

# Lenovo 3000 C100

## Service and Troubleshooting Guide

*Includes:*

- **Introduction to other sources of information**
- **Important tips for taking care of your computer**
- **Diagnostics and troubleshooting**
- **Recovery options**
- **Help and service**
- **Warranty information for your computer**



# Lenovo 3000 C100

## Service and Troubleshooting Guide

**Note**

Before using this information and the product it supports, be sure to read the following:

- *Safety and Warranty Guide* included in the package with this publication.
- Appendix D, "Wireless related information," on page 47 and Appendix E, "Notices," on page 49.
- *Lenovo 3000 Regulatory Notice* included in the package with this publication.

**First Edition (December 2005)**

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## Read first

To prevent damage to the hard disk and subsequent data loss, before moving your computer, press Fn+F4 to put it in standby mode or turn it off. Make sure that the standby status indicator is blinking before moving the computer.

Do not drop, bump, scratch, twist, hit, vibrate, push or place heavy objects on your computer, display, or external devices.

Use a quality carrying case that provides adequate cushion and protection. Do not pack your computer in a tightly packed suitcase or bag.

Place liquids away from your computer to avoid spills, and keep your computer away from water to avoid the danger of electrical shock.

Avoid leaving the base of your computer in contact with your lap or any part of your body for an extended period when the computer is turned on or when the battery is charging.





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# Chapter 1. Finding information

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## This guide and other publications

### Setup Instructions

helps you to unpack your computer and get started. It includes a few tips for first-time users, and introduces software preinstalled by Lenovo.

### *This Service and Troubleshooting Guide*

provides information about caring for your computer, basic troubleshooting information, some recovery procedures, help and service information, and warranty information for your computer. The troubleshooting information in this Guide applies only to problems that might prevent you from accessing the comprehensive help and information portal, called **Lenovo Care™**, preloaded on your computer.

### Access Help

is a comprehensive online manual that provides answers to most of your questions about your computer, helps you to configure preloaded features and tools, or solve problems. To open Access Help, click **Start**, move the pointer to **All Programs**; then to **Lenovo Care**. Click **Access Help**.

### Lenovo Care

provides an easy access to software tools and key Lenovo sites, eliminating the need to carry other reference manuals around. To open Lenovo Care, press the Lenovo Care button on your keyboard. For more information about using the Lenovo Care button, see "Finding information with the Lenovo Care button" on page 2.

### Safety and Warranty Guide

includes general safety instructions and complete Lenovo Statement of Limited Warranty.

### Regulatory Notice

supplements this Guide. Read it before you use the wireless features of your computer. Your computer complies with the radio frequency and safety standards of any country or region in which it has been approved for wireless use. You are requested to install and use your computer in strict accordance with the local RF regulations.

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## Finding information with the Lenovo Care button

The Lenovo Care button can help you in many situations when your computer is working normally, and even when it is not. Press the Lenovo Care button to open the Lenovo Care and get access to informative illustrations and easy-to-follow instructions for getting started and staying productive.

You can also use the Lenovo Care button to interrupt the startup sequence of your computer and start the ThinkVantage Rescue and Recovery workspace, which runs independently of the Windows operating system and is hidden from it.

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## Chapter 2. Caring for your computer

Though your computer is designed to function reliably in normal work environments, you need to use common sense in handling it. By following these important tips, you will get the most use and enjoyment out of your computer.

### **Important tips:**

#### **Be careful about where and how you work**

- Do not leave the base of your computer in contact with your lap or any part of your body for an extended period when the computer is functioning or when the battery is charging. Your computer dissipates some heat during normal operation. This heat is a function of the level of system activity and battery charge level. Extended contact with your body, even through clothing, could cause discomfort or, eventually, a skin burn.
- Place liquids away from your computer to avoid spills, and keep your computer away from water (to avoid the danger of electrical shock).
- Store packing materials safely out of the reach of children to prevent the risk of suffocation from plastic bags.
- Keep your computer away from magnets, activated cellular phones, electrical appliances, or speakers (within 13 cm/5 in).
- Avoid subjecting your computer to extreme temperatures (below 5°C/41°F or above 35°C/95°F).

#### **Be gentle with your computer**

- Avoid placing any objects (including paper) between the display and the keyboard or under the keyboard.
- Do not drop, bump, scratch, twist, hit, vibrate, push, or place heavy objects on your computer, display, or external devices.
- Your computer display is designed to be opened and used at an angle slightly greater than 90 degrees. Do not open the display beyond 180 degrees, as this might damage the computer hinge.

#### **Carry your computer properly**

- Before moving your computer, be sure to remove any media, turn off attached devices, and disconnect cords and cables.
- Be sure your computer is in standby or hibernation mode, or turned off, before moving it. This will prevent damage to the hard disk drive and data loss.

- When picking up your open computer, hold it by the bottom. Do not pick up or hold your computer by the display.
- Use a quality carrying case that provides adequate cushion and protection. Do not pack your computer in a tightly packed suitcase or bag.

### **Handle storage media and drives properly**

- If your computer comes with an optical drive such as CD, DVD, or CD-RW/DVD drive, do not touch the surface of a disc or the lens on the tray.
- Wait until you hear the CD or DVD click into the center pivot of an optical drive such as CD, DVD, or CD-RW/DVD drive before closing the tray.
- When installing your hard disk, diskette, CD, DVD, or CD-RW/DVD drive, follow the instructions shipped with your hardware, and apply pressure only where needed on the device.

### **Take care in setting passwords**

- Remember your passwords. If you forget a supervisor or hard disk password, Lenovo authorized service provider will not reset it, and you might have to replace your system board or hard disk drive.

### **Other important tips**

- Your computer modem might use only an analog telephone network, or public-switched telephone network (PSTN). Do not connect the modem to a PBX (private branch exchange) or any other digital telephone extension line because this could damage your modem. Analog phone lines are often used in homes, while digital phone lines are often used in hotels or office buildings. If you are not sure which kind of phone line you are using, contact your telephone company.
- Your computer might have both an Ethernet connector and a modem connector. If so, be sure to connect your communication cable to the correct one, so your connector is not damaged.
- Register your Lenovo products with Lenovo (refer to the Web page: [www.lenovo.com/register](http://www.lenovo.com/register)). This can help authorities return your computer to you if it is lost or stolen. Registering your computer also enables Lenovo to notify you about possible technical information and upgrades.
- Only an authorized Lenovo notebook repair technician should disassemble and repair your computer.
- Do not modify or tape the latches to keep the display open or closed.
- Take care not to turn your computer over while the ac adapter is plugged in. This could break the adapter plug.
- Store your external and removable hard disk, diskette, CD, DVD, and CD-RW/DVD drives in the appropriate containers or packaging when they are not being used.

- Before you install any of the following devices, touch a metal table or a grounded metal object. This action reduces any static electricity from your body. The static electricity could damage the device.
  - PC Card
  - Smart Card
  - Memory Card, such as SD Card, Memory Stick, and MultiMedia Card
  - Memory module

### **Cleaning the cover of your computer**

Occasionally clean your computer as follows:

1. Prepare a mixture of a gentle kitchen-use detergent (one that does not contain abrasive powder or strong chemicals such as acid or alkaline). Use 5 parts water to 1 part detergent.
2. Absorb the diluted detergent into a sponge.
3. Squeeze excess liquid from the sponge.
4. Wipe the cover with the sponge, using a circular motion and taking care not to let any excess liquid drip.
5. Wipe the surface to remove the detergent.
6. Rinse the sponge with clean running water.
7. Wipe the cover with the clean sponge.
8. Wipe the surface again with a dry, soft lint-free cloth.
9. Wait for the surface to dry completely and remove any cloth fibers from the computer surface.

### **Cleaning your computer keyboard**

1. Absorb some isopropyl rubbing alcohol on a soft, dust-free cloth.
2. Wipe each keytop surface with the cloth. Wipe the keys one by one; if you wipe several keys at a time, the cloth may hook onto an adjacent key and possibly damage it. Make sure that no liquid drips onto or between the keys.
3. Allow to dry.
4. To remove any crumbs and dust from beneath the keys, you can use a camera blower with a brush or cool air from a hair drier.

**Note:** Avoid spraying cleaner directly on the display or the keyboard.

### **Cleaning your computer display**

1. Gently wipe the display with a dry, soft lint-free cloth. If you see a scratchlike mark on your display, it might be a stain transferred from the keyboard when the cover was pressed from the outside.

## *Caring for your computer*

2. Wipe or dust the stain gently with a soft, dry cloth.
3. If the stain remains, moisten a soft, lint-free cloth with water or a 50-50 mixture of isopropyl alcohol and water that does not contain impurities.
4. Wring out as much of the liquid as you can.
5. Wipe the display again; do not let any liquid drip into the computer.
6. Be sure to dry the display before closing it.

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## Chapter 3. Solving computer problems

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## Frequently asked questions

This section lists frequently asked questions and tells where you can find detailed answers. For details about each publication included in the package with your computer, see “This guide and other publications” on page 1.

### **What safety precautions should I follow when using my computer?**

See the separate Safety and Warranty Guide for detailed information about safety.

### **How can I prevent problems with my computer?**

See “Read first” on page v, and also Chapter 2, “Caring for your computer,” on page 3 of this Guide. More tips can be found in the following sections of the Access Help:

- Preventing problems

### **What are the main hardware features of my new computer?**

See the “Lenovo 3000 tour” section of the Access Help.

### **Where can I find the detailed specifications for my machine?**

See [www.lenovo.com/support](http://www.lenovo.com/support)

### **I need to upgrade a device *or* I need to replace one of the following: the hard disk drive, memory, or the keyboard.**

Refer to the Appendix B, “Customer Replaceable Units (CRUs),” on page 41 section of this Guide for the list of Customer Replaceable Units and the location of the instructions for removing or replacing components.



**My computer is not operating properly.**

Study the "Problem solving " section of the Access Help. This Guide describes only problems that might prevent you from getting access to the online help system.

**How can I contact the Customer Support Center?**

See Chapter 6, "Getting help and service," on page 31 of this Guide. For the phone numbers of the Customer Support Center nearest to you, see "Worldwide telephone list" on page 37.

**Where can I find warranty information?**

See the separate Safety and Warranty Guide for detailed warranty information. For the warranty applicable to your computer, including the warranty period and type of warranty service, see "Warranty Information" on page 35.

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## Diagnosing problems

If you have a problem with your computer, you can test it by using PC-Doctor® for Windows. To run PC-Doctor for Windows, do as follows:

1. Click **Start**.
2. Move the pointer to **All Programs** and then to **PC-Doctor for Windows**.
3. Click **PC-Doctor**.
4. Choose one of the tests from either **Device Categories** or **Test Scripts**.

### Attention

Running any tests may take up to several minutes or longer. Make sure you have time to run the entire test; do not interrupt the test while it is running.

The **System Test** of the **Test Scripts** runs some tests of critical hardware components, but it does not run all of the diagnostic tests in PC-Doctor for Windows. If PC-Doctor for Windows reports that all of the tests in the **System Test** have been run and that it has found no problems, consider running more of the tests in PC-Doctor for Windows.

If you are preparing to contact the Customer Support Center, be sure to print the test log so that you can rapidly provide information to the help technician.

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## Troubleshooting

If you do not find your problem here, refer to Access Help, your on-board help system. The following section only describes problems that might prevent you from accessing this help system.

### Error messages

**Note:** In the charts, x can be any character.

Beep code	Message	Description
short, short, short; short, short, long	FAULTY DMA PAGE REGISTERS	The DMA page registers do not function properly.
short, short, short; short, long, short	FAULTY REFRESH CIRCUIT	The RAM refresh circuit does not function properly.
short, short, short; short, long, long	ROM CHECKSUM INCORRECT	The BIOS ROM checksum failed.
short, short, short; long, short, short	CMOS RAM TEST FAILED	The CMOS RAM test failed.

Beep code	Message	Description
short, short, short; long, short, long	DMA CONTROLLER FAULTY	The DMA controller does not work properly.
short, short, short; long, long, short	INTERRUPT CONTROLLER FAILED	The interrupt controller does not work properly.
short, short, short; long, long, long	N/A	The keyboard controller failed to respond to the self-test command.
short, short, long; short, short, short	N/A	No video device was found.
short, short, long; short, short, long	N/A	No RAM was installed.
N/A	KEYBOARD CONTROLLER FAILURE	The Keyboard controller failed during a system inquiry about connected devices.
N/A	KEYBOARD FAILURE	The keyboard fails to respond, or no keyboard is connected.
N/A	CMOS FAILURE - RUN SCU	A CMOS data error has occurred, probably because of a loss of battery power.
N/A	CMOS CHECKSUM INVALID - RUN SCU	The CMOS checksum error.
N/A	RAM ERROR AT LOCATION xxxxxx: WROTE :xxxx READ :xxxx	The RAM failed during a memory test at the indicated location.
N/A	PARITY ERROR AT UNKNOWN LOCATION	A parity error occurred during a memory test at an unknown location.
N/A	PARITY ERROR AT LOCATION xxxxxx	Parity error during memory test at the indicated location.
N/A	FAULTY REFRESH CIRCUIT	The RAM refresh circuit does not function properly.
N/A	PARITY ERROR AT LOCATION xxxxxx	A parity error occurred during a memory test at the location specified.
N/A	NO INTERRUPTS FROM TIMER 0	Timer 0 of the clock timer controller does not generate system interrupts correctly.

Beep code	Message	Description
N/A	UNEXPECTED AMOUNT OF MEMORY - RUN SCU	The size of the system memory does not match with the CMOS record.
N/A	CLOCK NOT TICKING CORRECTLY	The system clock is not working correctly.
N/A	TIME/DATE CORRUPT - RUN SCU	The time/date information in CMOS is invalid.
N/A	MACHINE IS LOCKED - TURN KEY	The keyboard is locked.
N/A	BOOT SECTOR 0 HAS CHANGED	The boot sector of the hard disk has been changed, probably because of a virus attack.
N/A	Suspend-to-Disk partition MISSING!	No Suspend-to-Disk partition was found.
N/A	Hard Disk ERROR!	Access to the Suspend-to-Disk partition failed
N/A	Suspend-to-Disk partition signature NOT FOUND!	No Suspend-to-Disk partition signature was found.
N/A	Suspend-to-Disk partition size TOO SMALL!	The capacity of the Suspend-to-Disk partition is not adequate.
N/A	MEMORY SIZE HAS CHANGED -- REBOOTING	The memory size has changed since the preceding Suspend-to- Disk operation.

## Errors without messages

### Problem:

When I turn on the machine, nothing appears on the screen and the machine does not beep while starting up.

**Note:** If you are not sure whether you heard any beeps, turn off the computer; then turn it on again, and listen again. If you are using an external monitor, refer to “Computer screen problems” on page 17.

### Solution:

→ If a power-on password is set, press any key to display the power-on password prompt, and then type the correct password and press Enter.

If the power-on password prompt does not appear, the brightness level might be set to minimum brightness. Adjust the brightness level by pressing Fn+F11.

If the screen still remains blank, make sure that:

- The battery is installed correctly.
- The ac adapter is connected to the computer and the power cord is plugged into a working electrical outlet.
- The computer power is on. (Turn on the power switch again for confirmation.)

If these items are properly set, and the screen remains blank, have the computer serviced.

**Problem:**

When I turn on the machine, nothing appears on the screen, but I hear two or more beeps.

**Solution:**

→ Make sure that the memory card is installed correctly. If it is, but the screen is still blank, and you hear five beeps, have the computer serviced.

**Problem:**

When I turn on the machine, only a white pointer appears on a blank screen.

**Solution:**

→ Reinstall your operating system, and turn on the computer. If you still see only the pointer on the screen, have the computer serviced.

**Problem:**

My screen goes blank while the computer is on.

**Solution**

→ Your screen saver or power management may be enabled. Touch the touch pad, or press a key to exit the screen saver, or press the power switch to resume from standby or hibernation mode.

## **A password problem**

**Problem:**

I forgot my password.

### Solution

- If you forgot your power-on password, you must take your computer to a Lenovo authorized servicer or a marketing representative to have the password canceled.
- If you forgot your HDD password, Lenovo authorized servicer can not reset your password or recover data from the hard disk. You must take your computer to a Lenovo authorized servicer or a marketing representative to have the hard disk drive replaced. Proof of purchase is required, and a fee will be charged for parts and service.
- If you forget your supervisor password, Lenovo authorized servicer cannot reset your password. You must take your computer to a Lenovo authorized servicer or a marketing representative to have the system board replaced. Proof of purchase is required, and a fee will be charged for parts and service.

### A power switch problem

#### Problem:

The system does not respond, and you cannot turn off the computer.

#### Solution:

- Turn off the computer by pressing and holding the power switch for 4 seconds or more. If the computer is still not reset, remove the ac adapter and the battery.

### A keyboard problem

#### Problem:

A number appears when you type a letter.

#### Solution

- The numeric lock function is on. To disable it, press and hold Fn; then press NmLk.

### A pointing device problem

#### Problem:

The mouse or the pointing device does not work.

#### Solution:

- Make sure that the mouse or pointing-device cable is securely connected to the USB port.

**Note:** For more information, see the manual supplied with the mouse or pointing-device.

### Standby or hibernation problems

#### Problem:

The computer enters standby mode unexpectedly.

**Solution:**

→ If the processor overheats, the computer automatically enters standby mode to allow the computer to cool and to protect the processor and other internal components.

**Problem:**

The computer enters standby mode immediately after Power-on self-test (POST) (the standby indicator light blinks).

**Solution:**

- Make sure that:
  - The battery is charged.
  - The operating temperature is within the acceptable range. Refer to “Specifications” on page 46.

If these items are correct, have the computer serviced.

**Problem:**

The critical low-battery message is displayed, and the computer immediately turns off.

**Solution:**

→ The battery power is getting low. Connect the ac adapter to the computer, or replace the battery with a fully charged one.

**Problem:**

When you take action to return from standby mode, the computer display remains blank.

**Solution:**

→ Check whether an external monitor was disconnected while the computer was in standby mode. Do not disconnect the external monitor while the computer is in standby mode or hibernation mode. If no external monitor is attached when the computer resumes, the computer display remains blank and output is not displayed. This restriction does not depend on the resolution value. Press Fn+F7 to bring up the computer display.

**Problem:**

The computer does not return from standby mode, or the power and standby indicator is blinking and the computer does not work.

**Solution:**

- If the system does not return from standby mode, it may have entered standby or hibernation mode automatically because the battery is depleted. Check the standby indicator.
- If the standby indicator is blinking, your computer is in standby mode. Connect the ac adapter to the computer; then press Fn.
- If the standby indicator is off, your computer is in hibernation mode or power-off state. Connect the ac adapter to the computer; then press power button to resume operation.

If the system still does not return from standby mode, your system may stop responding and you cannot turn off the computer. In this case, you need to reset the computer. If you have not saved your data, it may be lost. To reset the computer, press and hold the power button for 4 seconds or more. If the system is still not reset, remove the ac adapter and the battery.

**Problem:**

Your computer does not enter standby or hibernation mode.

**Solution:**

- Check whether any option has been selected that would disable your computer from entering standby or hibernation mode.

**Problem:**

The Fn+F12 key combination does not cause the computer to enter hibernation mode.

**Solution:**

- The computer cannot enter hibernation mode:
  - If you are using one of the communication PC Cards. To enter hibernation mode, stop the communication program, and then remove the PC Card or disable the PC Card slot. Click the **Safely Remove Hardware** icon in the taskbar.
  - If the hibernation mode is not enabled. To enable it, do as follows:
    1. Click **Start**.
    2. Click Control Panel; then click Performance and maintenance.
    3. Click Power options. Power options properties window opens; click the **Hibernate** tab.
    4. Select the **Enable hibernation** checkbox.
    5. Click **OK**.

**Note:** If you want to be able to enter hibernation mode by pressing Fn+F12, you need to install Lenovo PM driver.



## Computer screen problems

### Problem:

The screen is blank.

### Solution:

→ Press Fn+F7 to bring up the image.

**Note:** If you use the Fn+F7 key combination to apply a presentation scheme, press Fn+F7 at least three times in three seconds, and the image is displayed on the computer screen.

→ If you are using the ac adapter, or using the battery, and the battery status indicator is on (is green), press Fn+F11 to make the screen brighter.

→ If the standby status indicator is blinking, press Fn to resume from the standby mode.

→ If the problem persists, do the Solution in the problem below.

### Problem:

The screen is unreadable or distorted.

### Solution:

→ Make sure that:

- The display device driver is installed correctly.
- The screen resolution and color quality are correctly set.
- The monitor type is correct.

To check these settings, do as follows:

Open the Display Properties window.

1. Click the **Settings** tab.
2. Check whether the screen resolution and color quality are correctly set.
3. Click **Advanced**.
4. Click the **Adapter** tab.
5. Make sure "Intel xxxxx" is shown in the adapter information window.

**Note:** The device driver name xxxxx depends on the video chip that has been installed on your computer.

6. Click the **Properties** button. Check the "Device status" box and make sure the device is working properly. If not, click the **Troubleshoot** button.
7. Click the **Monitor** tab.
8. Make sure the information is correct.

9. Click the **Properties** button. Check the "Device status" box and make sure the device is working properly. If not, click the **Troubleshooter** button.

**Problem:**

The screen stays on even after you turn off your computer.

**Solution:**

- Press and hold the power switch for 4 seconds or more to turn off your computer; then turn it on again.

**Problem:**

Missing, discolored, or bright dots appear on the screen every time you turn on your computer.

**Solution:**

- This is an intrinsic characteristic of the TFT technology. Your computer's display contains multiple thin-film transistors (TFTs). A small number of missing, discolored, or bright dots on the screen might exist all the time.

**Problem:**

A message, "Unable to create overlay window," appears when you try to start DVD playback.

*or*

You get poor or no playback while running video playback, DVD playback, or game applications.

**Solution**

- Do either of the following:
  - If you are using 32-bit color mode, change the color depth to 16-bit mode.
  - If you are using a desktop size of 1280×1024 or larger, reduce the desktop size and the color depth.

## Battery problems

**Problem:**

The battery cannot be fully charged by the power-off method in the standard charge time for your computer.

**Solution:**

- The battery might be over-discharged. Do the following:
  1. Turn off the computer.
  2. Make sure that the over-discharged battery is in the computer.

3. Connect the ac adapter to the computer and let it charge.  
If the battery cannot be fully charged in 24 hours, use a new battery.

**Problem:**

Your computer shuts down before the battery status indicator shows empty.

*or*

Your computer operates after the battery status indicator shows empty.

**Solution:**

- Discharge and recharge the battery.

**Problem:**

The operating time for a fully charged battery is short.

**Solution:**

- Discharge and recharge the battery. If your battery's operating time is still short, use a new battery.

**Problem:**

The computer does not operate with a fully charged battery.

**Solution:**

- The surge protector in the battery might be active. Turn off the computer for one minute to reset the protector; then turn on the computer again.

**Problem**

The battery does not charge.

**Solution**

- You cannot charge the battery when it is too hot. If the battery feels hot, remove it from the computer and allow it to cool to room temperature. After it cools, reinstall it and recharge the battery. If it still cannot be charged, have it serviced.

## Hard disk drive problems

**Problem:**

The hard disk drive makes a rattling noise intermittently.

**Solution:**

- The rattling noise might be heard when:
  - The hard disk drive starts accessing the data or when it stops.

- You are carrying the hard disk drive.
- You are carrying your computer.

This is a normal characteristic of a hard disk drive and is not a defect.

**Problem:**

The hard disk drive does not work.

**Solution:**

→ In the Boot menu in the BIOS Utility, make sure that the hard disk drive is included in the Boot Sequence correctly.

### A startup problem

**Problem:**

The Microsoft® Windows operating system will not start.

**Solution:**

→ Use the Rescue and Recovery workspace to help solve or identify your problem. To open the Rescue and Recovery workspace, do the following:

1. Turn off your PC for at least 5 seconds, then turn it on again.
2. Watch the screen carefully while your PC starts. While the initial screen is displayed, press the Lenovo Care™ button. The Rescue and Recovery workspace opens.
3. From the Rescue and Recovery workspace, you can do the following:
  - **Rescue and Restore** your files, folders, or backups.
  - **Configure** your system settings and passwords.
  - **Communicate** by using the internet and link to the support site.
  - **Troubleshoot** and diagnose problems using diagnostics.

In the top panel of the Rescue and Recovery workspace, you can click one of the following tabs to open other pages or exit the utility:

- **Event Viewer** enables you to view a log that contains information about events, or tasks, associated with Rescue and Recovery operations.
- **System Information** enables you to see key hardware and software information about your computer. This information might be valuable when trying to diagnose problems.
- **Warranty Status** enables you to see when your warranty expires, the terms of service for your computer, or the spare parts list.
- **Help** provides information about the various functions available in the Rescue and Recovery workspace.

- **Restart** closes the Rescue and Recovery workspace and resumes the startup sequence that was interrupted.

## **Other problems**

### **Problem:**

The computer locks or does not accept any input.

### **Solution:**

→ Your computer might lock when it enters standby mode during a communication operation. Disable the standby timer when you are working on the network.

To turn off the computer, press and hold the power switch for 4 seconds or more.

### **Problem:**

The computer does not start from a device you want.

### **Solution:**

→ Refer to the Startup menu of the BIOS Utility. Make sure that the Boot Sequence in the BIOS Utility is set so that the computer starts from the device you want.

Also make sure that the device from which the computer starts is enabled. In the Boot menu in the BIOS Utility, make sure that the device is included in the Boot Sequence correctly.

### **Problem:**

The computer can not play a CD, or the sound quality is not good.

### **Solution:**

→ Be sure that the disk meets the standards for your country. Usually, a disk that meets the local standards is marked with a CD logo on the label. If you use a disc that does not meet these standards, we cannot guarantee that it will play, or that, if it does play, the sound quality will be good.



### **Problem:**

You cannot connect using the built-in wireless networking card.

### **Solution:**

- If the computer display is closed, open it and try again.

**Problem:**

An application does not run correctly.

**Solution:**

- Make sure that the problem is not being caused by the application.
- Check that your computer has the minimum required memory to run the application. Refer to the manuals supplied with the application.
- Check the following:
  - The application is designed to operate with your operating system.
  - Other applications run correctly on your computer.
  - The necessary device drivers are installed.
  - The application works when it is run on some other computer.
- If an error message appears while you are using the application program, refer to the manuals supplied with the application.

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## Chapter 4. Recovery options

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### Introducing Rescue and Recovery

If Windows is not running properly, you may need to do the following:

- Get the current system information.
- Diagnose and troubleshoot a problem.
- Rescue a file from your Windows environment or restore backed-up files, provided you have made backups by use of the ThinkVantage Rescue and Recovery program.
- Configure your computer.

All this can be achieved from the ThinkVantage Rescue and Recovery workspace. To start ThinkVantage Rescue and Recovery, turn on the computer and while the initial screen is displayed press the Lenovo Care button. For more information about using Rescue and Recovery features, see the “Recovery overview” section of the Access Help.

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### Restoring factory contents

Instead of providing a recovery CD or a Windows® CD with your computer, Lenovo provides simpler methods of accomplishing the tasks typically associated with these CDs. The files and programs for these alternative methods are on your hard disk, which eliminates having to locate misplaced CDs and problems associated with using an incorrect CD version.

The complete backup of all the files and programs that Lenovo preinstalled on your computer resides in a hidden protected area, or partition, of the hard disk. Although hidden, the backups in the partition consume hard disk space. Therefore, when checking the capacity of your hard disk according to Windows, you might note that the total capacity of the disk appears to be smaller than anticipated. This discrepancy is explained by the contents of the hidden partition.

The Product Recovery Program contained within this area enables you to restore the complete contents of your hard disk to the same state as it was when originally shipped from the factory.

To recover the hard disk to its original contents, do the following:

**Note:** When you recover your system, you need to select the On position of the wireless radio switch on the computer. If you forget to select the On

## Recovering pre-installed software

position of the wireless radio switch, your wireless network card will not be recognized, and the wireless card driver will not be included in your system.

**Note:** The recovery process might take up to 2 hours.

**Attention:** All of the files on the primary hard disk partition (usually drive C) will be lost in the recovery process. However, before any data is overwritten, you will be given the opportunity to save one or more files to other media.

1. If possible, save all your files and shut down your operating system.
2. Turn off your computer for at least 5 seconds.
3. Turn on your computer. Watch the display carefully while your PC starts. While the initial screen is displayed, press the Lenovo Care button. The ThinkVantage Rescue and Recovery workspace opens.
4. Click **Restore your system**, select **Restore my hard drive to the original factory state**, and follow the instructions on the screen.

---

## Recovering data

If you performed a backup operation using the Rescue and Recovery program, you also have one or more backups stored that reflect the contents of the hard disk as it existed at various points in time. These backups might be stored on your hard disk, or a network drive, or on removable media, depending on the options you selected during the backup operation.

You can use either the Rescue and Recovery program or the ThinkVantage Rescue and Recovery workspace to restore the contents of the hard disk to an earlier state using any of the stored backups. The ThinkVantage Rescue and Recovery workspace runs independently of the Windows operating system. Therefore, you can start it by pressing the Lenovo Care button when prompted during startup.

After the ThinkVantage Rescue and Recovery workspace opens you can perform a recovery operation, even if you are unable to start Windows.



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## Chapter 5. Upgrading and replacing devices

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### Replacing the battery

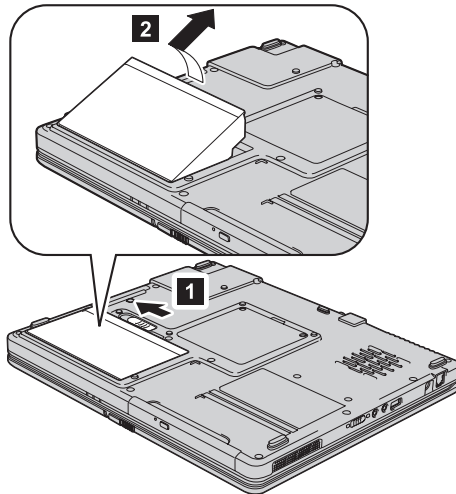
**Important**

Read *Safety and Warranty Guide* before replacing the battery.

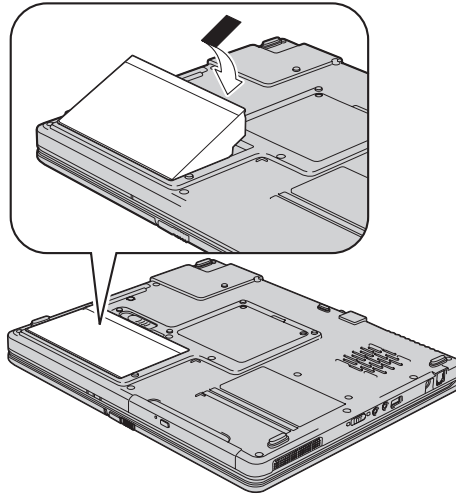
1. **Turn off the computer, or enter hibernation mode.** Then disconnect the ac adapter and all cables from the computer.

**Note:** If you are using a PC Card, the computer might not be able to enter hibernation mode. If this happens, turn off the computer.

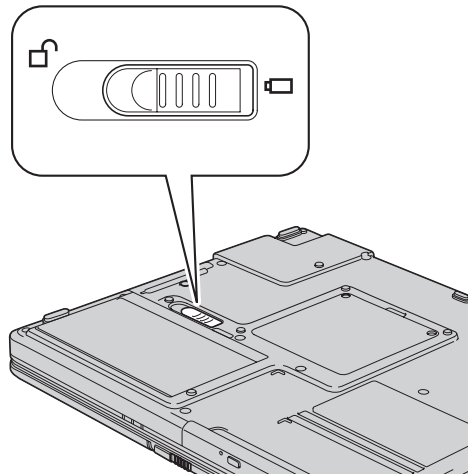
2. Close the computer display, and turn the computer over.
3. Unlock the battery latch by sliding it to the unlocked position **1** until the battery lifts up. Then, remove the battery **2**.



4. Align the front of a fully charged battery with the computer first and press firmly until you hear a click.



5. Make sure that the battery latch is in the locked position.



6. Turn the computer over again. Connect the ac adapter and the cables to the computer.

---

## Upgrading the hard disk drive

**Important**

Read *Safety and Warranty Guide* before replacing the hard disk drive.

You can increase the storage capacity of your computer by replacing the hard disk drive with one of greater capacity. You can purchase a new hard disk drive from your reseller or Lenovo marketing representative.

### Notes:

1. Replace the hard disk drive only if you upgrade it or have it repaired. The connectors and bay of the hard disk drive were not designed for frequent changes, or drive swapping.
2. The Rescue and Recovery workspace and the Product Recovery program are not included on an optional hard disk drive.

### Attention

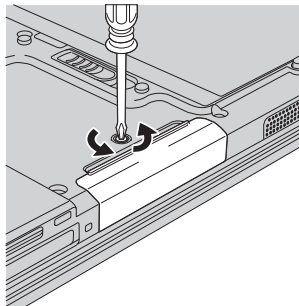
#### Handling a hard disk drive

- Do not drop the drive or subject it to physical shocks. Put the drive on a material, such as soft cloth, that absorbs the physical shock.
- Do not apply pressure to the cover of the drive.
- Do not touch the connector.

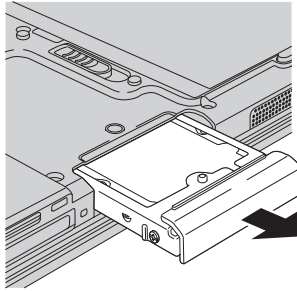
The drive is very sensitive. Incorrect handling can cause damage and permanent loss of data on the hard disk. Before removing the hard disk drive, make a backup copy of all the information on the hard disk, and then turn the computer off. Never remove the drive while the system is operating, in standby mode, or in hibernation mode.

To replace the hard disk drive, do the following:

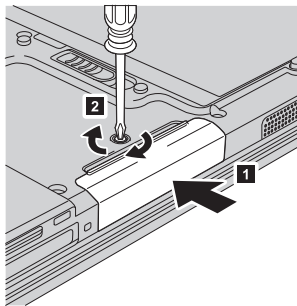
1. **Turn off the computer;** then disconnect the ac adapter and all cables from the computer.
2. Close the computer display, and turn the computer over.
3. Remove the battery.
4. Remove the screw that secures the hard disk drive.



5. Remove the hard disk by pulling the cover.



6. Insert a new hard disk drive into the hard disk drive bay firmly; then tighten the screw.



7. Reinstall the battery.
8. Turn the computer over again. Connect the ac adapter and the cables to the computer.

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## Replacing memory

### **Important**

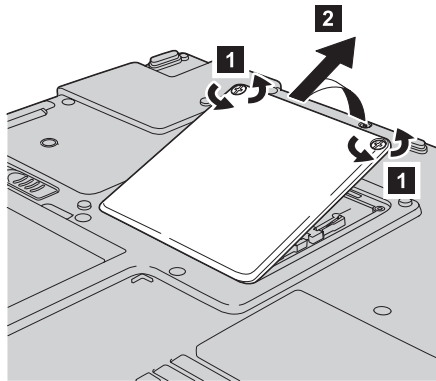
Read *Safety and Warranty Guide* before replacing memory.

Increasing memory capacity is an effective way to make programs run faster. You can increase the amount of memory in your computer by installing a double data rate (DDR) synchronous dynamic random access memory (DRAM) unbuffered small outline dual inline memory module (SO-DIMM), available as an option, in the memory slot of your computer. SO-DIMMs with different capacities are available.

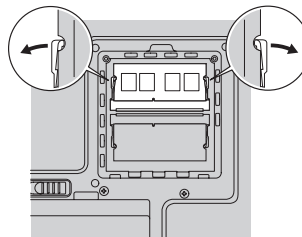
**Note:** Use only the memory types supported by your computer. If you incorrectly install the optional memory or install an unsupported memory type, a warning beep will sound when you try to start the computer.

To install an SO-DIMM, do the following:

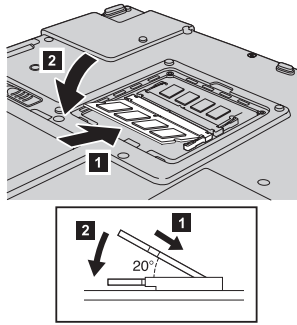
1. Touch a metal table or a grounded metal object. This action reduces any static electricity in your body, that could damage the SO-DIMM. Do not touch the contact edge of the SO-DIMM.
2. **Turn off the computer;** then disconnect the ac adapter and all cables from the computer.
3. Close the computer display, and turn the computer over.
4. Remove the battery.
5. Loosen the two screws on the memory slot cover, and remove them.



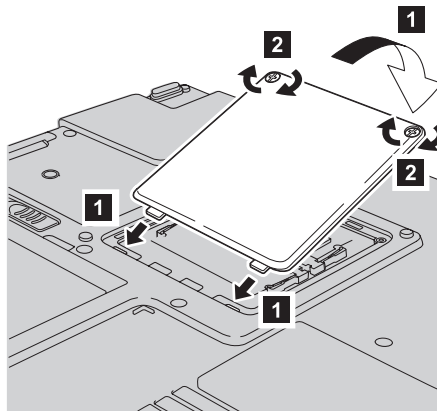
6. If two SO-DIMMs are already installed in the memory slots, remove one of them to make room for the new one by pressing out on the latches on both edges of the socket at the same time. Be sure to save it for future use.



7. With the notched end of the SO-DIMM toward the contact edge side of the socket, firmly insert the SO-DIMM into the socket at an angle of about 20 degrees; then pivot it downward until it snaps into place.



8. Reinstall the memory slot cover by aligning the front side of the cover first, and tighten the screws.



9. Reinstall the battery.
10. Turn the computer over again, and re-connect the ac adapter and the cables to the computer.

To make sure that the SO-DIMM is installed correctly, do as follows:

1. Turn the computer on.
2. When the prompt appears, press the Lenovo Care button. Rescue and Recovery screen opens.
3. Click **Access BIOS**. The System Restart Required window is displayed.
4. Click **Yes**. The computer restarts, and the BIOS Utility screen opens. The “Installed memory” item shows the total amount of memory installed in your computer. For example, if your computer has 256 MB of memory and you install a 256-MB SO-DIMM in it, the quantity shown in “Installed memory” should be 512 MB.

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## Chapter 6. Getting help and service

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### Getting help and service

If you need help, service, technical assistance, or just want more information about Lenovo computers, you will find a wide variety of sources available from Lenovo to assist you. This section contains information about where to go for additional information about Lenovo computers, what to do if you experience a problem with your computer, and whom to call for service should it be necessary.

Microsoft Service Packs are the latest software source for Windows product updates. They are available via Web download (connection charges may apply) or via CD-ROM. For more specific information and links, go to [www.microsoft.com](http://www.microsoft.com). For technical assistance with installation of, or questions related to, Service Packs for your preloaded Microsoft Windows product, refer to the Microsoft Product Support Services Web site at <http://support.microsoft.com/directory/>, or you can contact Customer Support Center at the phone number(s) listed in “Worldwide telephone list” on page 37. Some fees might apply.

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### Getting help on the Web

The Lenovo Web site on the World Wide Web has up-to-date information about Lenovo computers and support. The address for the Lenovo home page is <http://www.lenovo.com>.

You can find support information for your Lenovo 3000 computer at [www.lenovo.com/support](http://www.lenovo.com/support). Research this Web site to learn how to solve problems, find new ways to use your computer, and learn about options that can make working with your Lenovo computer even easier.

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### Calling the Customer Support Center

If you have tried to correct the problem yourself and still need help, during the warranty period, you can get help and information by telephone through the Customer Support Center. The following services are available during the warranty period:

- Problem determination - Trained personnel are available to assist you with determining if you have a hardware problem and deciding what action is necessary to fix the problem.

- Lenovo hardware repair - If the problem is determined to be caused by Lenovo hardware under warranty, trained service personnel are available to provide the applicable level of service.
- Engineering change management - Occasionally, there might be changes that are required after a product has been sold. Lenovo or your reseller, if authorized by Lenovo, will make selected Engineering Changes (ECs) available that apply to your hardware.

The following items are not covered:

- Replacement or use of parts not manufactured for or by Lenovo or nonwarranted parts

**Note:** All warranted parts contain a 7-character identification in the format FRU XXXXXXX

- Identification of software problem sources
- Configuration of BIOS as part of an installation or upgrade
- Changes, modifications, or upgrades to device drivers
- Installation and maintenance of network operating systems (NOS)
- Installation and maintenance of application programs

To determine if your machine is in warranty and when the warranty expires, go to [www.lenovo.com/support](http://www.lenovo.com/support), and click **Warranty**, then follow the instructions on the screen.

Refer to your Lenovo hardware warranty for a full explanation of Lenovo warranty terms. Be sure to retain your proof of purchase to obtain warranty service.

If possible, be near your computer when you make your call in case the technical assistance representative needs to help you resolve a computer problem. Please ensure that you have downloaded the most current drivers and system updates, run diagnostics, and recorded information before you call. When calling for technical assistance, please have the following information available:

- Machine Type and Model
- Serial numbers of your computer, monitor, and other components, or your proof of purchase
- Description of the problem
- Exact wording of any error messages
- Hardware and software configuration information for your system

The telephone numbers for your Customer Support Center location are located in the Worldwide telephone list section of this guide.

**Note:** Telephone numbers are subject to change without notice. For the latest list of Customer Support Center telephone numbers and hours of



operation, visit the Support Web site at [www.lenovo.com/suport](http://www.lenovo.com/suport). If the number for your country or region is not listed, contact your Lenovo reseller or Lenovo marketing representative.

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## Getting help around the world

If you travel with your computer or relocate it to a country where your Lenovo machine type is sold, your computer might be eligible for International Warranty Service, which automatically entitles you to obtain warranty service throughout the warranty period. Service will be performed by service providers authorized to perform warranty service.

Service methods and procedures vary by country, and some services might not be available in all countries. International Warranty Service is delivered through the method of service (such as depot, carry-in, or on-site service) that is provided in the servicing country. Service centers in certain countries might not be able to service all models of a particular machine type. In some countries, fees and restrictions might apply at the time of service.

To determine whether your computer is eligible for International Warranty Service and to view a list of the countries where service is available, go to [www.lenovo.com/support](http://www.lenovo.com/support), click **Warranty**, and follow the instructions on the screen.



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## Appendix A. Warranty information

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### Warranty Information

This Appendix provides information regarding the warranty period and type of warranty service applicable to your Machine in your country or region. For the terms and conditions of the Statement of Limited Warranty that applies to your Machine, refer to Chapter 2, Warranty Information in the Safety and Warranty Guide included with your Machine.

#### Warranty Period

The warranty period may vary by country or region and is specified in the table below. NOTE: "Region" means either Hong Kong or Macau Special Administrative Region of China.

A warranty period of 3 years on parts and 1 year on labor means that Lenovo provides warranty service without charge for:

- a. parts and labor during the first year of the warranty period; and
- b. parts only, on an exchange basis, in the second and third years of the warranty period. Your Service Provider will charge you for any labor provided in performance of the repair or replacement(s) in the second and third year of warranty period.

Machine Type	Country or Region of Purchase	Warranty period	Types of Warranty Service
0761	US, Canada, Mexico, Brazil, Australia, Japan	Parts and Labor - 1 year Battery pack - 1 year	6 1
	Other	Parts and Labor - 1 year Battery pack - 1 year	7 1
0762	US, Canada, Mexico, Brazil, Australia, Japan	Parts and Labor - 1 year Battery pack - 1 year	6 1
	Other	Parts and Labor - 1 year Battery pack - 1 year	7 1

#### Types of Warranty Service

If required, your Service Provider will provide repair or exchange service depending on the type of warranty service specified for your Machine in the above table and as described below. Scheduling of service will depend upon the time of your call and is subject to parts availability. Service levels are

response time objectives and are not guaranteed. The specified level of warranty service may not be available in all worldwide locations, additional charges may apply outside your Service Provider's normal service area, contact your local Service Provider representative or your reseller for country and location specific information.

#### **1. Customer Replaceable Unit ("CRU") Service**

Lenovo will ship CRUs to you for you to install, Tier 1 CRUs are easy to install whereas Tier 2 CRUs require some technical skill and tools. CRU information and replacement instructions are shipped with your Machine and are available from Lenovo at any time on your request. You may request that a Service Provider install CRUs, at no additional charge, under the type of warranty service designated for your Machine. Lenovo specifies in the materials shipped with a replacement CRU whether a defective CRU must be returned. When return is required, 1) return instructions and a container are shipped with the replacement CRU, and 2) you may be charged for the replacement CRU if Lenovo does not receive the defective CRU within 30 days of your receipt of the replacement.

#### **2. On-site Service**

Your Service Provider will either repair or exchange the failing Machine at your location and verify its operation. You must provide suitable working area to allow disassembly and reassembly of the Lenovo Machine. The area must be clean, well lit and suitable for the purpose. For some Machines, certain repairs may require sending the Machine to a designated service center.

#### **3. Courier or Depot Service \***

You will disconnect the failing Machine for collection arranged by your Service Provider. A shipping container will be provided to you for you to return your Machine to a designated service center. A courier will pick up your Machine and deliver it to the designated service center. Following its repair or exchange, the service center will arrange the return delivery of the Machine to your location. You are responsible for its installation and verification.

#### **4. Customer Carry-In or Mail-In Service**

You will deliver or mail as your Service Provider specifies (prepaid unless specified otherwise) the failing Machine suitably packaged to a designated location. After the Machine has been repaired or exchanged, it will be made available for your collection or, for Mail-in Service, the Machine will be returned to you at Lenovo's expense, unless your Service Provider specifies otherwise. You are responsible for the subsequent installation and verification of the Machine.

#### **5. CRU and On-site Service**

This type of Warranty Service is a combination of Type 1 and Type 2 (see above).

## 6. CRU and Courier or Depot Service

This type of Warranty Service is a combination of Type 1 and Type 3 (see above).

## 7. CRU and Customer Carry-In or Mail-In Service

This type of Warranty Service is a combination of Type 1 and Type 4 (see above).

**When a 5, 6 or 7 type of warranty service is listed, your Service Provider will determine which type of warranty service is appropriate for the repair.**

\* This type of service is called Lenovo EasyServ or EasyServ in some countries.

To obtain warranty service contact a Service Provider. In Canada or the United States, call 1-800-IBM-SERV (426-7378). In other countries, see the telephone numbers below.

### Worldwide telephone list

Phone numbers are subject to change without notice. For the most current phone numbers, go to <http://www.lenovo.com/support> and click **Support phone list**.

Country or Region	Telephone Number
Africa	Africa: +44 (0)1475-555-055 South Africa: +27-11-3028888 and 0800110756 Central Africa: Contact the nearest IBM Business Partner
Argentina	0800-666-0011 (Spanish)
Australia	131-426 (English)
Austria	01-24592-5901 01-211-454-610 (German)
Belgium	02-210-9820 (Dutch) 02-210-9800 (French) warranty service and support: 02-225-3611
Bolivia	0800-0189 (Spanish)
Brazil	Sao Paulo region: (11) 3889-8986 Call made from outside Sao Paulo region: 0800-7014-815 (Brazilian Portuguese)
Canada	1-800-565-3344 (English, French) In Toronto only call: 416-383-3344
Chile	800-224-488 (Spanish)
China	800-810-1818 (Mandarin)

Country or Region	Telephone Number
China (Hong Kong S.A.R.)	Home PC: 852-2825-7799 Commercial PC: 852-8205-0333 Lenovo 3000 and WorkPad: 852-2825-6580 (Cantonese, English, Putonghua)
Colombia	1-800-912-3021 (Spanish)
Costa Rica	284-3911 (Spanish) Lenovo Customer Support Center-toll free: 0-800-011-1029
Croatia	0800-0426
Cyprus	+357-22-841100
Czech Republic	+420-2-7213-1316
Denmark	4520-8200 warranty service and support: 7010-5150 (Danish)
Dominican Republic	566-4755 566-5161 ext. 8201 Toll Free within the Dominican Republic: 1-200-1929 (Spanish) Lenovo Customer Support Center-toll free: 1-866-434-2080
Ecuador	1-800-426911 (Spanish)
El Salvador	250-5696 (Spanish) Lenovo Customer Support Center-toll free: 800-6264
Estonia	+386-61-1796-699
Finland	09-459-6960 warranty service and support: +358-800-1-4260 (Finnish)
France	0238-557-450 warranty service and support: software 0810-631-020 hardware 0810-631-213 (French)
Germany	07032-15-49201 warranty service and support: 01805-25-35-58 (German)
Greece	+30-210-680-1700
Guatemala	335-8490 (Spanish)
Honduras	Tegucigalpa & San Pedro Sula: 232-4222 San Pedro Sula: 552-2234 (Spanish)
Hungary	+36-1-382-5720
India	1600-44-6666 Alternate Toll Free: +91-80-2678-8940 (English)
Indonesia	800-140-3555 +62-21-251-2955 (Bahasa, Indonesian, English)

Country or Region	Telephone Number
Ireland	01-815-9202 warranty service and support: 01-881-1444 (English)
Israel	+972-3-918-7122 (Hebrew) +972-3-918-7177 (English)
Italy	02-7031-6101 warranty service and support: 39-800-820094 (Italian)
Japan	<p>PC Products: Toll free: 0120-20-5550 For International: +81-46-266-4716</p> <p>Above numbers will be answered with a Japanese language voice prompt. For telephone support in English, please wait for the Japanese voice prompt to end, and an operator will answer. Please ask for "English support please," and your call will be transferred to an English speaking operator.</p> <p>PC Software: 0120-558-695 Overseas calls: +81-44-200-8666 (Japanese)</p>
Korea	1588-5801 (Korean)
Latvia	+386-61-1796-699
Lithuania	+386-61-1796-699
Luxembourg	+352-298-977-5063 (French)
Malaysia	1800-88-8558 (English, Bahasa, Melayu)
Malta	+356-23-4175
Mexico	001-866-434-2080 (Spanish)
Middle East	+44 (0)1475-555-055
Netherlands	+31-20-514-5770 (Dutch)
New Zealand	0800-446-149 (English)
Nicaragua	255-6658 (Spanish)
Norway	6681-1100 warranty service and support: 8152-1550 (Norwegian)
Panama	206-6047 (Spanish) Lenovo Customer Support Center-toll free: 001-866-434-2080
Peru	0-800-50-866 (Spanish)
Philippines	1800-1888-1426 (English) +63-2-995-8420 (Philipino)

Country or Region	Telephone Number
Poland	+48-22-878-6999
Portugal	+351-21-892-7147 (Portuguese)
Romania	+4-021-224-4015
Russian Federation	+7-095-940-2000 (Russian)
Singapore	1800-3172-888 (English, Bahasa, Melayu)
Slovakia	+421-2-4954-1217
Slovenia	+386-1-4796-699
Spain	91-714-7983 91-397-6503 (Spanish)
Sri Lanka	+94-11-2448-442 (English)
Sweden	08-477-4420 warranty service and support: 077-117-1040 (Swedish)
Switzerland	058-333-0900 warranty service and support: 0800-55-54-54 (German, French, Italian)
Taiwan	886-2-8723-9799 (Mandarin)
Thailand	1-800-299-229 (Thai)
Turkey	00800-4463-2041 (Turkish)
United Kingdom	01475-555-055 warranty service and support: software 08457-151-516 hardware 08705-500-900 (English)
United States	1-800-426-7378 (English)
Uruguay	000-411-005-6649 (Spanish)
Venezuela	0-800-100-2011 (Spanish)
Vietnam	For northern area and Hanoi: 84-4-843-6675 For southern area and Ho Chi Minh City: 84-8-829-5160 (English, Vietnamese)



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## Appendix B. Customer Replaceable Units (CRUs)

For your computer, the following parts are designated Customer Replaceable Unit (CRU) parts.

Listed below are the CRUs and the documentation where removal/replacement instructions are located.

	Service and Troubleshooting Guide	Setup Instructions	Access Help	Online Hardware Maintenance Manual
<b>Tier 1 CRUs</b>				
Battery	X		X	X
Memory (standard)	X		X	X
Optical drive			X	X
AC adapter and power cord		X		
<b>Tier 2 CRUs</b>				
Hard disk drive	X		X	X

You can find instructions for replacing CRUs in Access Help. To open Access Help, click **Start**, move the pointer to **All Programs**; then to **Lenovo Care**. Click **Access Help**

If you are unable to access these instructions or if you have difficulty replacing a CRU, you can use the following additional resource:

- The Online Hardware Maintenance Manual available from the Support Web site  
<http://www.lenovo.com/think/support/site.wss/document.do?Indocid=part-video>
- The Customer Support Center. For the telephone number of the Support Center for your country or region, see "Worldwide telephone list" on page 37.



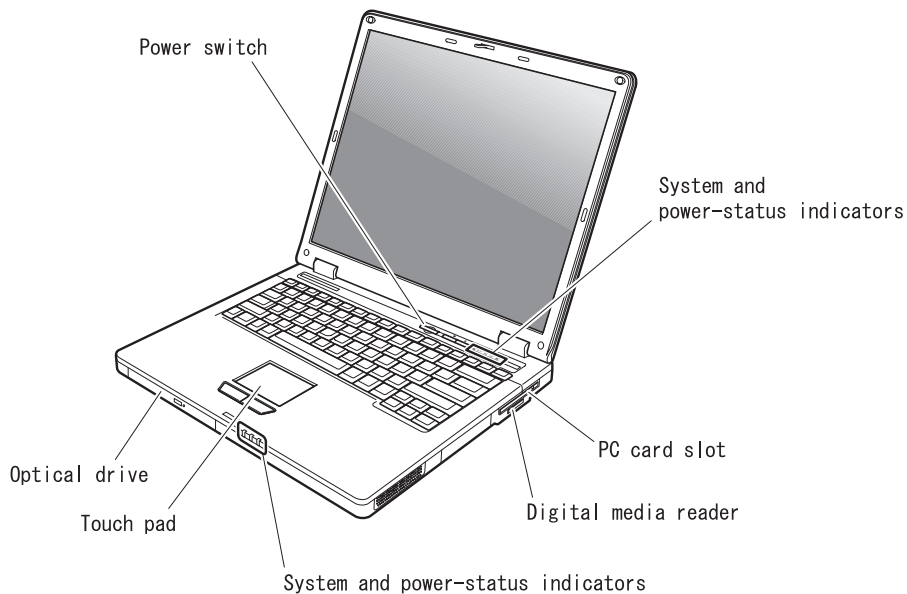
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## Appendix C. Overview of your computer

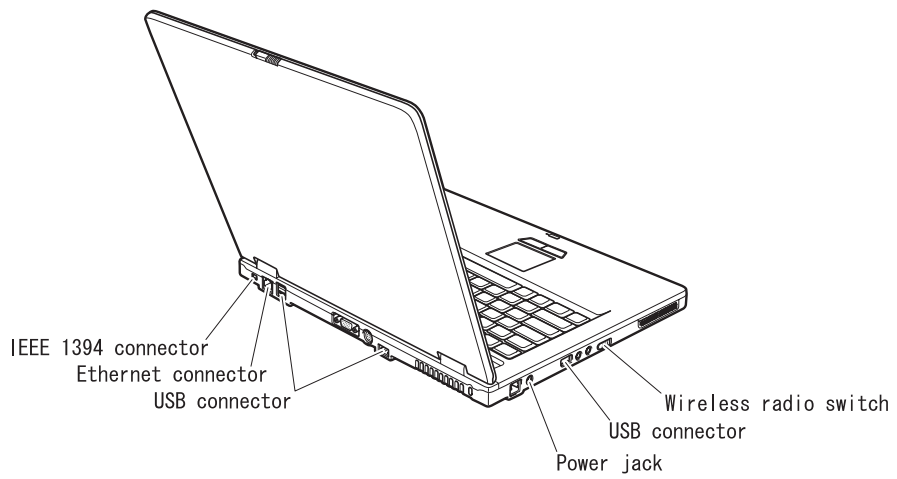
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### Your computer at a glance

Front view



Rear view



---

## Features

### Processor

- See the system properties of your computer. You can do this as follows: right-click the My computer icon on your desktop, from the pull down menu select Properties.

### Memory

- Double data rate (DDR) synchronous dynamic random access memory (DRAM) II

### Storage device

- 2.5-inch hard disk drive

### Display

The color display uses TFT technology:

- Size: 15.0 inch
- Resolution:
  - LCD: 1024-by-768
  - External monitor: Up to 2048-by-1536
- Brightness control

### Keyboard

- 84-key, 85-key, or 89-key
- Touchpad
- Fn key function
- Lenovo Care button
- Mute button

### External interface

- External-monitor connector
- S-Video connector
- PC Card slot (Type II PC Card)
- Stereo headphone jack
- Microphone jack
- 4 Universal Serial Bus (USB) connectors
- RJ11 telephone connector
- RJ45 Ethernet connector
- IEEE1394 (on some models)
- Digital media reader slot
- Wireless radio switch
- Optical drive
- Integrated wireless LAN feature (on some models)
- Integrated *Bluetooth* feature (on some models)

### Specifications

#### Size

- Width: 333.6 mm
- Depth: 277.5 mm
- Height: 32.9 (front side) to 35.8 (rear side) mm

#### Environment

- Maximum altitude without pressurization: 3048 m (10,000 ft)
- Temperature
  - At altitudes up to 2438 m (8000 ft)
    - Operating with no diskette: 5° to 35°C (41° to 95°F)
    - Operating with a diskette: 10° to 35°C (50° to 95°F)
    - Not operating: 5° to 43°C (41° to 110°F)
  - At altitudes above 2438 m (8000 ft)
    - Maximum operating temperature, 31.3°C (88° F)

**Note:** When you charge the battery pack, its temperature must be at least 10°C (50°F).

- Relative humidity:
  - Operating with no disc in the drive: 8% to 90%
  - Operating with a disc in the drive: 8% to 80%

#### Heat output

- 65W (222 Btu/hour) maximum

#### Power source (ac adapter)

- Sine-wave input at 50 to 60 Hz
- Input rating of the ac adapter: 100-240 V ac, 50 to 60 Hz

#### Battery pack

- Lithium-ion (Li-Ion) battery pack
  - Nominal voltage: 10.8 V dc
  - Capacity: 5.2AH or 7.8AH, depending on the model

---

## Appendix D. Wireless related information

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### Wireless interoperability

Wireless LAN PCI Mini Card is designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS) and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to:

- The IEEE 802.11a/b/g Standard on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.
- The Wireless Fidelity (WiFi) certification as defined by the WECA (Wireless Ethernet Compatibility Alliance).

*Bluetooth* Daughter Card is designed to be interoperable with any *Bluetooth* product that is compliant to *Bluetooth* Specification 2.0 + EDR as defined by the *Bluetooth* SIG. Following profiles are supported by *Bluetooth* Daughter Card:

- Generic Access
- Service Discovery
- Serial Port
- Dial-up Networking
- FAX
- LAN Access using PPP
- Personal Area Network
- Generic Object Exchange
- Generic Object Push
- File Transfer
- Synchronization
- Audio Gateway
- Headset
- Printer
- Human Interface Devices (Keyboard/Mouse)
- Basic Image
- Handsfree
- AV

---

### Usage environment and your health

Wireless LAN PCI Mini Card and *Bluetooth* Daughter Card emits radio frequency electromagnetic energy like other radio devices. However, the level of energy emitted is far much less than the electromagnetic energy emitted by wireless devices like for example mobile phones.

Because Wireless LAN PCI Mini Card and *Bluetooth* Daughter Card operates within the guidelines found in radio frequency safety standards and recommendations, Lenovo believes the integrated wireless cards are safe for use by consumers. These standards and recommendations reflect the consensus of the scientific community and result from deliberations of panels and committees of scientists who continually review and interpret the extensive research literature.

In some situation or environment, the use of Wireless LAN PCI Mini Card or *Bluetooth* Daughter Card may be restricted by the proprietor of the building or responsible representatives of the organization. These situations may for example include:

- Using the integrated wireless cards on board of airplanes, or in hospitals
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies on the use of wireless devices in a specific organization (e.g. airport or hospital), you are encouraged to ask for authorization to use Wireless LAN PCI Mini Card or *Bluetooth* Daughter Card prior to turning on the computer.



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## Appendix E. Notices

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### Notices

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The following notice applies to models that have the factory-installed television-output feature.

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The following information refers to Lenovo 3000 C100 machine type 0761 and 0762.

#### **Federal Communications Commission (FCC) Statement**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult an authorized dealer or service representative for help.

Properly shielded and grounded cables and connectors must be used in order to meet FCC emission limits. Proper cables and connectors are available from Lenovo authorized dealers. Lenovo is not responsible for any radio or television interference caused by using other than recommended cables or connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible party:

Lenovo (United States) Inc.  
One Manhattanville Road  
Purchase, New York 10577  
Telephone: (919) 254-0532



### **Industry Canada Class B emission compliance statement**

This Class B digital apparatus complies with Canadian ICES-003.

### **Avis de conformité à la réglementation d'Industrie Canada**

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### **European Union EMC Directive conformance statement**

This product is in conformity with the protection requirements of EU Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility. Lenovo cannot accept responsibility

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This product has been tested and found to comply with the limits for Class B Information Technology Equipment according to CISPR 22/European Standard EN 55022. The limits for Class B equipment were derived for typical residential environments to provide reasonable protection against interference with licensed communication devices.

Properly shielded and grounded cables and connectors must be used in order to reduce the potential for causing interference to radio and TV communications and to other electrical or electronic equipment. Such cables and connectors are available from Lenovo authorized dealers. Lenovo cannot accept responsibility for any interference caused by using other than recommended cables and connectors.

---

## **Environmental notices for Japan**

If you are a company employee and need to dispose of a Lenovo computer that is the property of the company, you must do so in accordance with the Law for Promotion of Effective Utilization of Resources. The computer is categorized as industrial waste. It 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, IBM Japan provides, through its PC Collecting and Recycling Services, for the collecting, reuse, and recycling of disused computers. For details, visit the IBM Japan Web site at [www.ibm.com/jp/pc/service/recycle/](http://www.ibm.com/jp/pc/service/recycle/)

Pursuant to the Law for Promotion of Effective Utilization of Resources, the collecting and recycling of home-used computers by the manufacturer was begun on October 1, 2003. For details, visit the IBM Japan Web site at [www.ibm.com/jp/pc/service/recycle/personal.html](http://www.ibm.com/jp/pc/service/recycle/personal.html)

### **Disposing of a Lenovo computer component containing heavy metal**

The printed circuit board of a Lenovo 3000 computer contains heavy metal. (Soldering with lead is used on the printed circuit board.) To properly dispose of the disused printed circuit board, follow the instructions in Collecting and recycling a disused Lenovo computer.

### **Disposing of a disused lithium battery**

A button-shaped lithium battery is installed on the system board of your Lenovo computer to back up the main battery.

If you want to replace it with a new one, contact your place of purchase or

ask for a repair service provided by IBM. If you have replaced it by yourself and want to dispose of the disused lithium battery, insulate it with vinyl tape, contact your place of purchase, and follow the instructions.

If you use a Lenovo computer at home and need to dispose of a lithium battery, you must comply with local ordinances and regulations.

### **Handling a disused Lenovo battery pack**

Your Lenovo computer has a lithium ion battery pack or a nickel metal hydride battery pack. If you are a company Lenovo computer user and need to dispose of a battery pack, contact the proper person in Lenovo sales, service, or marketing, and follow that person's instructions. For details, visit the IBM Japan Web site at [www.ibm.com/jp/pc/environment/recycle/battery/](http://www.ibm.com/jp/pc/environment/recycle/battery/)

If you use a Lenovo computer at home and need to dispose of a battery pack, you must comply with local ordinances and regulations.

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Part Number: 41W2703

Printed in China

(1P) P/N: 41W2703

