

## **INTRODUCTION**

This manual will familiarize you with the installation and use of your PRINCETON VL2418W LCD Monitor, Please take the time to look through these instructions even if you are familiar with monitors.

We have taken all possible care to ensure that this manual contains correct, accurate information. However, the manufacturer cannot assume liability for any possible errors. In addition, the manufacturer cannot guarantee that the hardware will meet the purpose you require.

All rights reserved. No part of this manual may be reproduced, processed or distributed in any form (print, photocopy, microfilm or any other process) or processed by an electronic system without prior written permission from the manufacturer.

We reserve the right to make changes according to technical progress. PRINCETON VL2418W is an internationally registered trademark. Other brand names may be registered trademarks and must be treated as such.

## **Important Safety Instructions**

Do not place the monitor in very hot or cold, or damp or dusty surroundings. Do not put vases etc. on the monitor (water may cause short circuits). Do not block or cover the ventilating openings. All products that produce magnetic fields, i.e. laser printers, loud speakers, etc., must not be placed close to the monitor. Do not install this monitor in areas where too much light or sunshine might directly hit the screen, otherwise the brightness of the picture will be poor due to reflections. Refer all servicing and maintenance to authorized service personnel only!

### **CAUTION**

Do not remove the cover!

Serious electrical shock hazards exist inside this monitor.

### **NOTE**

Removal of cover invalidates your warranty.

## **PRINCETON DIGITAL (USA) CORP.**

This LCD monitor from Princeton Digital(USA) Corp.("PDC")purchased in the United States is warranty to be free from defects in materials or workmanshipfor parts and labor,including the LCD panel and backlight,for the periods of time set forth below:

2 years Parts

2 year LCD Panel & Backlight

2 year Labor

All warranty periods begin from the date of the monitor's original retail purchase, as brand new product. If unit was purchased as a demonstration or evaluation unit, warranty period begins from original reseller purchase date. If demonstration or evaluation unit is resold at a later date, reseller is responsible for declaring status to end-user and unit is sold in "as is" condition and with the remaining warranty period from original reseller purchase date. If the monitor fails to conform during this warranty, PDC will, at its sole discretion, replace with a new or refurbished monitor or repair using new or refurbished parts. Refurbished unit's (meaning working product with minor cosmetic damages) warranty period, if any, will be the balance of the original purchased product's warranty or ninety(90) days, whichever is greater.

To obtain warranty service in the United States, you must return the LCD monitor within the warranty period together with the original or a machine reproduction of a dated proof-of-purchase document describing the product and a return merchandise authorization (RMA) to an authorized service center, transportation charges prepaid. To obtain the name and address of the nearest authorized service center and a return merchandise authorization, call 1-800-747-6249, (English Only)

This warranty does not cover defects, malfunctions or failures resulting from shipping or transit accidents, abuse, misuse, operation contrary to furnished instructions, operation on incorrect power supplies, operation with faulty associated equipment, modification, alteration, improper servicing, tampering or normal wear and tear or LCD monitors on which the serial number has been removed or defaced. Interface cards, cables or mishandling are not covered by this warranty. LCD panel pixel defects within the panel manufacturer's specifications or mishandling of the LCD display by applying excessive pressure to the panel are not covered under this warranty.

ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE SHALL BE LIMITED IN DURATION TO THE PERIOD OF TIME SET FORTH ABOVE. PDC's LIABILITY FOR ANY AND ALL LOSSES AND DAMAGES RESULTING FROM ANY CAUSE WHATSOEVER, INCLUDING NEGLIGENCE, ALLEGED DAMAGE OR DEFECTIVE GOODS, WHETHER SUCH DEFECTS ARE DISCOVERABLE OR LATENT, SHALL IN NO EVENT EXCEED THE PURCHASE PRICE OF THE MONITOR. PDC SHALL NOT BE RESPONSIBLE FOR LOSS OF USE, COMMERCIAL LOSS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This is the only warranty applicable; no other party is authorized to extend or modify or to grant any other warranty. For more specific and current information on this warranty policy, please refer go to [www.princetongraphics.com](http://www.princetongraphics.com).

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## IMPORTANT INFORMATION

### Note on monitor placement

- The setup location must not be extremely hot, cold, humid or dusty. Heat and cold can impair the functionality of the monitor. Humidity and dust can cause the monitor to fail.
- Don't place the monitor near heaters such as radiators or the like. Don't expose the monitor to mechanical vibration or jarring.
- Position the monitor so that no direct light or sun strikes the screen, which could cause reflections that reduce the quality of the image.

### Notes on power connection

- Only use the power cord designated for use in your country. The wall outlet should be within easy reach. Pulling the power plug is the only way to disconnect the monitor from the power source.
- This monitor is ENERGY STAR®-compatible, and guarantees that this device complies with the ENERGY STAR® guidelines for optimizing power consumption.

### Safety instructions for operation

- The power cord must not be damaged. Do not place any objects on the power cord and make sure it does not have any knots. To unplug the cord, always pull on the plug and not on the cable itself. Damage to the power cord may result in fire or cause electric shocks.
- Avoid covering the ventilation slots. Air circulation is necessary to prevent the monitor from overheating. If the air circulation is restricted it could cause fire or damage the monitor.
- Do not use any solvents to clean the monitor, as the housing could be damaged. For more information about cleaning the monitor, please see "Caring for Your LCD Monitor".
- Never open the monitor housing on you own. There is a danger of electric shock and other hazards. The monitor may only be opened and serviced by qualified professionals.

### Notes on resolution

All resolutions provided by the graphics card that deviate from the physical resolution of the panel are adjusted by interpolation. This can impair the image quality.

## **Notes on ergonomics**

To protect your eyes, neck and shoulder muscles when working with a computer, we recommend that you maintain a viewing distance of between 50 and 75 cm from the monitor. Furthermore, you should regularly focus on an object around 6 m away from you to help your eyes relax. Ergonomically, your posture is best when elbows, pelvis, knees and ankles are all at right angles.

## **CARING FOR YOUR LCD MONITOR**

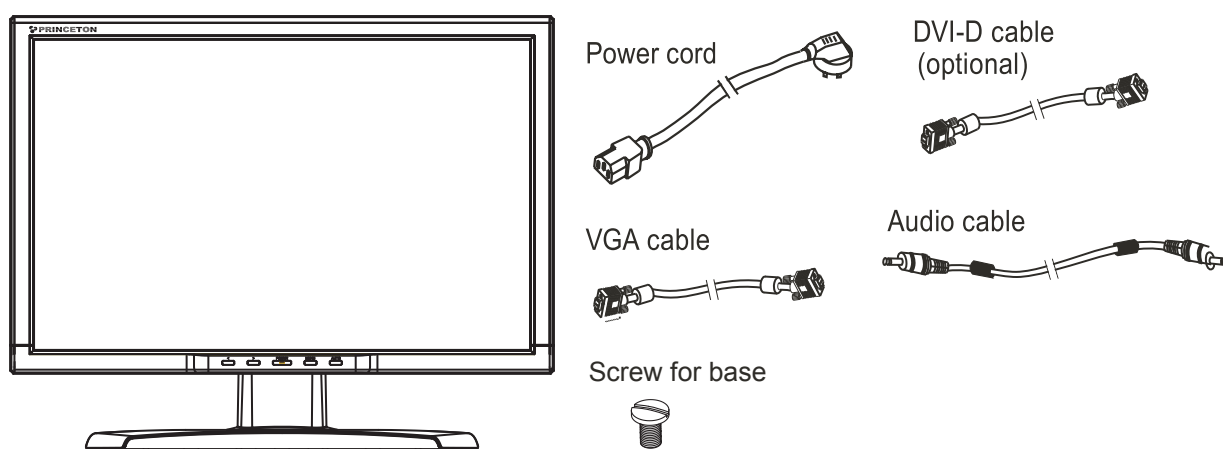
- First, unplug the power cord from the wall socket
- If the LCD screen is extremely dirty, clean it with a moist cloth. Use only warm water and then wipe the monitor dry. Solvents or harsh cleaners can damage the housing. Clean the display surface only with a soft cloth, otherwise you may damage the display's coating
- If the monitor is only slightly dirty, clean it using a soft, dry and antistatic cloth.
- The LCD monitor's screen surface is very sensitive. Please avoid any contact with the surface (finger, pencil, etc.) and be especially cautious during transportation since jolts and shocks can cause the screen to become scratched (always use the original packaging).

## **WALL MOUNTING**

The PRINCETON monitor is shipped with the standard desktop configuration. However, you can optionally mount the device on a wall or on a monitor swivel arm (optional accessory). Please follow the corresponding instructions (4-hole assembly with a spacing of 4 × 4 inches (100 × 100 mm) according to the international VESA FDMI standard).

## UNPACKING

Carefully lift the monitor out of the packaging and make sure that all components are included (see fig. 1). Save the original box and packing material in case you have to ship or transport the monitor. To set up the device, you must fit the monitor base together with the screw.

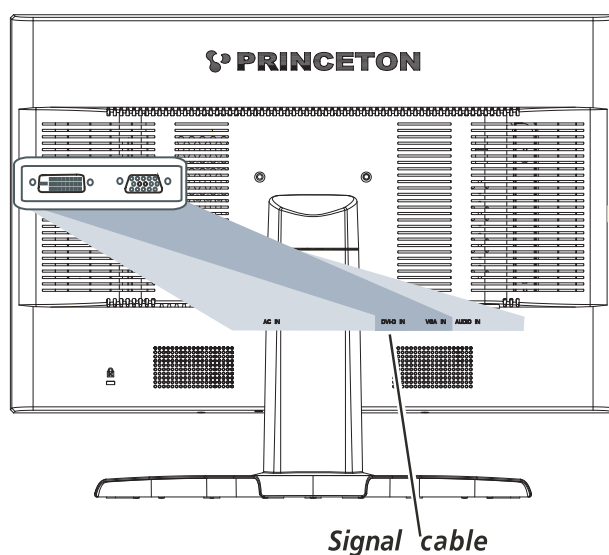


*Figure 1. LCD Monitor*

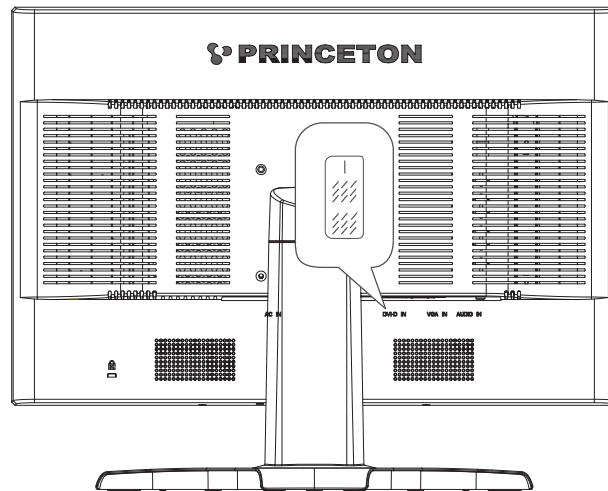
## CONNECTING

### → To connect the monitor to your PC

1. Make sure that the PC and the monitor is unplugged.
2. Connect the 15-pin signal cable to the monitor and The PC (see fig. 2a)
3. If you have a graphic card with a digital DVI-D connector(24-pin socket), then connect one end of the DVI-D cable (optional) to the DVI-D connector of your monitor (see fig. 2b), the other end to the computer.



*Figure 2a. Connecting the monitor to the PC*



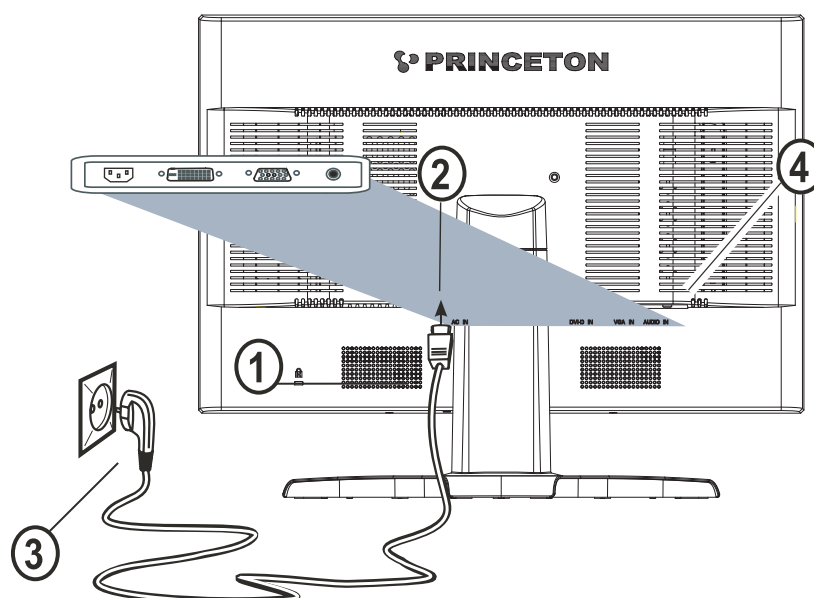
**Figure 2b.** Connection via the DVI-D interface

**→ Connecting the audio cable**

If your computer is equipped with an audio output port, connect one end of the sound cable to the audio Input connector of the monitor (④ in fig. 3) and the other end to the Line-Out connector of the computer.

**→ To connect the monitor to the power source**

1. Connect the separate power cable (① in fig. 3) to the power socket of the monitor (② in fig. 3).
2. Connect one end of the power supply cable (③ in fig. 3) with the power supply and plug it into an electrical outlet.



**Figure 3.** Connecting the monitor to the power source

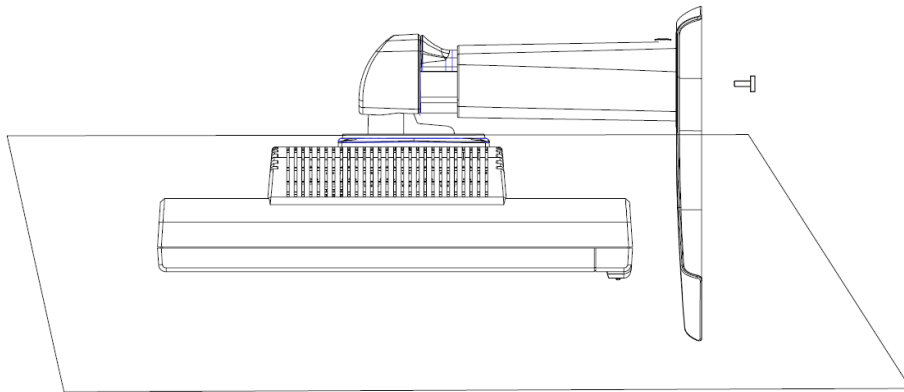
**→ To connect the monitor to the multimedia source**

For multimedia device, such as DVD player and game console, you can connect video and audio source to monitor.

1. Connect the "phone Jack to RCA Jack" to audio Input connector of the monitor (④ in fig. 3) and audio output connector of multimedia device.

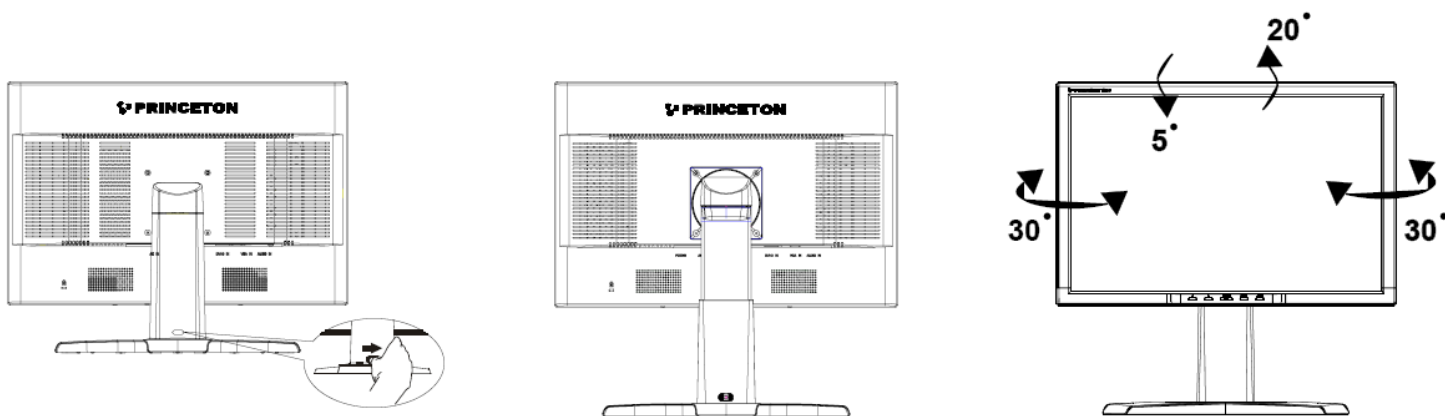
## ADJUSTING THE STAND

Join the stand base to the stand post. You should be able to hear it slot in. Insert the screw enclosed, tightening it with a coin or a screwdriver, so that the stand base is attached securely to the stand post.



## Adjusting the viewing angle

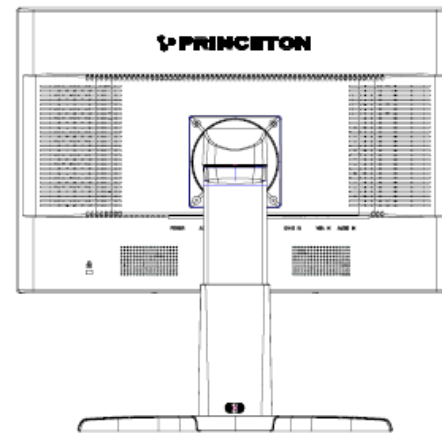
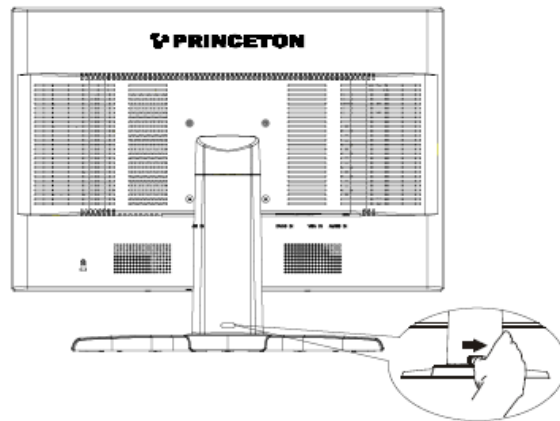
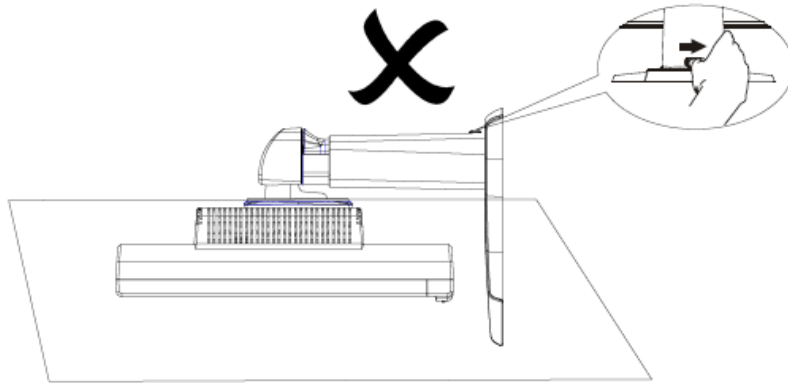
Your monitor features a multi-adjustable stand that will enable it move 90mm up/down (height adjustment), 25 degree forward/backward (tilt adjustment), 60 degree side/side (swivel adjustment). To make an adjustment, grasp the monitor with both hands on the right and left edge of the casing and move it to the desired position.







Do not slide the lock to right when the display is under slanting status to prevent the display from ejecting.



Slide the lock to right from the display support frame as per the figure and then adjust the height. Note that to slide the lock to right, erect the machine on the table to prevent the top part of the display from ejecting.

## STARTUP

1. First start your PC and then turn on your monitor using the power switch (③ in fig. 4). The status indicator (④ in fig. 4) should light up blue.
2. Adjust the image to meet your requirements (see the following sections “Basic Setup” and “Image settings using the OSD menu”).
3. If there is no image displayed on the monitor, consult the section “Troubleshooting”.

## BASIC SETUP

### → Automatic Image Adjustment

You can adjust the image settings (such as brightness, contrast, image position, phase, etc.) manually or by using the LCD monitor’s automatic image adjustment feature. This will adjust the image parameters to their optimal settings for the current graphics mode. Press **AUTO** (⑥ in fig. 4) to launch the automatic adjustment. The process will take a short while until completed.

### → Shortcut for adjusting brightness and contrast

You can adjust brightness and contrast directly by pressing the < button (① in fig. 4) while the OSD menu is not displayed. Press the > button (② in fig. 4) to increase the contrast/ brightness or the < buttons (① in fig. 4) to decrease it.

### → Setting the volume directly

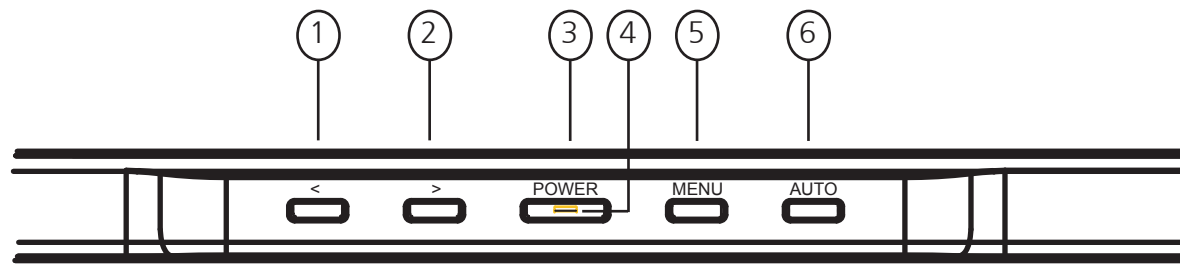
You can adjust the volume directly by pressing button > (② in fig. 4) when the OSD menu is not displayed on screen. You can then change the volume by pressing the buttons < or > (① and ② in fig. 4).

### → Locking and Unlocking the OSD

To lock and unlock the OSD menu, hold down the button combination < (① in fig. 4) and **MENU** (⑤ in fig. 4) until a corresponding message is displayed.

## IMAGE SETTINGS USING THE OSD MENU

The OSD menu is a window on your screen that allows you to view and change display settings. To change an OSD setting:

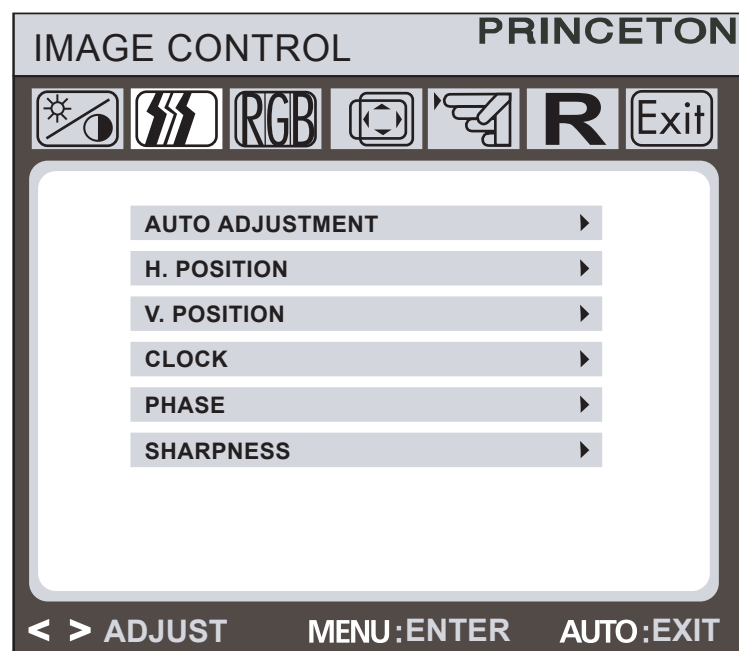


**Figure 4.** Monitor features

Press the **MENU** button (⑤ in fig. 4) to display the OSD menu on the screen.

1. There are a total of 5 OSD submenus divided by categories. Select the desired submenu by pressing the OSD button < or > (① and ② in fig. 4; see section “OSD Menu Functions”).
2. Press the OSD button **MENU** (⑤ in fig. 4) to activate the selected function or associated submenu.
3. If you selected a submenu, now select the sub-function you want using the < or > OSD buttons(① and ② in fig. 4).
4. Set the desired value using the OSD buttons < or >(① and ② in fig. 4).
5. The current settings are automatically saved when you return to the previous level or exit the OSD menu. Repeat setups 2-5 to make further adjustments as needed.
6. The OSD menu automatically disappears if no changes are made for more than 25 seconds (default setting). The current settings will be saved. You can close it manually by pressing the button **AUTO** (⑥ in fig. 4) button.

## OSD MENU FUNCTIONS



### Brightness/Contrast

**Brightness:** Adjusts brightness by using the buttons < or > (① and ② in fig. 4).

**Contrast:** Adjusts screen contrast by using the buttons < or > (① and ② in fig. 4).

### IMAGE CONTROL

**Auto Adjustment:** Automatically selects the optimal settings for image parameters (image position, phase, etc.) by using the button **MENU** (⑤ in fig. 4).

**H. Position:** Controls the picture's horizontal position.

**V. Position:** Controls the picture's vertical position.

**Clock:** Sets up the internal clock. Larger values make the displayed image appear wider; smaller values make it appear compressed.

**Phase:** Adjusts the internal clock's time lag in order to optimize the screen image.

**Sharpness:** Controls image sharpness (only for resolutions less than 1920 × 1200 pixels).

### COLOR

This menu lets you select a preset color temperature (**9300 K**, **6500 K**) by pressing the OSD buttons < or > (① and ② in fig. 4). Changes to the color temperature take immediate effect on screen. If you wish to set individual color values, select the **Custom Color** option. Then press the MENU button (⑤ in fig. 4) to select the red, green and blue settings and set the desired value using the OSD buttons < or > (① and ② in fig. 4). The current settings are automatically saved when you return to the previous level or exit the OSD menu.

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## OSD CONTROL

**H. OSD Position:** Controls the OSD menu's horizontal position.

**V. OSD Position:** Controls the OSD menu's vertical position.

**OSD Timeout:** Determines how long (in seconds) the OSD menu waits before closing automatically after no action has been performed.

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## Other

**Language:** OSD menu language selection: English, French, German, Italian, Spanish, Dutch, Russian, Polish.

**Input:** Controls the selection of the input signal. The monitor allows you to make the following connections: analog graphics card via the 15-pin mini D-Sub interface (see fig. 2a), digital graphics card via the 24-pin DVI-D interface (see fig. 2b).

**Speaker Volume:** Adjusts the monitor loudspeaker output volume.

**Information:** There is an optional OSD window (on/off) that displays the newly adjusted screen resolution settings.

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## TROUBLESHOOTING

### Blank Screen

#### Power indicator is off

- Make sure the power cable and the power adapter are connected properly (see section “Connecting”).
- Make sure that the monitor was turned on using the power switch (see section “Startup”).

#### Power indicator lights orange

- A screen saver may have activated automatically after a certain period of inactivity. Press any key on your keyboard or move the mouse.

#### “Check signal cable” message

- Is the signal cable connected to the monitor and the PC’s graphics port (see section “Connecting”)?
- Is the PC turned on (see your PC’s documentation)?

### Display Problems

#### Image is displaced to the left/right or to the top/bottom

- If the image appears normal but off-center, you can adjust it using the OSD functions. For further information, see chapter “Basic Setup”, section “Auto Image Adjustment”.

#### Image flickers or is shaky

- Perhaps setup file chosen for the monitor is incorrect. For information on monitor setup under Windows®9x/ME/2000/NT/XP consult the “Configuration” section.

#### Image is blurred

- Check brightness and contrast settings (see chapter “OSD Menu Functions”, section “Brightness/Contrast”).
- Check the resolution setting (see “Other” functions in the “OSD Menu Functions” section).

#### Color problems

- If the colors are off (e.g. white is not really displayed as white, etc.), you should adjust the color temperature (see “Color” function in section “OSD Menu Functions”).

## TECHNICAL SPECIFICATIONS

LCD panel	24" inch wide diagonal size
Vista	Certified for Windows Vista™
Contrast ratio	1000:1 (typical)
Viewing angle	horizontal 160°, vertical 160° (typical)
Response time	5 ms typical (Tr + Td)
Brightness	400 cd/m² (typical)
Input signal	Video: analog (15-pin mini D-Sub) and digital (24-pin DVI-D)
Display colors	16.7 mill. Colors
Synchronization	31~ 81 kHz horizontal, 56 ~ 75 Hz vertical
Ergo. Resolution	1920 x 1200
Audio	Amplifier: 2 Watt at 4 Ohms
Power connection	Loudspeaker: 2W continuous load, 2.5 W peak power
Power consumption	Input: 100–240 V AC, 50–60 Hz; ON status: max.105 W; color of the status LED: Blue SLEEP status: <1 W; color of the status LED: orange Power saving functions EPA certified
Weight	8.1 kg (net)
Environmental	Operation: 0 + 50°C, relative humidity :20 - 80% (without condensation) Storage: -20 +60°C, relative humidity:8 – 95% (without condensation)