

lenovo

LT2423wC Flat Panel Monitor
User's Guide



Product numbers

60A8-KAR2-WW



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Safety information

General Safety guidelines

For tips to help you use your computer safely, go to:

<http://www.lenovo.com/safety>

Before installing this product, read the Safety Information.

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Antes de instalar este produto, leia as Informações de Segurança.

在安装本产品之前，请仔细阅读 **Safety Information** (安全信息)。

Prije instalacije ovog produkta obavezno pročitajte Sigurnosne Upute.

Před instalací tohoto produktu si přečtěte příručku bezpečnostních instrukcí.

Læs sikkerhedsforskrifterne, før du installerer dette produkt.

Ennen kuin asennat tämän tuotteen, lue turvaohjeet kohdasta Safety Information

Avant d'installer ce produit, lisez les consignes de sécurité.

Vor der Installation dieses Produkts die Sicherheitshinweise lesen.

Πριν εγκαταστήσετε το προϊόν αυτό, διαβάστε τις πληροφορίες ασφάλειας (safety information).

פפני שיתקינו מוצר זה, קראו את הוראות הבטיחות.

A termék telepítése előtt olvassa el a Biztonsági előírásokat!

Prima di installare questo prodotto, leggere le Informazioni sulla Sicurezza

製品の設置の前に、安全情報をお読みください。

본 제품을 설치하기 전에 안전 정보를 읽으십시오.

Пред да се инсталира овој продукт, прочитајте информацијата за безбедност.

Lees voordat u dit product installeert eerst de veiligheidsvoorschriften.

Les sikkerhetsinformasjonen (Safety Information) før du installerer dette produktet.

Przed zainstalowaniem tego produktu, należy zapoznać się

z książką "Informacje dotyczące bezpieczeństwa" (Safety Information).

Antes de instalar este produto, leia as Informações de Segurança.

Перед установкой продукта прочтите инструкции по технике безопасности.

Pred instaláciou tohto produktu si prečítajte bezpečnostné informácie.

Pred namestitvijo tega proizvoda preberite Varnostne informacije.

Antes de instalar este producto lea la información de seguridad.

Läs säkerhetsinformationen innan du installerar den här produkten.

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安裝本產品之前，請先閱讀「安全諮詢」。

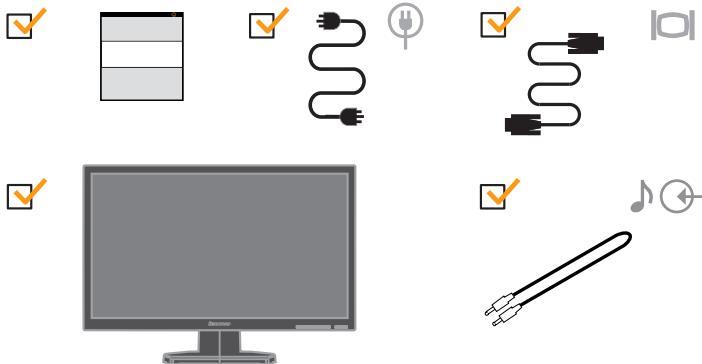
Chapter 1. Getting started

This User's Guide contains detailed information on the Flat Panel Monitor. For a quick overview, please see the Setup Poster that was shipped with your monitor.

Shipping contents

The product package should include the following items:

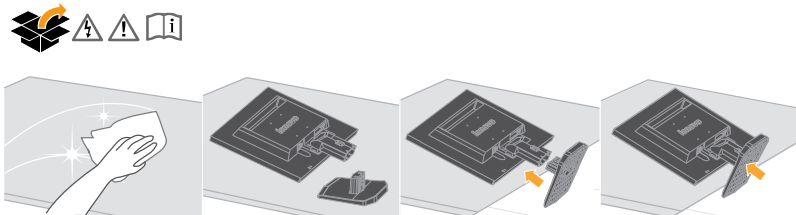
- Setup Poster
- Flat Panel Monitor
- Power Cord
- Analog Signal Cable
- Audio Cable



Attaching the base and handling your monitor

To set up your monitor, please see the illustrations below.

Note: Do not touch the monitor within the screen area. The screen area is glass and can be damaged by rough handling or excessive pressure.



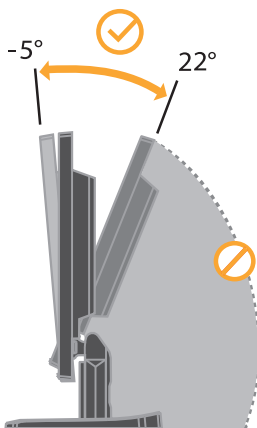
Note: To attach a VESA mount, please see “Detaching the monitor stand” on page 2-8.

Product overview

This section will provide information on adjusting monitor positions, setting user controls, and using the cable lock slot.

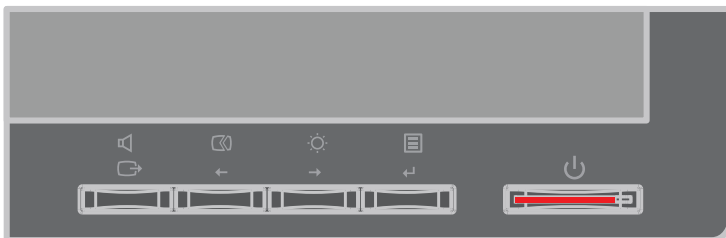
Types of adjustments

Please see the illustration below for an example of the tilt range.



User controls

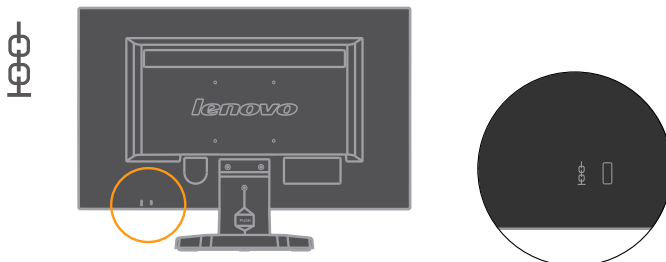
Your monitor has controls on the front which are used to adjust the display.



For information on how to use these controls, please see “Adjusting your monitor image” on page 2-3.

Cable lock slot

Your monitor is equipped with a cable lock slot located on the rear of your monitor (in the lower left corner). Please follow the instructions that came with the cable lock to attach it.



Setting up your monitor

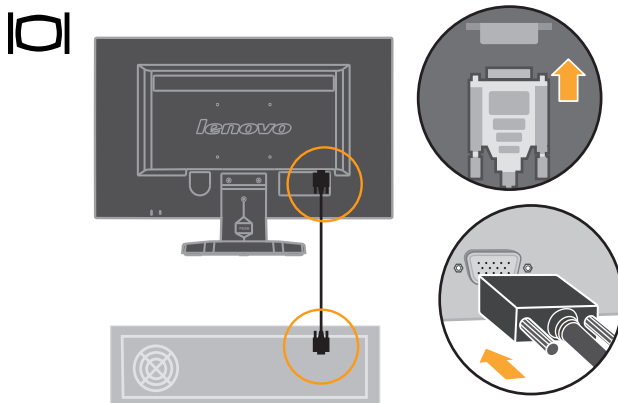
This section provides information to help you set up your monitor.

Connecting and turning on your monitor

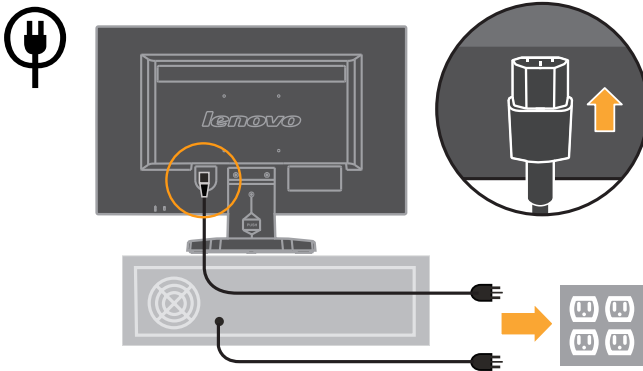
1. Power off your computer and all attached devices, and unplug the computer power cord.



2. Connect the analog signal cable to the video port on the back of the computer.

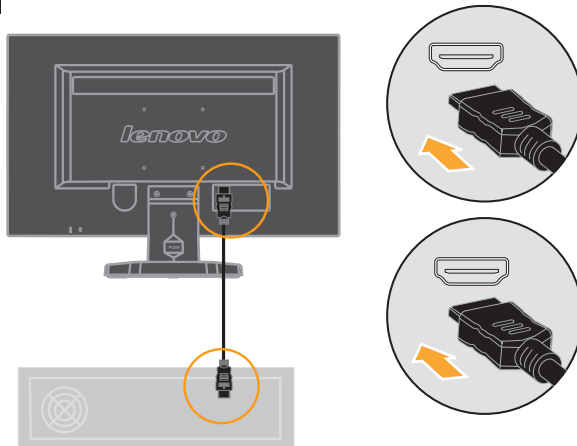


3. Plug the monitor power cord and the computer cord into grounded electrical outlets.
- Note: A certified power supply cord has to be used with this equipment. The relevant national installation and/or equipment regulations shall be considered. A certified power supply cord not lighter than ordinary polyvinyl chloride flexible cord according to IEC 60227 (designation H05VV-F 3G 0.75mm² or H05VVH2-F2 3G 0.75mm²) shall be used. Alternative a flexible cord be of synthetic rubber according to IEC 60245 (designation H05RR-F 3G 0.75mm²) shall be used.

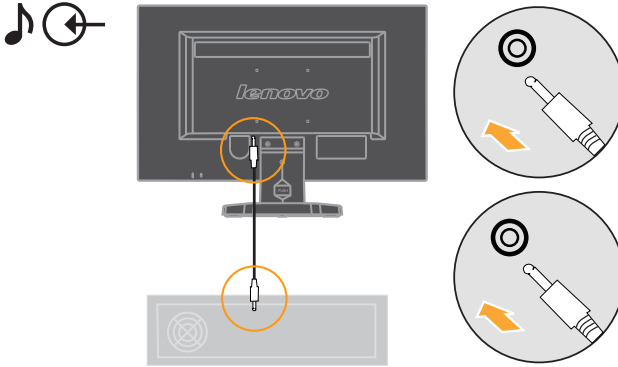


4. Connect one end of the HDMI cable to the HDMI connector on the back of the computer, and the other end to the HDMI connector on the monitor.

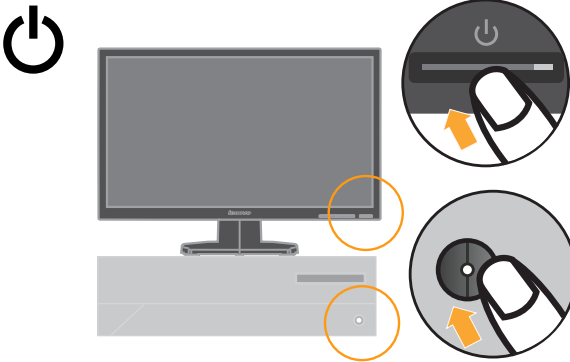
HDMI



5. Connect the audio cable to the video port on the back of the computer.



6. Power on the monitor and the computer.



7. Install the monitor driver, download the driver of the corresponding monitor model from the Lenovo Website <http://support.lenovo.com/LT2423wC>, and then click on the driver and install it following the on-screen instructions.



8. To optimize your monitor image, if using the analog cable, press the Automatic Image Setup key. Automatic image setup requires that the monitor is warmed up for at least 15 minutes.



Note: If automatic image setup does not establish the image that you prefer, perform manual image setup. See “Manual image setup” on page 3-4.

Registering your option

Thank you for purchasing this Lenovo® product. Please take a few moments to register your product and provide us with information that will help Lenovo to better serve you in the future. Your feedback is valuable to us in developing products and services that are important to you, as well as in developing better ways to communicate with you. Register your option on the following Web site:

<http://www.lenovo.com/register>

Lenovo will send you information and updates on your registered product unless you indicate on the Web site questionnaire that you do not want to receive further information.

Chapter 2. Adjusting and using your monitor

This section will give you information on adjusting and using your monitor.

Comfort and accessibility

Good ergonomic practice is important to get the most from your personal computer and to avoid discomfort. Arrange your workplace and the equipment you use to suit your individual needs and the kind of work that you perform. In addition, use healthy work habits to maximize your performance and comfort while using your computer.

For more detailed information on any of these topics, visit the Healthy Computing Web site at: <http://www.ibm.com/pc/ww/healthycomputing>

Arranging your work area

Use a work surface of appropriate height and available working area to allow you to work in comfort.

Organize your work area to match the way you use materials and equipment. Keep your work area clean and clear for the materials that you typically use and place the items that you use most frequently, such as the computer mouse or telephone, within the easiest reach.

Equipment layout and setup play a large role in your working posture. The following topics describe how to optimize equipment setup to achieve and maintain good working posture.

Positioning and viewing your monitor

Position and adjust your computer monitor for comfortable viewing by considering the following items:

- **Viewing distance:** Optimal viewing distances for monitors range from approximately 510mm to 760mm (20 in to 30 in) and can vary depending on ambient light and time of day. You can achieve different viewing distances by repositioning your monitor or by modifying your posture or chair position. Use a viewing distance that is most comfortable for you.
- **Monitor height:** Position the monitor so your head and neck are in a comfortable and neutral (vertical, or upright) position. If your monitor does not have height adjustments, you might have to place books or other sturdy objects under the base of the monitor to achieve the desired height. A general guideline is to position the monitor such that the top of the screen is at or slightly below your eye-height when you are comfortably seated. However, be sure to optimize your monitor height so the line of site between your eyes and the center the monitor suits your preferences for visual distance and comfortable viewing when your eye muscles are in a relaxed state.

- **Tilt:** Adjust the tilt of your monitor to optimize the appearance of the screen content and to accommodate your preferred head and neck posture.
- **General location:** Position your monitor to avoid glare or reflections on the screen from overhead lighting or nearby windows.

The following are some other tips for comfortable viewing of your monitor:

- Use adequate lighting for the type of work you are performing.
- Use the monitor brightness, contrast, and image adjustment controls, if equipped, to optimize the image on your screen to meet your visual preferences.
- Keep your monitor screen clean so you can focus on the screen's contents.

Any concentrated and sustained visual activity can be tiring for your eyes. Be sure to periodically look away from your monitor screen and focus on a far object to allow your eye muscles to relax. If you have questions on eye fatigue or visual discomfort, consult a vision care specialist for advice.

Quick tips for healthy work habits

The following information is a summary of some important factors to consider to help you remain comfortable and productive while you use your computer.

- **Good posture starts with equipment setup:** The layout of your work area and the setup of your computer equipment have a large effect on your posture while using your computer. Be sure to optimize the position and orientation of your equipment by following the tips outlined in “Arranging your work area” on page 2-1 so you can maintain a comfortable and productive posture. Also, be sure to use the adjustment capabilities of your computer components and office furniture to best suit your preferences now and as your preferences change over time.
- **Minor changes in posture can help avoid discomfort:** The longer you sit and work with your computer, the more important it is to observe your working posture. Avoid assuming any one posture for an extended period of time. Periodically make minor modifications in your posture to help deter any discomforts that might arise. Make use of any adjustments that your office furniture or equipment provide to accommodate changes in posture
- **Short, periodic breaks help ensure healthy computing:** Because computing is primarily a static activity, it is particularly important to take short breaks from your work. Periodically, stand up from your work area, stretch, walk for a drink of water, or otherwise take a short break from using your computer. A short break from work gives your body a welcome change in posture and helps to ensure you remain comfortable and productive while you do work.

Accessibility information

Lenovo is committed to providing greater access to information and technology to people with disabilities. With assistive technologies, users can access information in the way most appropriate to their disability. Some of these technologies are already provided in your operating system; others can be purchased through vendors or accessed at:

<https://www-03.ibm.com/research/accessibility/requests/accvpat.nsf/lenovo-bidx?OpenForm>




Adjusting your monitor image

This section describes the user control features used to adjust your monitor image.

Using the direct access controls

The direct access controls can be used when the On Screen Display (OSD) is not displayed.

Table 2-1. Direct access controls

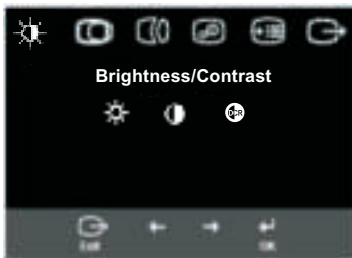
Icon	Control	Description
	Image Setup	Activates automatic image adjustment.
	Brightness	Direct access to Brightness adjustment.
	Volume	Adjust the volume.

To use other direct access controls:

1. Press and hold **⏏** for 10 seconds to lock the OSD. This will prevent accidental adjustments to the OSD. Press **⏏** and hold for 10 seconds to unlock the OSD and allow adjustments to the OSD.
2. Enables DDC/CI by default. Use OSD Exit Key, Press and hold the **⏏** button for 10 seconds to disable / enable DDC/CI function. The words " DDC/CI Disable" or "DDC/CI Enable" will be displayed.

Using the On-Screen Display (OSD) controls
























The settings adjustable with the user controls are viewed through the On-Screen Display (OSD), as shown below.



To use the controls:










1. Press **⏏** to open the main OSD menu.
2. Use **⏏** or **⏏** to move among the icons. Select an icon and press **⏏** to access that function. If there is a sub-menu, you can move between options using **⏏** or **⏏**, then press **⏏** to select that function. Use **⏏** or **⏏** to make adjustments. Press **⏏** to save.
3. Press **⏏** to move backwards through the sub-menus and exit from the OSD.

Table 2-2. OSD functions

OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments (Analog)	Controls and Adjustments (Digital)
 Brightness- /Contrast	 Brightness	Adjusts overall brightness		Same as Analog
	 Contrast	Adjusts difference between light and dark areas		
	 Dynamic Contrast Ratio	This function can improve your video input contrast ration automatically.		
 Image Position	 Horizontal Position	Moves the image left or right.		Controls Locked not required for digital input
	 Vertical Position	Moves the image up or down.		
 Image Setup	 Automatic	Automatically optimizes the image.		
	 Manual	Manually optimizes the image. See "Manual mage setup" page 3-4. · Clock · Phase · Save		
 Image / Audio Properties	 Color	Adjusts intensity of red, green, and blue.		Same as Analog
	Preset mode	· Reddish · sRGB * · Neutral · Bluish		
	Custom	· Red: Increases or decreases the saturation of "red" in the image. · Green: Increases or decreases the saturation of "green" in the image. · Blue: Increases or decreases the saturation of "blue" in the image. · Save: Saves the custom color choices.		
	 Input Signal	This monitor can accept video signals through two different connectors. Most desktop computers use a D-SUB connector. Select digital among OSD Controls when you use HDMI connector. · Selects D-SUB (Analog) · Selects HDMI		
	 Scaling	Expands image size to full screen. · Off (Original AR): same Aspect Ratio with input signal. · On (Full): Expands image size to full screen.		
	 Volume	Adjust the volume.		
	 Audio input	Audio input select: · Line in · HDMI		
 Options	 Information	Shows resolution, refresh rate, and product details. Note: This screen does not allow any changes to the settings.		Same as Analog
	 Menu Language	This section lists the languages supported by your monitor. Note: The language chosen only affects the language of the OSD. It has no effect on any software running on the computer.		

* Note: Brightness and Contrast can not be adjusted in sRGB mode.

Table 2-2. OSD functions (continued)

OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments (Analog)	Controls and Adjustments (Digital)
 Options	 Menu Position	Adjusts menu location on the screen.		Same as Analog
	Default	Returns the menu position to the default settings.		
	Custom	<ul style="list-style-type: none"> • Horizontal: Changes the horizontal position of the OSD. • Vertical: Changes the vertical position of the OSD. • Save 		
	 Factory Default	<ul style="list-style-type: none"> • Cancel • Reset Resets monitor to the original factory settings.		
	 Accessibility	Change button repeat rate and menu time-out settings.  Button repeat rate: Select  or  to change. <ul style="list-style-type: none"> • Off • Default • Slow  Menu time out: Sets the length of time the OSD will remain active after the last time a button is pressed.		
 Exit		Exit the main menu		Same as Analog

Selecting a supported display mode

The display mode the monitor uses is controlled by the computer. Therefore, refer to your computer documentation for details on how to change display modes.

The image size, position and shape might change when the display mode changes. This is normal and the image can be readjusted using automatic image setup and the image controls.

Unlike CRT monitors, which require a high refresh rate to minimize flicker, LCD or Flat Panel technology is inherently flicker-free.

Note: If your system has previously been used with a CRT monitor and is currently configured to a display mode outside the range of this monitor, you may need to re-attach the CRT monitor temporarily until you have re-configured the system; preferably to 1920 x 1080 at 60 Hz, which is the Native Resolution Display mode.

The display modes shown below have been optimized at the factory.

Table 20-3. Factory set display modes

Addressability	Refresh rate
640 x 480	60 Hz, 72 Hz, 75 Hz
720 x 400	70 Hz
800 x 600	56 Hz, 60 Hz, 72 Hz, 75 Hz
832 x 624	75 Hz
1024 x 768	60 Hz, 70 Hz, 75 Hz
1152 x 864	75 Hz
1280 x 1024	60 Hz, 70 Hz, 75 Hz
1366 x 768	60 Hz
1440 x 900	60 Hz
1600 x 900	60 Hz, 75 Hz
1680 x 1050	60 Hz
1920 x 1080	60 Hz

Understanding power management

Power management is invoked when the computer recognizes that you have not used your mouse or keyboard for a user-definable period. There are several states as described in the table below.

For optimal performance, switch off your monitor at the end of each working day, or whenever you expect to leave it unused for long periods during the day.

Table 2-4. Power indicator

State	Power Indicator	Screen	Restoring Operation	Compliance
On	Steady green	Normal		
Standby/Suspend	Steady orange	Blank	Press a key or move the mouse There may be a slight delay before the image reappears. Note: Standby also occurs if there is no image output to the monitor.	ENERGY STAR
Off	Off	Blank	Press the power button There may be a slight delay before the image reappears.	ENERGY STAR

Caring for your monitor

Be sure to turn off the power before you perform any maintenance on the monitor.

Do not:

- Apply water or liquid directly to your monitor.
- Use solvents or abrasives.
- Use flammable cleaning materials to clean your monitor or any other electrical equipment.
- Touch the screen area of your monitor with sharp or abrasive items. This type of contact may cause permanent damage to your screen.
- Use any cleaner which contains an anti-static solution or similar additives. This may harm the coating of the screen area.

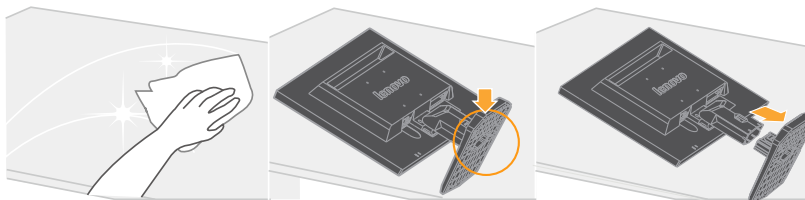
Do:

- Lightly dampen a soft cloth with water and use this to gently wipe the covers and the screen.
- Remove grease or finger marks with a damp cloth and a little mild detergent.

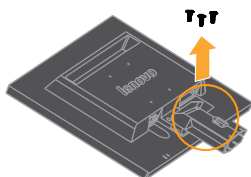
Preparing the monitor for wall-mounting

WARNING: To reduce the risk of personal injury or of damage to the equipment, check that the wall-mounting fixture is adequately installed and secured before attaching the monitor. Refer to the instructions supplied with the wall-mounting fixture and check that it is capable of supporting the monitor.

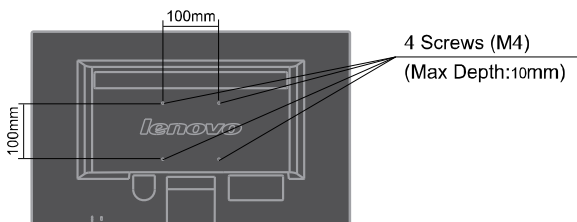
1. Disconnect the power cable and any other cables from the monitor.
2. Place the monitor face down on a flat, protected surface.
3. Remove the monitor base from stand.



4. Remove the three screws in the monitor stand. Lift the monitor stand off the monitor.



5. Four threaded holes are exposed. These holes are for screws to attach the swing arm or other mounting fixture to the back of the monitor.



6. Follow the instructions included with the mounting fixture to ensure that the monitor is safely attached.
7. Attach a swing arm or other mounting fixture.

NOTE: For use only with UL(expand UL) Listed Wall Mount Bracket with minimum weight/load bearing capacity of 3.7 kg.

Chapter 3. Reference information

This section contains monitor specifications, instructions to manually install the monitor driver, troubleshooting information, and service information.

Monitor specifications

Table 3-1. Monitor specifications for type-model 60A8-KAR2-WW

Dimensions	Height	414.3 mm
	Depth	216.7 mm
	Width	567.1 mm
Panel	Size	24 in.
	Backlight	LED
	Aspect Ratio	16:9
Stand	Tilt range	Range: 5°, +22°
VESA mount	Supported	100 mm(3.94 in)
Image	Viewable image size	609.7 mm(24 in.)
	Maximum height	298.89 mm(11.77 in.)
	Maximum width	531.36 mm(20.92 in.)
	Pixel pitch	0.276 mm(0.0109 in.) (V)
Power input	Supply voltage	100-240 V~, 50/60 Hz
	Max supply current	1.5 A
Power consumption Note: Power consumption figures are for the monitor and the power supply combined.	Max Consumption	< 31 W
	Typical Consumption	< 21 W
	Standby/Suspend	< 0.5 W
	Off	< 0.5 W
Video input(Analog)	Input signal	Analog Direct Drive, 75 ohm 0.7 V
	Horizontal addressability	1920 pixels (max)
	Vertical addressability	1080 lines (max)
	Clock frequency	205 MHz

Table 3-1. Monitor specifications for type-model 60A8-KAR2-WW(continued)

Communications	VESA DDC	CI
HDMI input	Input signal Horizontal addressability Vertical addressability Clock frequency	TMDS 1920 pixels (max) 1080 lines (max) 205 MHz
Supported Display Modes (VESA Standard modes between noted ranges)	Horizontal frequency	VGA: 30 kHz - 81 kHz
	Vertical frequency	50 Hz - 75 Hz
	Native Resolution	1920 x 1080 at 60 H
Temperature	Operating Storage Shipping	0° to 45°C (32° to 104° F) -20° to 60°C (-4° to 140° F) -20° to 60°C (-4° to 140° F)
Humidity	Operating Storage Shipping	10% to 90% 10% to 90% 10% to 90%

Troubleshooting

If you have a problem setting up or using your monitor, you might be able to solve it yourself. Before calling your dealer or Lenovo, try the suggested actions that are appropriate to your problem.

Table 3-2. Troubleshooting

Problem	Possible cause	Suggested action	Reference
The words“Out of Range” are shown on the screen, and the power indicator is flashing green	The system is set to a display mode which is not supported by the monitor.	<ul style="list-style-type: none"> • If you are replacing an old monitor, reconnect it and adjust the display mode to within the specified range for your new monitor. • If using a Windows system, restart the system in safe mode, then select a supported display mode for your computer. • If these options do not work, contact the Support Center. 	“Selecting a supported display mode” on page 2-5
The image quality is unacceptable.	The video signal cable is not connected with the monitor or system completely.	Be sure the signal cable is firmly plugged into the system and monitor.	“Connecting and turning on your monitor” on page 1-3
	The color settings may be incorrect.	Select another color setting from the OSD menu.	“Adjusting your monitor image” on page 2-3
	The automatic image setup function was not performed.	Perform automatic image setup.	“Adjusting your monitor image” on page 2-3
The power indicator is not lit and there is no image.	The monitors power switch is not switched on. The power cord is loose or disconnected. There is no power at the outlet.	<p>Be sure the power cord is connected properly.</p> <p>Be sure the outlet has power.</p> <p>Power on the monitor.</p> <p>Try using another power cord.</p> <p>Try using another electrical outlet.</p>	“Connecting and turning on your monitor” on page 1-3






Table 3-2. Troubleshooting (continued)


Problem	Possible cause	Suggested action	Reference
Screen is blank and power indicator is steady amber or flashing green.	The monitor is in Standby/Suspend mode.	<ul style="list-style-type: none"> • Press any key on the keyboard or move the mouse to restore operation. • Check the Power Options settings on your computer. 	“Understanding power management” on page 2-6
The power indicator is green, but there is no image.	The video signal cable is loose or disconnected from the system or monitor.	Be sure the video cable is connected with the system properly.	“Connecting and turning on your monitor” on page 1-3
	The monitor brightness and contrast are at the lowest setting.	Adjust the brightness and contrast setting on the OSD menu.	“Adjusting your monitor image” on page 2-3
One or more of the pxels appear discolored.	This is a characteristic of the LCD technology and is not an LCD defect.	If there are than five pixels missing, contact the Lenovo Support Center.	Appendix A, “Service and Support,” on page A-1
<ul style="list-style-type: none"> • Fuzzy lines in text or a blurry image. • Horizontal or vertical lines through the image. 	<ul style="list-style-type: none"> • Image setup has not been optimized • Your system Display Properties setting have not been optimized. 	Adjust the resolution settings on your system to match the native resolution for this monitor. 1920 x 1080 at 60 Hz.	“Adjusting your monitor image” on page 2-3
		Perform automatic image setup. If automatic image setup does not help, perform manual image setup.	“Selecting a supported display mode” on page 2-5
		When working in the native resolution, you may find additional improvements by adjusting the Dots Per Inch (DPI) setting on your system	See the Advanced section of your systems display properties.

Manual image setup

If automatic image setup does not establish the image that you prefer, perform manual image setup.

Note: Have your monitor powered on for about 15 minutes, until the monitor warms up.

1. Press  at the bottom of the monitor to open the OSD menu.
2. Use  or  to select  and press  to access.

3. Use ← or → to select **Clock** and **Phase** adjustment.
 - **Clock**(pixel frequency) adjusts the number of pixels scanned by one horizontal sweep. If the frequency is not correct, the screen shows vertical stripes and the picture does not have the correct width.
 - **Phase** adjusts the phase of the pixel clock signal. With a wrong phase adjustment, the picture has horizontal disturbances in light picture.
4. When the image no longer looks distorted, save the Clock and Phase adjustments.
5. Press  to leave the OSD menu.

Installing the monitor driver in Windows Vista

To install the monitor driver in Microsoft® Windows Vista, do the following:

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow the system to boot into Windows Vista operating system.
4. Find the driver of the corresponding monitor model from Lenovo's website: <http://support.lenovo.com/LT2423wC>, and download it to the host connected to this monitor for temporary storage (as shown in the figure on the desktop).
5. Click Start→**Control Panel**, and then click the **Hardware and Sound** icon.
6. Click the **Personalization** icon.
7. Click the **Display Settings** icon.
8. Click the **Advanced Settings** button.
9. Click the **Monitor** tab.
10. Click the **Properties** button.
11. If the "**Windows needs your permission to continue**" window appears, click on Continue button. Then click the **Driver** tab.
12. Open the "**Update Driver Software-Generic PnP Monitor**" window by clicking on **Update Driver**, and then click the "**Browse my computer for driver software**" button.
13. Select "**Let me pick from a list of device drivers on my computer**".
14. Click the "**Install from the disk**" button, click on the "Browse" button, and then navigate to the following directory: **X \ Monitor Drivers \ Windows Vista** (Here, **X** stands for "the folder in which the downloaded driver locates" (such as desktop)
15. Select the "**LT2423wC.inf**" file and click the **Open** button. Click the **OK** button.
16. Select "**Lenovo LT2423wC**" in the new window and then click "Next".
17. After the installation is complete, delete the downloaded program files, and close all the windows.
18. Restart the system.

Note: On LCD monitors, unlike CRTs, a faster refresh rate does not improve display quality. Lenovo recommends using either 1920 x 1080 at a refresh rate of 60 Hz, or 640 x 480 at a refresh rate of 60 Hz.

Installing the monitor driver in Windows 7

To install the device driver in Microsoft® Windows 7, do the following:

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow the system to boot into Windows 7 operating system.
4. Find the driver of the corresponding monitor model from Lenovo's website: <http://support.lenovo.com/LT2423wC>, and download it to the host connected to this monitor for temporary storage (as shown in the figure on the desktop).
5. Click Start→**Control Panel**, and then click the **Hardware and Sound** icon
6. Click the **Personalization** icon.
7. Click the **Display Settings** icon.
8. Click the **Advanced Settings** button.
9. Click the **Monitor** tab.
10. Click the **Properties** button.
11. If the "**Windows needs your permission to continue**" window appears, click on Continue button. Then click the **Driver** tab.
12. Open the "**Update Driver Software-Generic PnP Monitor**" window by clicking on **Update Driver**, and then click the "**Browse my computer for driver software**" button.
13. Select "**Let me pick from a list of device drivers on my computer**".
14. Click the "**Install from the disk**" button, click on the "Browse" button, and then navigate to the following directory: **X \ Monitor Drivers \ Windows 7**
(Here, **X** stands for "the folder in which the downloaded driver locates" (such as desktop)
15. Select the "**LT2423wC.inf**" file and click the **Open** button. Click the **OK** button.
16. Select "**Lenovo LT2423wC**" in the new window and then click "Next".
17. After the installation is complete, delete the downloaded program files, and close all the windows.
18. Restart the system.

The system will automatically select the maximum refresh rate and corresponding color Matching profiles. Note: On LCD monitors, unlike CRTs, a faster refresh rate does not improve display quality. Lenovo recommends using either 1920 x 1080 at a refresh rate of 60 Hz, or 640 x 480 at a refresh rate of 60 Hz

Installing the monitor driver in Windows 8/Windows 8.1

To use the Plug and Play feature in Microsoft Windows 8/Windows 8.1, do the following:

1. Turn off the computer and all attached devices.
2. Ensure that the monitor is connected correctly.
3. Turn on the monitor and then the system unit. Allow your computer to start the Windows 8/Windows 8.1 operating system.
4. Find the driver of the corresponding monitor model from Lenovo's website: <http://support.lenovo.com/LT2423wC>, and download it to the host connected to this monitor for temporary storage (as shown in the figure on the desktop).
5. Open the Display Properties window by clicking Start , right-click, choose All Application, inter Control Panel and Hardware and Sound icon. and then clicking t he Display icon.
6. Click the **Change the display settings** tab.
7. Click the **Advanced** settings icon.
8. Click the **Monitor** tab.
9. Click the **Properties** button.
10. Click the **Drivers** tab.
11. Click **Upgrade Device**, then click **Browse the computer to find the driver program**.
12. Select "**Pick from the list of device driver program on the computer**."
13. Click the "**Install from the disk**" button, click on the "Browse" button, and then navigate to the following directory: **X \ Monitor Drivers \ Windows 8**
(Note: The **win 8.1** system here should be **Windows 8.1**)
(Here, **X** stands for "the folder in which the downloaded driver locates" (such as desktop))
14. Select the "**LT2423wC.inf**" file and click the Open button. Click on the OK button.
15. Select "**Lenovo LT2423wC**" in the new window and then click "Next".
16. After the installation is complete, delete the downloaded program files, and close all the windows.
17. Restart the system. The system will automatically select the maximum refresh rate and corresponding color matching profiles.

Note: On LCD monitors, unlike CRTs, a faster refresh rate does not improve display quality. Lenovo recommends using either 1920 x 1080 at a refresh rate of 60 Hz, or 640 x 480 at a refresh rate of 60 Hz.

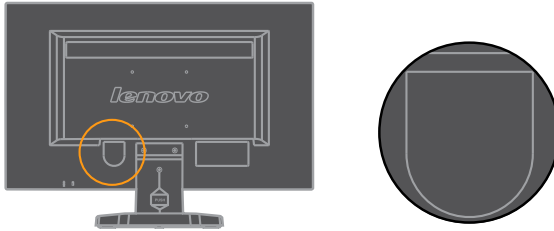
Getting further help

If you still can't solve your problem, please contact the Lenovo Support Center. For more information on contacting the Customer Support Center, please see Appendix A, "Service and Support," on page A-1.

Service information

Product numbers

The product number for your monitor is located on the back of the display bezel as shown below.



Customer responsibilities

The warranty does not apply to a product which has been damaged due to accident, misuse, abuse, improper installation, usage not in accordance with product specifications and instructions, natural or personal disaster, or unauthorized alterations, repairs or modifications.

The following are examples of misuse or abuse and not covered by warranty:

- Images burned onto the screen of a CRT monitor. Burned image is preventable by utilizing a moving screen saver or power management.
- Physical damage to covers, bezel, base and cables.
- Scratches or punctures on monitor screens.

Service parts

The following parts are for use by Lenovo service, or Lenovo authorized dealers, to support the customer warranty. Parts are for service use only. The table below shows information for model 60A8-KAR2-WW.

Table 3-3. List of service parts

FRU (Field Replaceable Unit) Part number	Description	Color	Machine Type Model(MTM)
03T8466	Monitor_LT2423wC	Raven Black	60A8-KAR2-WW
03T8449	Analog cable	Raven Black	60A8-KAR2-WW
03T8468	Audio cable	Raven Black	60A8-KAR2-WW
03T8467	Stand & Base	Raven Black	60A8-KAR2-WW

Appendix A. Service and Support

The following information describes the technical support that is available for your product, during the warranty period or throughout the life of your product.

Refer to the Lenovo Limited Warranty for a full explanation of Lenovo warranty terms.

Registering your option

Register to receive product service and support updates, as well as free and discounted computer accessories and content. Go to:

<http://www.lenovo.com/register>

Online technical support

Online technical support is available during the lifetime of a product at:

<http://www.lenovo.com/support>

Product replacement assistance or exchange of defective components also is available during the warranty period. In addition, if your option is installed in a Lenovo computer, you might be entitled to service at your location. A Lenovo technical support representative can help you determine the best alternative.

Telephone technical support

Installation and configuration support through the Customer Support Center will be available until 90 days after the option has been withdrawn from marketing. After that time, the support is cancelled, or made available for a fee, at Lenovo's discretion. Additional support is also available for a nominal fee.

Before contacting a Lenovo technical support representative, please have the following information available: option name and number, proof of purchase, computer manufacturer, model, serial number and manual, the exact wording of any error message, description of the problem, and the hardware and software configuration information for your system.

Your technical support representative might want to walk you through the problem while you are at your computer during the call.

Telephone numbers are subject to change without notice. The most up-to-date telephone list for Lenovo Support is always available at:

<http://www.lenovo.com/support/phone>

Date and time Update to be Visible on the Website	Country or Regions	Language	Old Telephone Number(s)	New Telephone Number(s)	Hours of Operation	Applicable to IWS
17-May-2012 1000 GMT +4:00	RUSSIA	Russian,	8 800 100 7888	8-800-555-0317	10 am - 7 pm Monday - Saturday	Yes
30-Jul-2012 0900 GMT +9:00	JAPAN	Japanese, English	0120-20-5550, 0570-064-600 For International: +81-46-266-4716	0120-000-817	9AM - 6PM Monday - Sunday (Exception : Third Sunday of the month (due to maintenance activities) and December 30th and 31st and January 1st, 2nd, and 3rd)	
12-Sep-12 0900 GMT +9:00	SOUTH KOREA	Korean, English	1588-6782	080-513-0880 (Toll Free) 0234834817 (Standard Charges Apply)	9AM - 6PM Monday - Friday 9AM - 1PM Saturday	
30-Nov-12 0700 GMT -6:00	Costa Rica	Spanish, English	0-800-011-1029	Dial 0-800-011-4114, then dial 877-404-9661	7 am - 9 pm Monday - Sunday	
30-Nov-12 0900 GMT -4:00	Dominican Republic		1-866-434-2080	877-396-6150	9 am - 11 pm Monday - Sunday	
30-Nov-12 0700 GMT -6:00	El Salvador		800-6264	800-6037	7 am - 9 pm Monday - Sunday	
30-Nov-12 0700 GMT -6:00	Guatemala		1800-624-0051	Dial 999-9190, then dial	7 am - 9 pm Monday - Sunday	
30-Nov-12 0700 GMT -6:00	Honduras		Tegucigalpa: 232-4222 San Pedro Sula: 552-2234	Dial 800-0123, then dial 877-404-9661	7 am - 9 pm Monday - Sunday	
30-Nov-12 0800 GMT -5:00	Panama		206-6047 001-866-434-2080 (Lenovo Customer Support Center- toll free)	001-800-507-2694	8 AM - 10 PM Monday - Sunday	
3-Dec-12 0800 GMT -5:00	ECUADOR		1-800-426911 OPCION 4	(Andinatel) Dial 1-999-119; then dial 877-404-9661 (Pacifictel) 1-800-225-528; then dial 877-404-9661 (Pacifictel Spanish) 1-800-999-119; then dial 877-404-9661	8 AM - 10 PM Monday - Sunday	
3-Dec-12 0800 GMT -6:00	MEXICO		001-866-434-2080	01800 0834916	8 AM - 10 PM Monday - Sunday	

Date and time Update to be Visible on the Website	Country or Regions	Language	Old Telephone Number(s)	New Telephone Number(s)	Hours of Operation	Applicable to IWS
3-Dec-12 0900 GMT -3:00	PARAGUAY	Spanish, English	009-800-52-10026	0098004410084 or 009-800-	9 am - 11 pm Monday - Sunday	Yes
3-Dec-12 1000 GMT -2:00	URUGUAY		000-411-005-6649	000 411 0026332	10 am - 12 pm Monday - Sunday	
5-Dec-12 0900 GMT +8:00	HONG KONG	Cantonese, Mandarin, English		(852) 3071-3561	9 AM - 8 PM Monday - Friday 9AM - 1 PM Saturday	
5-Dec-12 0900 GMT +8:00	Macau		ThinkPad (Technical enquiry hotline): 0800-839 (Macau) ThinkPad Service Center: 2871-5399 (Macau) ThinkCentre, ThinkStation and ThinkServer: 0800-336 (Macau)	0800 807	9 AM - 8 PM Monday - Friday 9AM - 1 PM Saturday	
5-Dec-12 0800 GMT -3:00	CHILE	Spanish, English	800-361-213	1230 020 0173 or 800530008	8 AM - 10 PM Monday - Sunday	
5-Dec-12 0800 GMT -5:00	PERU		0-800-50-866 OPCION 2	0800-77-503	8 AM - 10 PM Monday - Sunday	
5-Dec-12 0830 GMT -4:30	VENEZUELA		0-800-100-2011	08001101111	8:30 am - 10:30 pm Monday - Sunday	
10-Dec-12 0900 GMT -4:00	BOLIVIA		0800-10-0189	800-10-0982	9 am - 11 pm Monday - Sunday	
10-Dec-12 0800 GMT -5:00	COLOMBIA		1-800-912-3021	01800 5182433 (Toll Free) 3207635 (Standard Charges Apply)	8 AM - 10 PM Monday - Sunday	
12-Dec-12 1000 GMT -3:00	ARGENTIN		0800-666-0011	0800 2660570	10 am - 12 pm Monday - Sunday	

Date and time Update to be Visible on the Website	Country or Regions	Language	Old Telephone Number(s)	New Telephone Number(s)	Hours of Operation	Applicable to IWS
01-Sep-12 0000 GMT +10:00	Australia	English	131-426 Think Branded Products 1300-880-917 ThinkServer	1800041267	24 hours/day 7 days/week	Yes
01-Sep-12 0000 GMT +10:00	New Zealand		0800-733-222 Think Branded	0508 770 506	24 hours/day 7 days/week	
14-Sep-12 0830 GMT +7:00	VIETNAM	Vietnamese, English	For Northern Area and Hanoi City: +84-4-3 7367625/+84-4-3 7367626 For Southern Area and Ho Chi Minh City: +84 8 3 8243504/ +84 8 3 8243503	12011072	8:30 AM - 5:30 PM Monday - Friday	
28-Sep-12 0830 GMT +8:00	PHILIPPINES	Tagalog, English	1800-1601-0033 (Local number only) +603 8315 6858 (DID)	180089086454 (Domestic Toll Free) 180014410719 (International Toll Free)	8:30 AM - 5 PM Monday - Friday	
12-Oct-12 0800 GMT +8:00	SINGAPORE	English, Mandarin, Bahasa Malaysia	800 6011 343 (Local number only) +603 8315 6856 (DID)	18004155529	8AM - 6:30PM Monday - Friday	
26-Oct-12 0900 GMT +7:00	THAILAND	Thai, English	1-800-060-066(Local number only) 66 2273 4088+603 8315 6857 (DID)	0018004415734	9 AM -6 PM Monday - Friday	
9-Nov-12 0900 GMT +7:00	INDONESIA	Bahasa Indonesia, English	+6221 2992 5823 001-803-606-282 (Local number only) +603 8315 6859 (DID)	001803442425	9 AM -6 PM Monday - Friday	
14-Nov-12 0900 GMT +8:00	BRUNEI	Bahasa Malaysian, English	801-1041	Dial 800-1111, then dial 8662735446	9 AM -6 PM Monday - Friday	
14-Nov-12 0900 GMT +8:00	MALAYSIA	Bahasa Malaysia, English	1800-88-1889 (Local number only) +603 8315 6855 (DID)	1800880013	9 AM -6 PM Monday - Friday	
30-Nov-12 0000 GMT -4:00	Antigua	English	New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Aruba		New	855-882-4402	24 hours a day 7 days a week	

Date and time Update to be Visible on the Website	Country or Regions	Language	Old Telephone Number(s)	New Telephone Number(s)	Hours of Operation	Applicable to IWS
30-Nov-12 0000 GMT -5:00	Bahamas	English	New	855-882-4402	24 hours a day 7 days a week	Yes
30-Nov-12 0000 GMT -4:00	Barbados		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Bermuda		1-800 426 7378	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	British Virgin Islands		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -5:00	Cayman		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Curacao		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Grenada		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Guyana		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -5:00	Jamaica		1-800 426 7378	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Montserrat		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0700 GMT -6:00	Nicaragua	Spanish,	001-800-220-1830	001-800226-0334	7 am - 9 pm Monday - Sunday	
30-Nov-12 0000 GMT -4:00	Puerto Rico	English	New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	St Kitts		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	St Lucia		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	ST		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	St Vincent		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -3:00	Suriname		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	Trinidad and		New	1-8666269587	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -4:00	US Virgin		New	855-882-4402	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -5:00	CANADA	English, French	1-800-565-3344	8882523099	24 hours a day 7 days a week	
30-Nov-12 0000 GMT -5:00	UNITED	English	1-800-426-7378	855-882-4402	24 hours a day 7 days a week	
17-Dec-12 0800 GMT -2:00	BRAZIL	Portuguese	Calls made from within the Sao Paulo region (11) 3889-8986 Calls made from outside the Sao Paulo region 0800-701-4815	0800 885 0500 (Toll Free) (11) 3140-0500 (Standard Charges Apply)	8 AM - 8 PM Monday - Friday 8 AM - 5 PM Saturday	

Appendix B. Notices

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Any performance data contained herein was determined in a controlled environment. Therefore, the result obtained in other operating environments may vary significantly. Some measurements may have been made on development-level systems and there is no guarantee that these measurements will be the same on generally available systems. Furthermore, some measurements may have been estimated through extrapolation. Actual results may vary. Users of this document should verify the applicable data for their specific environment.

Recycling information

Lenovo encourages owners of information technology (IT) equipment to responsibly recycle their equipment when it is no longer needed. Lenovo offers a variety of programs and services to assist equipment owners in recycling their IT products. For information on recycling Lenovo products, go to:

<http://www.lenovo.com/lenovo/environment/recycling>

環境配慮に関して

本機器またはモニターの回収リサイクルについて

企業のお客様が、本機器が使用済みとなり廃棄される場合は、資源有効利用促進法の規定により、産業廃棄物として、地域を管轄する県知事あるいは、政令市長の許可を持った産業廃棄物処理業者に適正処理を委託する必要があります。また、弊社では資源有効利用促進法に基づき使用済みパソコンの回収および再利用・再資源化を行う「PC回収リサイクル・サービス」を提供しています。詳細は、<http://www.ibm.com/jp/pc/service/recycle/pcrecycle/> をご参照ください。

また、同法により、家庭で使用済みとなったパソコンのメーカー等による回収再資源化が2003年10月1日よりスタートしました。詳細は、<http://www.ibm.com/jp/pc/service/recycle/pcrecycle/> をご参照ください。

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本機器のプリント基板等には微量の重金属（鉛など）が使用されています。使用後は適切な処理を行うため、上記「本機器またはモニターの回収リサイクルについて」に従って廃棄してください。

Collecting and recycling a disused Lenovo computer or monitor

If you are a company employee and need to dispose of a Lenovo computer or monitor that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. Computers and monitors are categorized as industrial waste and should be properly disposed of by an industrial waste disposal contractor certified by a local government. In accordance with the Law for Promotion of Effective Utilization of Resources, Lenovo Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers and monitors. For details, visit the Lenovo Web site at www.ibm.com/jp/pc/service/recycle/pcrecycle/. Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers and monitors by the manufacturer was begun on October 1, 2003. This service is provided free of charge for home-used computers sold after October 1, 2003. For details, visit the Lenovo Web site at www.ibm.com/jp/pc/service/recycle/personal/.

Disposing of Lenovo computer components

Some Lenovo computer products sold in Japan may have components that contain heavy metals or other environmental sensitive substances. To properly dispose of disused components, such as a printed circuit board or drive, use the methods described above for collecting and recycling a disused computer or monitor.

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- The Lenovo logo
- ThinkCentre
- ThinkPad
- ThinkVision

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Turkish statement of compliance

The Lenovo product meets the requirements of the Republic of Turkey Directive on the Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (EEE).

Türkiye EEE Yönetmeliğine Uygunluk Beyanı

Bu Lenovo ürünü, T.C. Çevre ve Orman Bakanlığı'nın "Elektrik ve Elektronik Eşyalarda Bazı Zararlı Maddelerin Kullanımının Sınırlandırılmasına Dair Yönetmelik (EEE)" direktiflerine uygundur.

EEE Yönetmeliğine Uygundur.

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