lenovo

LI2821wA Wide Flat Panel Monitor
User's Guide

Product numbers

LI2821wA

65A4-HB1

CE

Contents

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.

⚠

DANGER

To avoid shock hazard:

• Do not remove the covers.

• Do not operate this product unless the stand is attached.

• Do not connect or disconnect this product during an electrical storm.

• The power cord plug must be connected to a properly wired and grounded power outlet.

• Any equipment to which this product will be attached must also be connected to properly wired and grounded power outlets.

• To isolate the monitor from the electrical supply, you must remove the plug from the power outlet. The power outlet should be easily accessible.

To take special precautions to avoid the introduction of hazards when operating, installing, servicing, transporting or storing equipment, the necessary instructions shall be made available.

To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

Handling:

• If your monitor weighs more than 18 kg (39.68 lb), it is recommended that it be moved or lifted by two people.

Make sure the light bar is located downside when using VESA mount setup.

Chapter 1. Getting started

This User's Guide contains detailed information on the your 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 &Adapeter*
- *Analog Interface Cable*
- *USB 2.0 Cable*
- *HDMI Cable*
- *Audio Cable*
- *DP Cable*
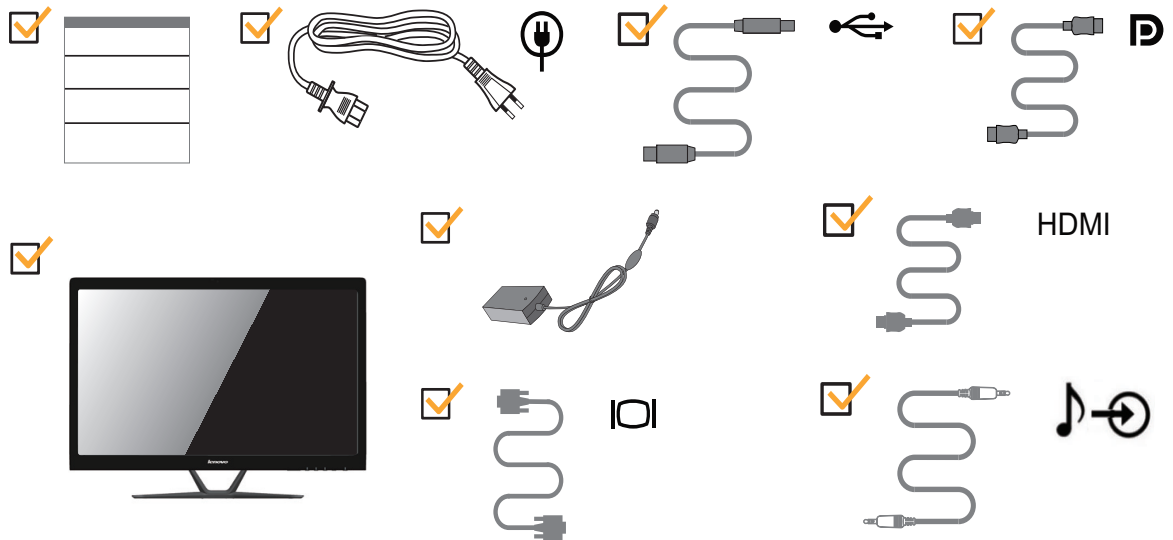
Notice for use

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.

1. Carefully lay the monitor on a flat surface.

2. Put the base to the monitor.

Product overview

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

Adjusting the tilt

The illustration below shows the tile. For more information, see "Positioning your monitor"on page 2-1
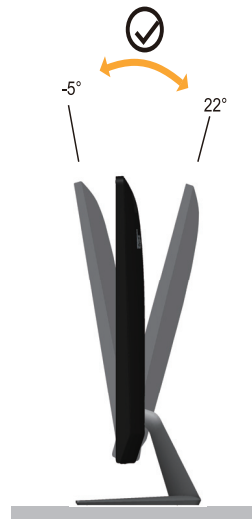
Monitor controls

The controls on the front bezel allow access to the control functions of the monitor.

For information on the specific control functions 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. If you use a cable lock then follow the instructions that came with it the cable lock to attached.

WebCam

The monitor has an integrated webcam,which canbe adjusted for turning on.
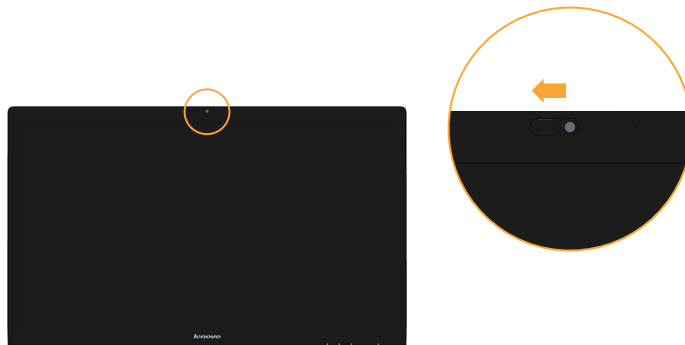
Speakers

Your monitor has integrated 2 X 3 watt speakers which can support audio transmitted over the HDMI/MHL/DP video inputs as well as USB audio. USB Audio requires the USB 2.0 cable to be connected to the system.
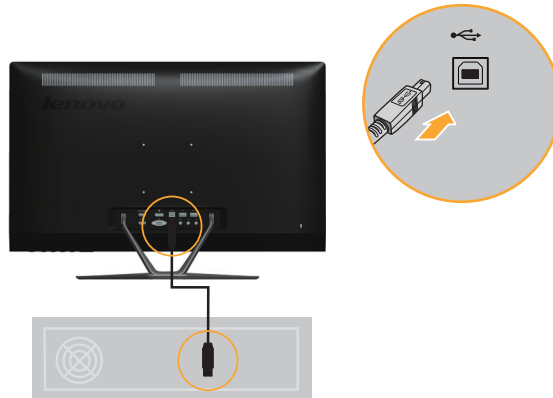
Speaker volume is adjusted using controls on the top side of the speaker area.
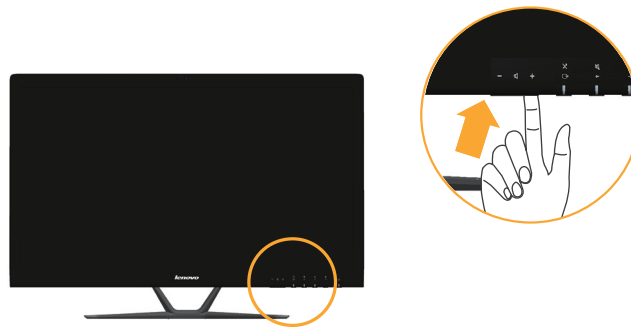
Audio Configuration under Windows XP

When connected to Windows XP the following may happen:

a) The USB audio may be recognized as a speaker phone by the system and the speaker volume control will not be displayed.

b) The system will not set up USB audio as the default device so it must be set up manually.

1. Select Control Panel from the Start Menu.

2. Open Sound and Audio Devices.

3. Select the audio tab.

4. Select Lenovo LI2821 Wide Monitor as the default audio device.

5. Click apply.

Setting up your monitor

This section provides information on how to set up your monitor.

Connecting and turning on your monitor

Note: Be sure to read the "Safety information"on page iii before carrying out this procedure.

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

2. Connect the cables according to below icon indication.

3. Connect one end of the analog signal cable to the monitor VGA (Analog) connector and the other end to the computer.
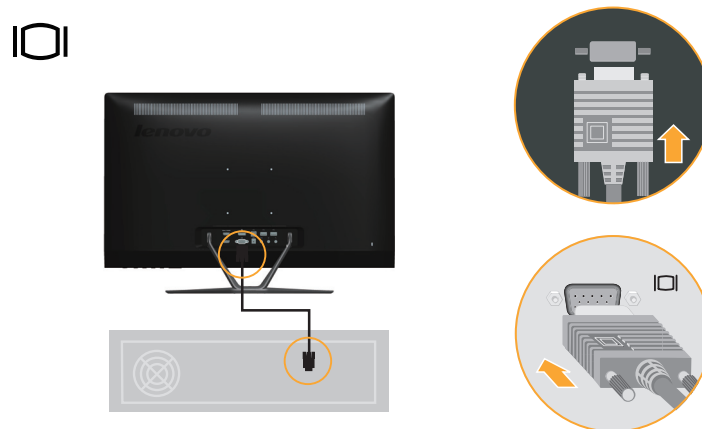
4. Connect one end of the DP cable to the DP connector on the back of the computer, and the other end to the DP connector on the monitor.
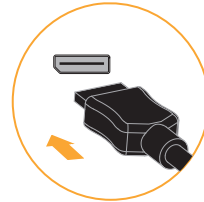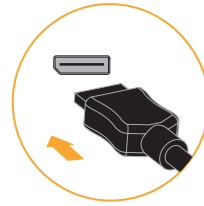
5. Connect one end of the MHL cable to the monitor MHL port and the other end to the mobile phone. MHL(Mobile-High-Definition Link) is an audio/video interface for directly connecting mobile phones and other portable consumer electronic devices to high-definition displays. This allows user to make the viewing of the connected device on the monitor screen while charging it simultaneously.
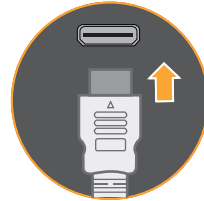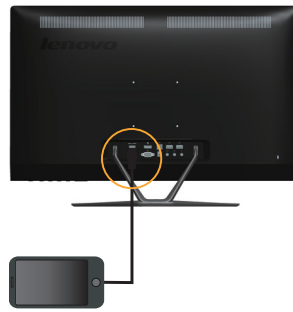
6. Connect one end of the HDMI cable to the monitor HDMI port and the other end to the computer if it has HDMI output terminal.
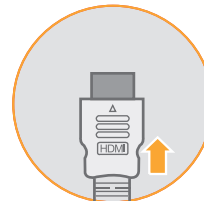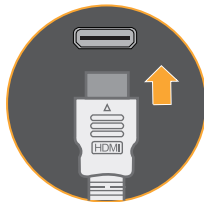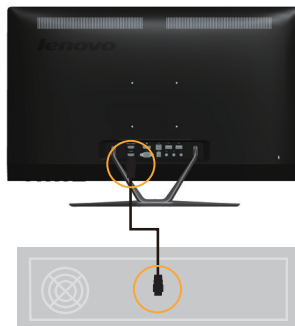
7. Connect one end of the USB cable to the USB upstream terminal on the back of the monitor, and connect the other end of the USB cable to an appropriate USB port on your computer.

Note: The USB port will stay in function as long as the monitor is connected to power, regardless of whether the monitor is switched on or off.

8. Connect the headphone or microphone.

Note: At the PIP/PBP mode, only main source (Background Screen at PIP mode, Left Screen at PBP mode) can transfer the audio to the jack.

9. Connect one end of source input (like VGA) cable to the monitor and the other end to the computer. Connect one end of other source input (like DP) cable to the monitor and the other end to the computer. Use the OSD controls to enter the PIP/PBP mode.

PIP/PBP

Note: The source input should follow below table.

PIP/PBP Input Pairing Limitation

	HDMI	HDMI/MHL	VGA	DP
HDMI	No	Yes	Yes	Yes
HDMI/MHL	Yes	No	Yes	Yes
VGA	Yes	Yes	No	Yes
DP	Yes	Yes	Yes	No

10. Insert the Adapter into the monitor, then 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 3G0.75mm2) shall be used. Alternative a flexible cord be of synthetic rubber according to IEC 60245 (designation H05RR-F 3G 0.75mm2) shall be used.
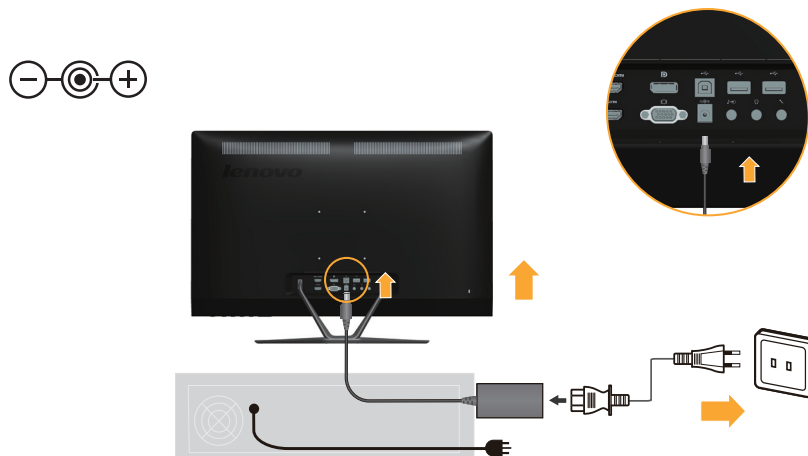
11. Power on the monitor and the computer.
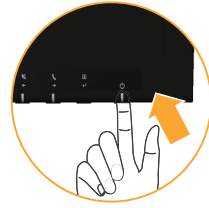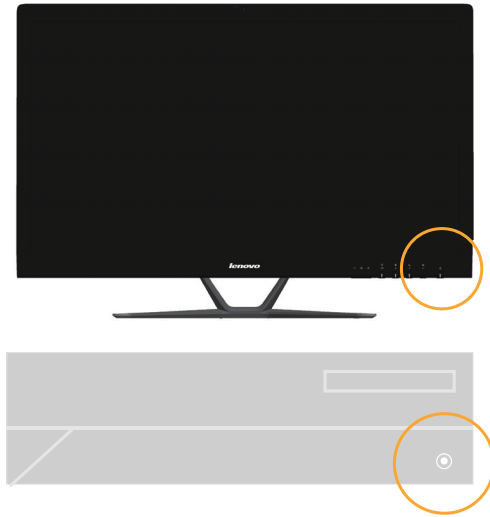
12. When you install the monitor driver, download the driver that corresponds to your monitor model from the Lenovo website www.lenovo.com/support/li2821w. Refer to the "Manually Install Monitor Driver" section to install the driver.

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.lenovo.com/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 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 510 mm to 760 mm (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 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 helping 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.

Adjusting your monitor image

This section describes the control features 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
1	✕	Microphone Mute/Un-mute Control	Turn on/off the integrated microphones
	↪	DDC-CI	Press and hold for 10 seconds to enable or disable the DDC-CI function
		Exit	Exit and return to previous level
2	☎	Call Answer/End	Answer/end Lync Call
	→	Increase/Right	Right browsing key For increasing the value on adjustment bar/tune in Press to move to next item
3	🔇	Speaker mute control	Turn on/off the speaker
	←	Decrease/Left	Left browsing key For decreasing the value on adjustment bar/tune in Press to move to last item
4	☰	Menu	To access OSD menu Press to confirm selection Press and hold for 10 seconds will lock menu/un-lock menu
	↵	Enter	Press to enter next level on main menu/sub menu status or enter previous level on adjustment bar
5	− ◁ +	Volume Up/Down	Press to control Speaker Volume up/down

Using the On-Screen Display (OSD) controls

To adjust the settings, the user controls can be viewed through the OSD.
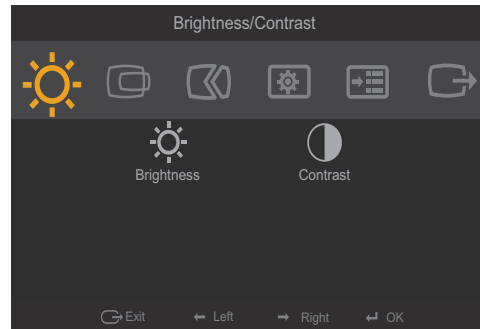
To use the controls:

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.

4. 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.

5. Enables DDC/CI by default. Use OSD Exit Key, Press and hold ⇥ for 10 seconds to disable / enable DDC/CI function. The words "DDC/CI disable" shows on the screen.

Table 2-2. OSD functions

OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments (Analog)		Controls and Adjustments (HDMI/MHL/DP)
☼ Brightness/ Contrast	☼ Brightness	Adjusts overall brightness	☼	☼	Same as Analog
	◑ Contrast	Adjusts difference between light and dark areas	○	◑	
▭ Image Position	▭ Horizontal Position	Moves the image left or right.	▭	▭	Controls Locked - not required for HDMI/MHL/DP input
	▱ Vertical Position	Moves the image up or down.	▱	▱	
◖Ⓞ Image Setup	◖Ⓞ Automatic	Optimizes image (size, position, phase and clock).			
	◲ Manual	Manually optimizes the image. See "Manual image setup"on page 3-4. • Clock • Phase • Save			
⚙ Image Properties	☁ Color	Adjusts intensity of red, green, and blue. Preset mode • Neutral • sRGB • Reddish • 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.			Same as Analog
	1⇄2 Input signal	This monitor can accept video signals through four different connectors. - Selects Analog - Selects HDMI - Selects HDMI/MHL - Selects DP			

OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments (Analog)	Controls and Adjustments (HDMI/MHL/DP)
⚙ Image Properties	⊕ Scaling	• Selects type of scaled image. • Original AR: same aspect ratio with input signal. • Full Screen: expand image to full screen.		Same as Analog
	✧ NOVO VISION	Screen prioritization.		
	⬚ PIP/PBP Setup	• PIP Mode: Enable Picture in Picture mode. • PBP Mode:Enable Picture by Picture mode PIP/PBP Source: Select secondary source. - Select Analog(VGA) - Select HDMI - Select HDMI/MHL - Select DP(Display Port) PIP Image Position: Select PiP window position. - Select Top-Left - Select Top-Right - Select Bottom-Left - Select Bottom-Right PIP Size: Select PiP window size: Small, Middle, Large. • Small: PIP image size is 1024x768. • Middle: PIP image size is 1280x1024. • Large: PIP image size is 1920x1080. PIP Contrast: Adjust PiP window contrast. PBP Ratio:Select PbP ratio 2:1,1:1,1:2.		

OSD Icon on Main Menu	Submenu	Description	Controls and Adjustments (Analog)	Controls and Adjustments (HDMI/MHL/DP)
⊞ Options	ⓘ Information	Shows resolution, refresh rate, and product details. **Note:** This screen does not allow any changes to the settings.	Same as Analog	
	○ Language	Changes languages of menu. **Note:** The language chosen only affects the language of the OSD. It has no effect on any software running on the computer.		
	⊞ Position	Adjusts menu location. Default Default returns the menu position to the default settings. Custom • Horizontal: Changes the horizontal position of the OSD. • Vertical: Changes the vertical position of the OSD. Save • Save the custom position choices.	Same as Analog	
	Ⓡ Reset	• Cancel • Reset Reset monitor to the original settings.		
	⏱ Accessibility	Changes button repeat rate and menu time-out setting. ⏱ Button repeat rate: Select ← or → to change. • Off • Default • Slow ⏲ Menu time out: Sets the length of time the OSD will remain active after the last time a button is pressed.		
	▷→ DP Select	Select DP 1.1 or 1.2. • DP 1.1 • DP 1.2.		
⤷ Exit		Exit from menu.		

Selecting a supported display mode

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

The image size, position and shape might be changed when the display mode changes. This is normal and the image can be re-adjusted 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 reattach the CRT monitor temporarily until you have re-configured the system; preferably to 1920 x 1080 at 60 Hz(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP),which is a common display mode.

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

Table 2-3. Factory set display modes

Timing	Refresh rate(Hz)
640x350	70 Hz
640x480	60 Hz
720x400	70 Hz
800x600	60 Hz
1024x768	60 Hz
1280x720	60 Hz
1280x768	60 Hz
1280x800	60 Hz
1280x1024	60 Hz
1360x768	60 Hz
1440x900	60 Hz
1600x900	60 Hz
1680x1050	60 Hz
1920x1080	60 Hz
1920x1200	60 Hz
3840x2160	30 Hz(HDMI,DP),60 Hz(DP)
480p (640x480)	60 Hz
480p (720x480)	60 Hz
576p	50 Hz
720p	50/60 Hz
1080i	50/60 Hz
1080p	50/60 Hz
1080p (for MHL)	30Hz

Image rotation

Before rotating the monitor, you should set-up your computer to rotate the image.
Rotating the image may require special rotation software or you may find that your
computer is preloaded with video graphic drivers that allow image rotation. Check
the Graphic Properties setting on your computer to see if this feature is available.
Try these steps to check if image rotation is available on your computer.

1. Right-click on the desktop and click Properties.
2. Select the Settings tab and click Advanced.
3. If you have ATI, select the Rotation tab and set the preferred rotation. If you have
    nVidia, click the nVidia tab, in the left-hand column select NV Rotate, and then
    select the preferred rotation. If you have Intel, select the Intel graphics tab, click
    Graphic Properties, select the Rotation tab, and then set the preferred rotation.
    Check with the manufacturer of your computer to see if graphic drivers with image
    rotation can be downloaded from their support website.

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.

State	Power Indicator	Screen	Restoring Operation	Compliance
On	White	Normal		
Standby/Suspend	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.

Detaching the monitor base and stand

Step 1: Place the monitor on a soft and flat surface.

Step 2: Remove the screws from base before detaching the base and stand from the monitor.
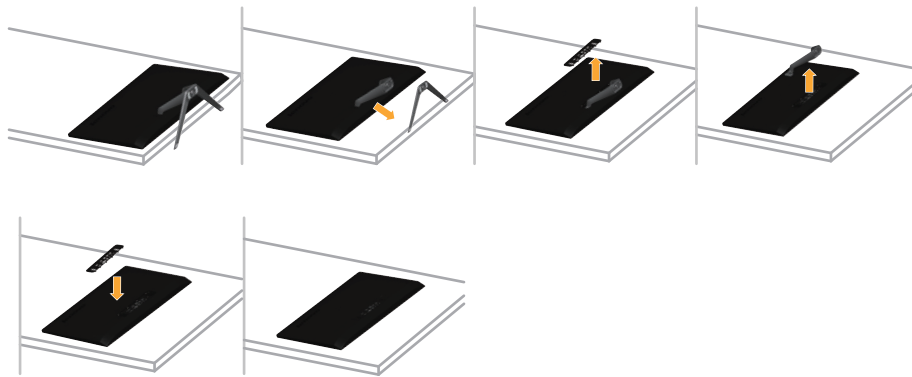
Wall Mounting (Optional)

Refer to the instructions that come with the base mounting kit. To convert your LCD display from a desk-mounted to a wall-mounted display, do the following:

Step 1: Verify that the Power button is turned Off, then disconnect the power cord.

Step 2: Lay the LCD display face down on a towel or blanket.

Step 3: Remove the base and stand from the monitor, refer to "Detaching the monitor base and stand"on page 2-11.

Step 4: Attach the mounting bracket from the VESA compatible wall mounting kit (100mm x100mm distance), the type of VESA mounting screw is M4 x 10 mm.

VESA hole
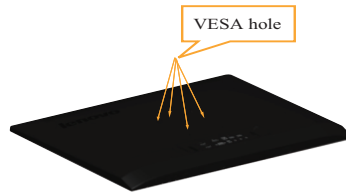
Step 5: Attach the LCD display to the wall, and follow the instructions in the wall-mounting kit.

For use only with UL Listed Wall Mount Bracket with minimum weight/load: 8kg.

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 LI2821wA

Dimensions	Depth	207.5 mm (8.17 in.)
	Height	459.1 mm (18.07 in.)
	Width	663.3 mm (26.11 in)
Stand	Tilt	Range: -5° ~ 22°
VESA mount	Supported	100 mm x 100 mm (3.94 in. x 3.94 in.)
Image	Viewable image size	709mm (28 in.)
	Maximum height	341.28 mm (13.43 in.)
	Maximum width	620.93 mm (24.34 in.)
	Pixel pitch	0.16 mm (0.006 in.)
AC/DC adapter	Model	FSP GROUP INC:FSP090-DIEBN2 DELTA ELECTRONICS INC: ADP-90MD H
	Rating	Input: 100-240V~,1.5A,50-60Hz Output: 19V ⎓, 4.74 A
Power consumption **Note:** Power consumption figures are for the monitor and the power supply combined	Normal operation	70W
	Standby/Suspend	<0.7W
	Off	<0.5W at 100Vac & 240Vac
	Note: without USB/ Webcam/external speaker	
Video input (Analog)	Input signal	Analog Direct Drive, 75 ohm 0.7V
	Horizontal addressability	1920 pixels (max)
	Vertical addressability	1200 lines (max)
	Clock frequency	205 MHz

Table 3-1. Monitor specifications for type-model LI2821wA

Video input DP (Digital)	Interface	DP
	Input signal	VESA TMDS (Panel Link™)
	Horizontal addressability	3840 pixels (max)
	Vertical addressability	2160 lines (max)
	Clock frequency	600 MHz
HDMI	nterface	HDMI
	Input signal	VESA TMDS (Panel Link™)
	Horizontal addressability	3840 pixels (max)
	Vertical addressability	2160 lines (max)
	Clock frequency	300 MHz
MHL	Interface	MHL
	Horizontal addressability	1920 pixels (max)
	Vertical addressability	1080 lines (max)
	Clock frequency	170 MHz
Communications	VESA DDC/CI	
Supported display modes	Horizontal frequency	30 kHz - 160 kHz
	Vertical frequency	28 Hz - 75 Hz
	Native Resolution	3840 x 2160 at 60 Hz(DP)
Temperature	Operating	0° to 40° C (32° to 104° F)
	Storage	-20° to 60° C (-4° to 140° F)
	Shipping	-20° to 60° C (-4° to 140° F)
Humidity	Operating	8% to 80% non-condensing
	Storage	5% to 95% non-condensing
	Shipping	5% to 95% non-condensing

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 white.	The system is set to a display mode which is not supported by the monitor.	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 2-8
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 1-6
	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 monitor's power switch is not switched on. • The power cord is loose or disconnected. • There is no power at the outlet.	• Be sure the power cord is connected properly. • Be sure the outlet has power. • Power on the monitor. • Try using another power cord. • Try using another electrical outlet.	"Connecting and turning on your monitor"on page 1-6
Screen is blank and power indicator is orange.	The monitor is in Standby/Suspend mode.	• 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 2-10

Table 3-2. Troubleshooting

Problem	Possible cause	Suggested action	Reference
The power indicator is orange, 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 1-6
	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 pixels appear discolored.	This is a characteristic of the LCD technology and is not an LCD defect.	If there are more than five pixels missing, contact the Support Center.	Appendix A."Service and Support"on page A-1
• Fuzzy lines in text or a blurry image. • Horizontal or vertical lines through the image.	• 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(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP)	"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 2-8
		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 system's 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 manual and press ↵ to access.

4. 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.

5. When the image no longer looks distorted, save the Clock and Phase adjustments.

6. Press ⤳ to leave the OSD menu.

Manually installing the monitor driver

Below are steps for manually installing the monitor driver in Microsoft Windows 7, Microsoft Windows 8, Microsoft Windows 8.1 and Microsoft Windows 10.

Installing the monitor driver in Windows 7

To use the Plug and Play feature in Microsoft Windows 7, do the following:

1. Turn off the computer, 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 7 operating system.
4. From the Lenovo website www.lenovo.com/support/li2821w, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).
5. Open the **Display Properties** window by clicking **Start, Control Panel and Hardware and Sound** icon. and then click the **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 **Driver** tab.
11. Click **Update Driver,** 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 **Hard Disk** button. By clicking the **Browse** button, browse and point to the following path:
    X:\Monitor Drivers\Windows 7
    (where **X** indicates "the folder in which the downloaded driver is located"
    (such as a desktop)).
14. Select the **"lenli2821wa.inf"** file and click the **Open** button. Click the **OK** button.
15. In the new window, select **LEN LI2821wA** and click **Next**.
16. After the installation is complete, delete all downloaded files and close all 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 60 Hz(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP) or 640 x 480 at a refresh rate of 60 Hz.

Installing the monitor driver in Windows 8

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

1. Turn off the computer, 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 operating system.

4. From the Lenovo website www.lenovo.com/support/li2821w, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).

5. On the Desktop, move mouse to bottom-right corner of screen, choose **Setting**, double click **Control Panel**, then double click the icon of **Hardware and Sound**, and then click **Display**.

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 **Driver** tab.

11. Click **Update Driver,** 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 **Hard Disk** button. By clicking the **Browse** button, browse and point to the following path:
    X:\Monitor Drivers\Windows 8
    (where **X** indicates "the folder in which the downloaded driver is located"
    (such as a desktop)).

14. Select the **"lenli2821wa.inf"** file and click the **Open** button. Click the **OK** button.

15. In the new window, select **LEN LI2821wA** and click **Next**.

16. After the installation is complete, delete all downloaded files and close all 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 60 Hz(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP) or 640 x 480 at a refresh rate of 60 Hz.

Installing the monitor driver in Windows 8.1

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

1. Turn off the computer, 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 8.1 operating system.

4. From the Lenovo website www.lenovo.com/support/li2821w, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).

5. On the Desktop, move mouse to bottom-right corner of screen, choose **Setting**, double click **Control Panel**, then double click the icon of **Hardware and Sound**, and then click **Display**.

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 **Driver** tab.

11. Click **Update Driver,** 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 **Hard Disk** button. By clicking the **Browse** button, browse and point to the following path:
    X:\Monitor Drivers\Windows 8.1
    (where **X** indicates "the folder in which the downloaded driver is located"
    (such as a desktop)).

14. Select the **"lenli2821wa.inf"** file and click the **Open** button. Click the **OK** button.

15. In the new window, select **LEN LI2821wA** and click **Next**.

16. After the installation is complete, delete all downloaded files and close all 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 60 Hz(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP) or 640 x 480 at a refresh rate of 60 Hz.

Installing the monitor driver in Windows 10

To use the Plug and Play feature in Microsoft Windows 10, do the following:

1. Turn off the computer, 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 10 operating system.

4. From the Lenovo website www.lenovo.com/support/li2821w, find the corresponding monitor driver and download it to a PC to which this monitor is connected (such as a desktop).

5. On the Desktop, move mouse to bottom-left corner of screen, right-click choose **Control Panel**, then double click the icon of **Hardware and Sound**, and then click **Display**.

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 **Driver** tab.

11. Click **Update Driver,** 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 **Hard Disk** button. By clicking the **Browse** button, browse and point to the following path:
    X:\Monitor Drivers\Windows 10
    (where **X** indicates "the folder in which the downloaded driver is located" (such as a desktop)).

14. Select the **"lenli2821wa.inf"** file and click the **Open** button. Click the **OK** button.

15. In the new window, select **LEN LI2821wA** and click **Next**.

16. After the installation is complete, delete all downloaded files and close all 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 60 Hz(VGA),3840 x 2160 at 30Hz(HDMI), 3840 x 2160 at 60Hz(DP) 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 Support Center, please see Appendix A."Service and Support"on page A-1.

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

Country or Region	Telephone Number
China	800-810-8888 400-810-8888
South Africa	800982393
Argentina	0800-444-2722(Spanish)
Australia	1300-557-073
Austria	800295730(German)
Belgium	80076524(French, Dutch)
Bolivia	800-100-764(Spanish)

Appendix B. Notices

Lenovo may not offer the products, services, or features discussed in this document in all countries. Consult your local Lenovo representative for information on the products and services currently available in your area. Any reference to a Lenovo product, program, or service is not intended to state or imply that only that Lenovo product, program, or service may be used. Any functionally equivalent product, program, or service that does not infringe any Lenovo intellectual property right may be used instead.
However, it is the user 's responsibility to evaluate and verify the operation of any other product, program, or service.

Lenovo may have patents or pending patent applications covering subject matter described in this document. The furnishing of this document does not give you any license to these patents. You can send license inquiries, in writing, to:

Lenovo (United States), Inc.
1009 Think Place - Building One
Morrisville, NC 27560
U.S.A.
Attention: Lenovo Director of Licensing

LENOVO PROVIDES THIS PUBLICATION "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Some jurisdictions do not allow disclaimer of express or implied warranties in certain transactions, therefore, this statement may not apply to you.

This information could include technical inaccuracies or typographical errors. Changes are periodically made to the information herein; these changes will be incorporated in new editions of the publication. Lenovo may make improvements and/or changes in the product(s) and/or the program(s) described in this publication at any time without notice.

The products described in this document are not intended for use in implantation or other life support applications where malfunction may result in injury or death to persons. The information contained in this document does not affect or change Lenovo product specifications or warranties. Nothing in this document shall operate as an express or implied license or indemnity under the intellectual property rights of Lenovo or third parties. All information contained in this document was obtained in specific environments and is presented as an illustration. The result obtained in other operating environments may vary.

Lenovo may use or distribute any of the information you supply in any way it believes appropriate without incurring any obligation to you.

Any references in enovo Web sites are provided for convenience only and do not in any manner serve as an endorsemthis publication to non-Lent of those Web sites. The materials at those Web sites are not part of the materials for this Lenovo product, and use of those Web sites is at your own risk.

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。

重金属を含む内部部品の廃棄処理について

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 http://www.lenovo.com/recycling/japan. 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 http://www.lenovo.com/recycling/japan.

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.

Trademarks

The following terms are trademarks of Lenovo in the United States, other countries, or both:
  Lenovo
  The Lenovo logo
  ThinkCenter
  ThinkPad
  ThinkVision
Microsoft, Windows, and Windows NT are trademarks of the Microsoft group of companies.

Other company, product, or service names may be trademarks or service marks of others.