | <ul style="list-style-type: none"> <li>Using OSD, adjust RESOLUTION, CLOCK, CLOCK-PHASE, H-POSITION and V-POSITION with non-standard signals.</li> </ul>                                      |
|                          |                                                                                                                             | <ul style="list-style-type: none"> <li>Using OSD, in case of missing full-screen image, please select other resolution or other vertical refresh timing.</li> </ul>                           |
|                          |                                                                                                                             | <ul style="list-style-type: none"> <li>Wait for a few seconds after adjusting the size of the image before changing or disconnecting the signal cable or powering OFF the monitor.</li> </ul> |

**(DVI Mode)**

| <b>Problems</b> | <b>Current Status</b>       | <b>Remedy</b>                                                                                                                              |
|-----------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| No<br>Picture   | LED ON                      | <ul style="list-style-type: none"><li>• Using OSD, adjust brightness and contrast to maximum or reset to their default settings.</li></ul> |
|                 | LED OFF                     | <ul style="list-style-type: none"><li>• Check the power switch.</li></ul>                                                                  |
|                 |                             | <ul style="list-style-type: none"><li>• Check if AC power cord is properly connected to the monitor.</li></ul>                             |
|                 | LED displays<br>amber color | <ul style="list-style-type: none"><li>• Check if video signal cable is properly connected at the back of monitor.</li></ul>                |
|                 |                             | <ul style="list-style-type: none"><li>• Check if the power of computer system is ON.</li></ul>                                             |

**SPECIFICATION**

|                             |                                                                                                                                                                                                                                                                                                                     |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>LCD Display</b>          |                                                                                                                                                                                                                                                                                                                     |
| Display Type                | 20" TFT LCD                                                                                                                                                                                                                                                                                                         |
| Display Area (W x H)        | 433.4 x 270.9 mm                                                                                                                                                                                                                                                                                                    |
| Contrast Ratio              | 800:1 (Typ.)                                                                                                                                                                                                                                                                                                        |
| Viewing Angle               | 160°H 160°V (CR=10)                                                                                                                                                                                                                                                                                                 |
| <b>Power Input</b>          |                                                                                                                                                                                                                                                                                                                     |
| Voltage                     | 100-240Vac                                                                                                                                                                                                                                                                                                          |
| Frequency                   | 50-60Hz                                                                                                                                                                                                                                                                                                             |
| Current Rating              | 1.5A                                                                                                                                                                                                                                                                                                                |
| <b>Operational Features</b> |                                                                                                                                                                                                                                                                                                                     |
| Display Colors              | 16.7M                                                                                                                                                                                                                                                                                                               |
| Resolution                  | WSXGA (1680 x 1050) at 60 Hz maximum.                                                                                                                                                                                                                                                                               |
| Brightness                  | 300 cd/m <sup>2</sup> (Typ.)                                                                                                                                                                                                                                                                                        |
| Response Time               | 5 ms (Typ.)                                                                                                                                                                                                                                                                                                         |
| Interface                   | Analog RGB, Digital(Only Dual-Input Model)                                                                                                                                                                                                                                                                          |
| <b>Input Connector</b>      | 15-pin D-sub, DVI-D Cable(Only Dual-Input Model)                                                                                                                                                                                                                                                                    |
| <b>Users Controls</b>       |                                                                                                                                                                                                                                                                                                                     |
| Front Panel Controls        | Power On/Off, MENU, Select DOWN( ▼ ),Select DOWN( ▼ ) to switch Analog and Digital Value(+/-)(Only Dual-Input Model), +/-AUTO,-.                                                                                                                                                                                    |
| OSD Controls<br>(Note)      | Brightness, Contrast, Auto Contrast, Color Temperature, Horizontal Size, Fine, Left/Right, Down/Up, Auto-Adjust, Language, Factory Reset, OSD Time Out, OSD Left/Right, OSD Down/Up, Information<br><br>Note : for DVI mode, Auto Contrast, Horizontal size,Fine, Left/Right, Down/Up, Auto Adjust will bedisabled. |

|                               |                                                                |
|-------------------------------|----------------------------------------------------------------|
| <b>Physical Specification</b> |                                                                |
| Dimension (H x W x D)         | 383 x 479 x 188 (mm)                                           |
| Net Weight                    | 4.5 Kg                                                         |
| <b>Power</b>                  |                                                                |
| Power Saving                  | Yes                                                            |
| Power Consumption             | 40 W (Only Analog Input model)<br>49 W (Only Dual Input model) |
| <b>Regulation</b>             |                                                                |
| Safety & EMI                  | UL, CUL, TUV-GS, TUV-Ergonomics, FCC-B, CE, TCO99              |

\* All specifications are subject to change without notice.



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