Chapter 4. OneKey Rescue System

■ ■ OneKey Rescue System

■ Introduction

The Lenovo OneKey Rescue System is an easy-to-use application that can be used to back up the data on your system partition (C drive) for easy restore when required. You can run Lenovo OneKey Rescue under a Windows operating system, and the OneKey Rescue System without starting the Windows operating system.

⊙ Attention:

- In order to utilize the features of the OneKey Rescue System, your hard disk already includes a hidden partition by default to store a system image file and OneKey Rescue System program files. This default partition is hidden for security reasons and is the reason the available disk space is less than it claims. The exact available hard disk space depends on the file size of the mirror image file (based on the size of operating system and preinstalled software).

- You can use the **Restore to factory default** feature to restore the system partition (C drive) back to the factory default, i.e., the state your computer was when you purchased it. Make sure you back up any critical data stored on the system partition (C drive) to other media, such as another disk partition, CD/DVD discs or removable storage devices.

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Chapter 4. OneKey Rescue System

■ **Using Lenovo OneKey Recovery in Windows**

In Windows, you can create a backup of an entire system partition, saving it on your local hard disk. You can back up your data to a CD, DVD, or other removable disk. In addition, you can also create Windows recovery disc(s) to boot and recover your system.

❖ **Notes:**
▪ The backup process and creating recovery disc may take some time, connect the AC adapter and battery pack to your computer.
▪ After the recovery discs are burned, please number them so that you can use them in the correct order.
▪ For computers without an optical drive, an external optical drive is needed to back up or to create a recovery disc.

For more instructions, see the help file of Lenovo OneKey Recovery.

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■ **Using Lenovo OneKey Recovery System without the main Windows operating system**

In the event that the operating system cannot be loaded, you need to recover your system with the OneKey Rescue System, which includes several applications to help you detect and remove viruses, and recover Windows system and data. Pressing the OneKey Rescue System key ∩ will activate Lenovo OneKey Rescue System when your PC is turned off. Within the program, you can restore your system partition to the original factory status, or to a previously generated backup. You may also transfer critical data or documents to other storage devices. All these features make OneKey Rescue System an important utility for securing your data.

❖ **Note:**
It is not recoverable if **Restore to factory default** or **Restore from backup** has been run. Make sure to back up any critical data before you run these features.

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Chapter 5. Troubleshooting

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 Lenovo IdeaPad Y550P *Setup Poster*.

What safety precautions should I follow when using my computer?
> See "Chapter 7. Safety, Use and Care Information" for detailed information about safety.

How can I prevent problems with my computer?
> See "Chapter 7. Safety, Use and Care Information" on page 60 of this guide. More tips can be found in Chapter 1 and 2.

What are the main hardware features of my new computer?
> More information can be found in Chapter 1 and 2.

Where can I find the detailed specifications for my computer?
> See http://consumersupport.lenovo.com.

I need to upgrade a device *or* I need to replace one of the following: the hard disk drive, memory, or the keyboard.
> See "Appendix B. Customer Replaceable Units (CRUs)" on page 108 of this guide.

My computer is not operating properly.
> Study the relevant information in Chapter 2.

Chapter 5. Troubleshooting

Where are the recovery discs?

Your computer did not come with a recovery disc. For an explanation of the alternative recovery methods offered by Lenovo, see OneKey Rescue System User Guide.

How can I contact the Customer Support Center?

See "Chapter 6. Getting Help and Service" on page 55 of this Guide. For the phone numbers of the Customer Support Center nearest to you, see "Lenovo warranty service telephone numbers" on page 106.

Where can I find warranty information?

For the warranty applicable to your computer, including the warranty period and type of warranty service, see "Appendix A. Lenovo Limited Warranty" on page 92.

Chapter 5. Troubleshooting

▆▆ Troubleshooting

If you do not find your problem here, see Chapter 2. The following section only describes problems that might prevent you from accessing the comprehensive information in Chapter 2.

■ Display problems

When I turn on the computer, nothing appears on the screen.

❖ **Note:**
If you are using an external monitor, see "Computer screen problems" on page 50.

- If the screen is 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. (Press the **power** button again for confirmation.)
  - The memory is installed correctly.
- If these items are properly set, and the screen remains blank, have the computer serviced.

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When I turn on the computer, only a white cursor appears on a blank screen.

Restore backed-up files to your Windows environment or the entire contents of your hard disk to the original factory contents using OneKey Recovery. If you still see only the cursor on the screen, have the computer serviced.

My screen goes blank while the computer is on.

Your screen saver or power management may be enabled. Do one of the following to exit from the screen saver or to resume from sleep or hibernation mode:

- Touch the touch pad.
- Press any key on the keyboard.
- Press the **power** button.
- Press **Fn**+**F2** to confirm whether the LCD screen has been turned off.

Chapter 5. Troubleshooting

■ **A Password problem**

I forgot my password.

- § If you forgot your user 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, a Lenovo authorized servicer cannot 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, a 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.

■ **Keyboard problems**

A number appears when you enter a letter.

The numeric lock function is on. To disable it, press **Fn + F8**.

All or some of the keys on the external numeric keypad do not work.

Make sure that the external numeric keypad is correctly connected to the computer.

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■ **Sleep or hibernation problems**

The computer enters sleep mode unexpectedly.

If the processor overheats, the computer automatically enters sleep mode to allow the computer to cool and to protect the processor and other internal components. Check the settings for sleep mode.

The computer enters sleep mode immediately after Power-on self-test (POST).

Make sure that:

▪ The battery is charged.
▪ The operating temperature is within the acceptable range. See "Specifications" on page 109.

If the battery is charged and the temperature is within range, have the computer serviced.

The critical low-battery error message appears, and the computer immediately turns off.

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

The computer does not return from sleep mode and the computer does not work.

If the computer does not return from sleep mode, it may have entered hibernation mode automatically because the battery is depleted. Check the sleep indicator.

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Chapter 5. Troubleshooting

- If your computer is in sleep mode connect the AC adapter to the computer, then press any key or the **power** button.
- If your computer is in hibernation mode or power-off state. Connect the AC adapter to the computer, then press the **power** button to resume operation.

If the system still does not return from sleep mode, your system has stopped responding, and you cannot turn off the computer; reset the computer. Unsaved data may be lost. To reset the computer, press and hold the **power** button for 4 seconds or more. If the computer is still not reset, remove the AC adapter and the battery.

■ **Computer screen problems**

The screen is blank.

Do the following:

- If you are using the AC adapter, or using the battery, and the battery status indicator is on, press **Fn** + up arrow to make the screen brighter.
- If the Power indicator is in blinking, press the **power** button to resume from the sleep mode.
- If the problem persist, follow do the Solution in the following problem "The screen is unreadable or distorted."
- Press **Fn**+**F2** to confirm whether the LCD screen has been turned off.

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The screen is unreadable or distorted.

Make sure that:

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

Incorrect characters appear on the screen.

Did you install the operating system or application program correctly? If they are installed and configured correctly, have the computer serviced.

A message, "Unable to create overlay window," appears when you try to start DVD playback.
-or-
You get poor or no playback of video, DVD or game applications.

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 resolution over the optimum, reduce the desktop size and the color depth.

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Chapter 5. Troubleshooting

■ **Sound problems**

No sound can be heard from the speaker even when the volume is turned up.

Make sure that:
- The Mute function is off.
- The headphone jack is not used.
- Speakers is selected as a playback device.

■ **Battery problems**

Your computer shuts down before the battery status indicator shows empty.
-or-
Your computer operates after the battery status indicator shows empty.

Discharge and recharge the battery.

The operating time for a fully charged battery is short.

For details, see "Handling the battery" in Chapter 2.

The computer does not operate with a fully charged battery.

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.

The battery does not charge.

For details, see "Handling the battery" in Chapter 2.

■ **A hard disk drive problem**

The hard disk drive does not work.

In the **Boot** menu in BIOS Setup Utility, make sure that the hard disk drive is included in the "Boot priority order" correctly.

■ **A startup problem**

The Microsoft® Windows operating system does not start.

Use the OneKey Recovery to help solve or identify your problem. For details about OneKey Recovery, see *OneKey Rescue System User Guide*.

■ **Other problems**

Your computer does not respond.

- To turn off your computer, press and hold the **power** button for 4 seconds or more. If the computer still does not respond, remove the AC adapter and the battery.
- Your computer might lock when it enters sleep mode during a communication operation.

Chapter 5. Troubleshooting

The computer does not start from a device you want.

See the **Boot** menu of the BIOS Setup Utility. Make sure that the "Boot priority order" in the BIOS Setup 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 Setup Utility, make sure that the device is included in the "Boot priority order" list.

Press **F12** when the Lenovo logo appears on the screen while the computer is starting up to select the device you want the computer starts from.

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Chapter 6. Getting Help and Service

■■ 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 by means of a Web download (connection charges may apply) or from a disc. For more specific information and links, go to the Microsoft Web site at http://www.microsoft.com. Lenovo offers Up and Running technical assistance with installation of, or questions related to, Service Packs for your Lenovo-preinstalled Microsoft Windows product.

Chapter 6. Getting Help and Service

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://consumersupport.lenovo.com.

You can find support information for your Lenovo IdeaPad™ computer at http://consumersupport.lenovo.com. 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.

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.

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- 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 non warranted parts
- 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 Lenovo hardware product is under warranty and when the warranty expires, go to http://consumersupport.lenovo.com, 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, and recorded information before you call. When calling for technical assistance, please have the following information available:

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

The telephone numbers for your Customer Support Center location are located in "Appendix A. Lenovo Limited Warranty" on page 92.

❖ 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 http://consumersupport.lenovo.com. If the number for your country or region is not listed, contact your Lenovo reseller or Lenovo marketing representative.

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Chapter 6. Getting Help and Service

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. 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 http://consumersupport.lenovo.com, click Warranty, and follow the instructions on the screen.

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Chapter 7. Safety, Use and Care Information

■■ Important safety information ─────────

This information can help you safely use your notebook personal computer. Follow and retain all information included with your computer. The information in this document does not alter the terms of your purchase agreement or the Lenovo Limited Warranty. For more information, see "Appendix A. Lenovo Limited Warranty" on page 92.

Customer safety is important. Our products are developed to be safe and effective. However, personal computers are electronic devices. Power cords, power adapters, and other features can create potential safety risks that can result in physical injury or property damage, especially if misused. To reduce these risks, follow the instructions included with your product, observe all warnings on the product and in the operating instructions, and review the information included in this document carefully. By carefully following the information contained in this document and provided with your product, you can help protect yourself from hazards and create a safer computer work environment.

❖ Note:

This information includes references to power adapters and batteries. In addition to notebook computers, some products (such as speakers and monitors) ship with external power adapters. If you have such a product, this information applies to your product. In addition, computer products contain a coin-sized internal battery that provides power to the system clock even when the computer is unplugged, so the battery safety information applies to all computer products.

■ **Conditions that require immediate action**

Products can become damaged due to misuse or neglect. Some product damage is serious enough that the product should not be used again until it has been inspected and, if necessary, repaired by an authorized servicer.

As with any electronic device, pay close attention to the product when it is turned on. On very rare occasions, you might notice an odor or see a puff of smoke or sparks vent from your product. Or you might hear sounds like popping, cracking, or hissing. These conditions might merely mean that an internal electronic component has failed in a safe and controlled manner. Or, they might indicate a potential safety issue. However, do not take risks or attempt to diagnose the situation yourself. Contact the Customer Support Center for further guidance. For a list of Service and Support phone numbers, see http://consumersupport.lenovo.com.

Frequently inspect your computer and its components for damage or wear or signs of danger. If you are unsure about the condition of a component, do not use the product. Contact the Customer Support Center or the product manufacturer for instructions on how to inspect the product and have it repaired, if necessary.

In the unlikely event that you notice any of the following conditions, or if you have any safety concerns with your product, stop using the product and unplug it from the power source and telecommunication lines until you can speak to the Customer Support Center for further guidance.

- Power cords, plugs, power adapters, extension cords, surge protectors, or power supplies that are cracked, broken, or damaged.
- Signs of overheating, smoke, sparks, or fire.

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Chapter 7. Safety, Use and Care Information

- Damage to a battery (such as cracks, dents, or creases), discharge from a battery, or a buildup of foreign substances on the battery.
- A cracking, hissing, or popping sound, or strong odor that comes from the product.
- Signs that liquid has been spilled or an object has fallen onto the computer product, the power cord, or power adapter.
- The computer product, power cord, or power adapter has been exposed to water.
- The product has been dropped or damaged in any way.
- The product does not operate normally when you follow the operating instructions.

❖ **Note:**

If you notice these conditions with a product (such as an extension cord) that is not manufactured for or by Lenovo, stop using that product until you can contact the product manufacturer for further instructions, or until you get a suitable replacement.

■ **Safety guidelines**

Always observe the following precautions to reduce the risk of injury and property damage.

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■ **Service and upgrades**

⦿ **Attention:**
Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center or your documentation. Only use a service provider who is approved to repair your particular product.

❖ **Note:**
Some computer parts can be upgraded or replaced by the customer. Upgrades typically are referred to as options. Replacement parts approved for customer installation are referred to as Customer Replaceable Units, or CRUs. Lenovo provides documentation with instructions when it is appropriate for customers to install options or replace CRUs. You must closely follow all instructions when installing or replacing parts. The Off state of a power indicator does not necessarily mean that voltage levels inside a product are zero. Before you remove the covers from a product equipped with an ac power cord, always make sure that the power is turned off and that the product is unplugged from any power source. For more information on CRUs, see "Appendix B. Customer Replaceable Units (CRUs)" on page 108. If you have any questions or concerns, contact the Customer Support Center.

Although there are no moving parts in your computer after the power cord has been disconnected, the following warnings are required for your safety.

✳ Danger:
Hazardous moving parts. Keep fingers and other body parts away.

⊙ Attention:
Before replacing any CRUs, turn off the computer and wait three to five minutes to let the computer cool before opening the cover.

■ **Power cords and power adapters**

✳ Danger:
Use only the power cords and power adapters supplied by the product manufacturer. The power cord and power adapter are intended for use with this product only. They should never be used with any other product.

The power cords shall be safety approved. For Germany, it shall be H03VV-F, 3G, 0.75 mm^2, or better. For other countries, suitable types should be used accordingly.

Never wrap a power cord around a power adapter or other object. Doing so can stress the cord in ways that can cause the cord to fray, crack, or crimp. This can present a safety hazard.

Always route power cords or any other cables so that they will not be walked on, tripped over, or pinched by objects.

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Protect power cords and power adapters from liquids. For instance, do not leave your power cord or power adapter near sinks, tubs, toilets, or on floors that are cleaned with liquid cleansers. Liquids can cause a short circuit, particularly if the power cord or power adapter has been stressed by misuse. Liquids also can cause gradual corrosion of power cord terminals and/or the connector terminals on a power adapter, which can eventually result in overheating.

Always connect power cords and signal cables in the correct order and ensure that all power cord connectors are securely and completely plugged into receptacles.

Do not use any power adapter that shows corrosion at the ac input pins or shows signs of overheating (such as deformed plastic) at the ac input or anywhere on the power adapter.

Do not use any power cords where the electrical contacts on either end show signs of corrosion or overheating or where the power cord appears to have been damaged in any way.

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■ **Extension cords and related devices**

❋ **Danger:**

Ensure that extension cords, surge protectors, uninterruptible power supplies, and power strips that you use are rated to handle the electrical requirements of the product. Never overload these devices. If power strips are used, the load should not exceed the power strip input rating. Consult an electrician for more information if you have questions about power loads, power requirements, and input ratings.

■ **Plugs and outlets**

❋ **Danger:**

If a receptacle (power outlet) that you intend to use with your computer equipment appears to be damaged or corroded, do not use the outlet until it is replaced by a qualified electrician.

Do not bend or modify the plug. If the plug is damaged, contact the manufacturer to obtain a replacement.

Do not share an electrical outlet with other home or commercial appliances that draw large amounts of electricity; otherwise, unstable voltage might damage your computer, data, or attached devices.

Some products are equipped with a three-pronged plug. This plug fits only into a grounded electrical outlet. This is a safety feature. Do not defeat this safety feature by trying to insert it into a non-grounded

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outlet. If you cannot insert the plug into the outlet, contact an electrician for an approved outlet adapter or to replace the outlet with one that enables this safety feature. Never overload an electrical outlet. The overall system load should not exceed 80 percent of the branch circuit rating. Consult an electrician for more information if you have questions about power loads and branch circuit ratings.

Be sure that the power outlet you are using is properly wired, easily accessible, and located close to the equipment. Do not fully extend power cords in a way that will stress the cords.

Be sure that the power outlet provides the correct voltage and current for the product you are installing.

Carefully connect and disconnect the equipment from the electrical outlet.

■ **Power supply statement**

❋ **Danger:**
Never remove the cover on a power supply or any part that has the following label attached.

Chapter 7. Safety, Use and Care Information

Hazardous voltage, current, and energy levels are present inside any component that has this label attached. There are no serviceable parts inside these components. If you suspect a problem with one of these parts, contact a service technician.

■ **Lithium coin cell battery notice**

✸ **Danger:**
Danger of explosion if battery is incorrectly replaced.

When replacing the lithium coin cell battery, use only the same or an equivalent type that is recommended by the manufacturer. The battery contains lithium and can explode if not properly used, handled, or disposed of.

Do not:
▪ Throw or immerse into water
▪ Heat to more than 100°C (212°F)
▪ Repair or disassemble

Dispose of the battery as required by local ordinances or regulations.

The following statement applies to users in the state of California, U.S.A.

California Perchlorate Information:

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Products containing CR (manganese dioxide) lithium coin cell batteries may contain perchlorate.

Perchlorate Material — special handling may apply.
See http://www.dtsc.ca.gov/hazardouswaste/perchlorate.

■ **Heat and product ventilation**

❊ **Danger:**

Computers, AC adapters, and many accessories can generate heat when turned on and when batteries are charging. Notebook computers can generate a significant amount of heat due to their compact size. Always follow these basic precautions:

▪ When your computer is turned on or the battery is charging, the base, the palm rest, and some other parts may become hot. Avoid keeping your hands, your lap, or any other part of your body in contact with a hot section of the computer for any extended length of time. When you use the keyboard, avoid keeping your palms on the palm rest for a prolonged period of time. Your computer generates some heat during normal operation. The amount of heat depends on the amount of system activity and the battery charge level. Extended contact with your body, even through clothing, could cause discomfort or even a skin burn. Periodically take breaks from using the keyboard by lifting your hands from the palm rest; and be careful not to use the keyboard for any extended length of time.

▪ Do not operate your computer or charge the battery near flammable materials or in explosive environments.

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- Ventilation slots, fans and/or heat sinks are provided with the product for safety, comfort, and reliable operation. These areas might inadvertently become blocked by placing the product on a bed, sofa, carpet, or other flexible surface. Never block, cover, or disable these features.

- When the AC adapter is connected to an electrical outlet and your computer, it generates heat. Do not place the adapter in contact with any part of your body while using it. Never use the AC adapter to warm your body. Extended contact with your body, even through clothing, may cause a skin burn.

For your safety, always follow these basic precautions with your computer:
- Keep the cover closed whenever the computer is plugged in.

- Regularly inspect the outside of the computer for dust accumulation.

- Remove dust from vents and any perforations in the bezel. More frequent cleanings might be required for computers in dusty or high-traffic areas.

- Do not restrict or block any ventilation openings.

- Do not operate your computer inside furniture, as this might increase the risk of overheating.

- Airflow temperatures into the computer should not exceed 35° C (95° F).

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■ **CD and DVD drive safety**

❋ **Danger:**

CD and DVD drives spin discs at a high speed. If a CD or DVD is cracked or otherwise physically damaged, it is possible for the disc to break apart or even shatter when the CD drive is in use. To protect against possible injury due to this situation, and to reduce the risk of damage to your computer, do the following:

▪ Always store CD/DVD discs in their original packaging.

▪ Always store CD/DVD discs out of direct sunlight and away from direct heat sources.

▪ Remove CD/DVD discs from the computer when not in use.

▪ Do not bend or flex CD/DVD discs, or force them into the computer or their packaging.

▪ Check CD/DVD discs for cracks before each use. Do not use cracked or damaged discs.

Chapter 7. Safety, Use and Care Information

■ **Electrical current safety information**

✹ **Danger:**

Electric current from power, telephone, and communication cables is hazardous.

To avoid a shock hazard:

- Do not use your computer during a lightning storm.

- Do not connect or disconnect any cables or perform installation, maintenance, or reconfiguration of this product during an electrical storm.

- Connect all power cords to a properly wired and grounded electrical outlet.

- Connect to properly wired outlets any equipment that will be attached to this product.

- Whenever possible, use one hand only to connect or disconnect signal cables.

- Never turn on any equipment when there is evidence of fire, water, or structural damage.

- Disconnect the attached power cords, battery pack, and all the cables before you open the device covers, unless instructed otherwise in the installation and configuration procedures.

- Do not use your computer until you have closed the cover. Never use the computer when the cover is open.

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- Connect and disconnect cables as described in the following procedures when installing, moving, or opening covers on this product or attached devices.

  To connect:

  1. Turn everything OFF.

  2. First, attach all cables to devices.

  3. Attach signal cables to connectors.

  4. Attach power cords to outlets.

  5. Turn devices ON.

  To disconnect:

  1. Turn everything OFF.

  2. First, remove power cords from outlets.

  3. Remove signal cables from connectors.

  4. Remove all cables from devices.

The power cord must be disconnected from the wall outlet or receptacle before installing all other electrical cables connected to your computer.

The power cord may be reconnected to the wall outlet or receptacle only after all other electrical cables have been connected to the computer.

■ **Laser compliance statement**

Some personal computer models are equipped from the factory with a CD or DVD drive. CD and DVD drives are also sold separately as options. CD and DVD drives are laser products. The drive's classification label (shown below) is on the surface of the drive.

CLASS 1 LASER PRODUCT
LASER KLASSE 1
LUOKAN 1 LASERLAITE
APPAREIL A LASER DE CLASSE 1
KLASS 1 LASER APPARAT

CLASS 1 LASER PRODUCT

LASER KLASSE 1

Example of the label

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These drives are certified in the U.S. to conform to the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J for Class 1 laser products. Elsewhere, these drives are certified to conform to the requirements of the International Electrotechnical Commission (IEC) 60825-1 and CENELEC EN 60825-1 for Class 1 laser products.

Class 1 laser products are not considered hazardous. The design of the laser system and the optical storage drive ensures that there is no exposure to laser radiation above a Class 1 level during normal operation, user maintenance, or servicing.

When a CD or DVD drive is installed, note the following handling instructions.

❋ **Danger:**

Use of controls, adjustments, or performance of procedures other than those specified herein might result in hazardous radiation exposure.

Do not remove the drive covers. Removing the covers of the CD or DVD drive could result in exposure to hazardous laser radiation. There are no serviceable parts inside the CD or DVD drive.

Some CD and DVD drives contain an embedded Class 3A or Class 3B laser diode. Note the following statement.

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✳ Danger:

Laser radiation when open. Do not stare into the beam, do not view directly with optical instruments, and avoid direct exposure to the beam.

■ **Liquid crystal display (LCD) notice**

◉ Attention:

Mercury Information (does not apply to LED backlit models):
The fluorescent lamp in the liquid crystal display contains mercury; dispose according to local, state or federal laws.

The LCD is made of glass, and rough handling or dropping the computer can cause the LCD to break. If the LCD breaks and the internal liquid crystal material contacts the eyes, mouth or clothing, take the following actions immediately :

In case contact to the eyes or mouth, rinse with large amount of running water for more than 15 minutes. If any symptoms are present after washing, get medical care.

In case contact to the skin or clothing, wipe it immediately and wash with soap and large amount of running water for more than 15 minutes. The skin or clothing maybe damaged if liquid crystal material is left adhered.

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Caring 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.

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

▪ Do not leave the base of your computer, or any other part that becomes hot during operation, 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.

▪ When the AC adapter is connected to an electrical outlet and your computer, it generates heat. Do not place the adapter in contact with any part of your body while using it. Never use the AC adapter to warm your body. Extended contact with your body, even through clothing, may cause a skin burn.

▪ Route the cables of an AC adapter, a mouse, a keyboard, a printer, or any other electronic device, or communication lines, so that they cannot be walked on, tripped over, pinched by your computer or other objects, or in any way subjected to treatment that could disturb the operation of your computer. Applying strong force to the cables may damage or break them.

- Place liquids away from your computer to avoid spills, and keep your computer away from water (to avoid the danger of electrical shock).
- Do not eat or smoke over your keyboard. Particles that fall into your keyboard can cause damage.
- 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 or 5 in).
- Avoid subjecting your computer to extreme temperatures (below 5°C/41°F or above 35°C/95°F).
- Some appliances, such as certain portable desktop fans or air purifiers, can produce negative ions. If a computer is close to such an appliance, and is exposed for an extended time to air containing negative ions, it may become electrostatically charged. Such a charge may be discharged through your hands when you touch the keyboard or other parts of the computer, or through connectors on I/O devices connected to it. Even though this kind of electrostatic discharge (ESD) is the opposite of a discharge from your body or clothing to the computer, it poses the same risk of a computer malfunction.

Your computer is designed and manufactured to minimize any effects of electrostatic charge. An electrostatic charge above a certain limit, however, can increase the risk of ESD. Therefore, when using the computer close to an appliance that can produce negative ions, give special attention to the following:

- Avoid directly exposing your computer to the air from an appliance that can produce negative ions.
- Keep your computer and peripherals as far as possible from such an appliance.

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- Wherever possible, ground your computer to facilitate safe electrostatic discharge.

❖ **Note:**

Not all such appliances cause a significant electrostatic charge.

When you handle options or CRUs, or perform any work inside the computer, take the following precautions to avoid static-electricity damage:
- Limit your movement. Movement can cause static electricity to build up around you.
- Always handle components carefully. Handle adapters, memory modules, and other circuit boards by the edges. Never touch exposed circuitry.
- Prevent others from touching components.
- When you install a static-sensitive option or CRU, touch the static-protective package containing the part to a metal expansion-slot cover or other unpainted metal surface on the computer for at least two seconds. This reduces static electricity in the package and your body.
- Whenever possible, remove the static-sensitive part from the static-protective packaging and install the part without setting it down. When this is not possible, place the static-protective packaging on a smooth, level surface and place the part on it.
- Do not place the part on the computer cover or other metal surface.

■ **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.
- Avoid turning the display beyond 127°.

■ **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 sleep 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.

■ **For outdoor use**

- Backup your critical data before you take your computer outdoors.
- Ensure that the battery is full.
- Be sure to turn off the power and close the LCD well.
- Do not leave anything between the closed LCD and the keyboard.

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- When you leave the computer in your car, place it on the back seat to avoid being insolated.
- Carry the AC adapter and power cord with the computer.

■ Handle storage media and drives properly

- If your computer comes with an optical 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 before closing the tray.
- When installing your hard disk, follow the instructions shipped with your hardware, and apply pressure only where needed on the device.

■ Data safety

- Do not delete unknown files or change the name of files or directories that were not created by you; otherwise, your computer software might fail to work.
- Be aware that accessing network resources can leave your computer vulnerable to computer viruses, hackers, spyware, and other malicious activities that might damage your computer, software, or data.
- It is your responsibility to ensure that you have adequate protection in the form of firewalls, antivirus software, and anti-spyware software and keep this software up to date.

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■ **Take care in setting passwords**

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

■ **Other important tips**

- 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: http://consumersupport.lenovo.com). 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 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.
- Turn off your computer if you are replacing a device, or else verify that the device is warm- or hot-swappable.

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- 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.
  - ExpressCard
  - Memory Card, such as SD Card, Memory Stick, MultiMedia Card, xD-Picture Card, and Memory Stick Pro card.
  - Memory module
- When transferring data to or from a Flash Media Card, such as an SD card, do not put your computer in sleep or hibernation mode before the data transfer is complete. To do so might cause damage to your data.

■ **Cleaning the cover of your computer**

Occasionally clean your computer as follows:

❶ 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.

❷ Absorb the diluted detergent into a sponge.

❸ Squeeze excess liquid from the sponge.

❹ Wipe the cover with the sponge, using a circular motion and taking care not to let any excess liquid drip.

❺ Wipe the surface to remove the detergent.

❻ Rinse the sponge with clean running water.

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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.

❖ **Note:**

Shut down the computer and then disconnect the power cord before cleaning the computer.

■ **Cleaning your computer keyboard**

❶ Absorb some isopropyl rubbing alcohol on a soft, dust-free cloth.

❷ 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.

❸ Allow to dry.

❹ 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.

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.

Accessibility and comfort

As your computer enables you to work in so many places, it is important that you remain attentive to good posture, good lighting, and proper seating. By keeping these considerations in mind, you can improve performance and achieve greater comfort. Lenovo is committed to providing the latest information and technology to our customers with disabilities.
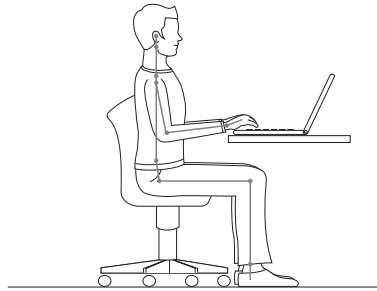
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■ **Ergonomic information**

Working in the virtual office may mean adapting to frequent changes in your environment. Following some simple rules will make things easier and bring you the maximum benefits of your computer. Keeping in mind such basics as good lighting and proper seating, for example, can help you improve your performance and achieve greater comfort.

❖ **Note:**

This example shows someone in a conventional setting. Even if you work in a casual, less conventional setting, many of the tips in this section still apply. Develop good habits, and they will serve you well.

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General Posture: Below are some general recommendations for assuming a healthy working posture. It is best to periodically make minor modifications in your working posture to deter the onset of discomfort caused by long periods of working in the same position. Frequent, short breaks from your work will also help to prevent any minor discomfort associated with your working posture.

Display: Position the display to maintain a comfortable viewing distance of 510-760 mm (20-30 inches). Avoid glare or reflections on the display from overhead lighting or outside sources of light. Keep the display screen clean and set the brightness to levels that enable you to see the screen clearly. Press **Fn + up/down arrow** to adjust display brightness.

Head Position: Keep your head and neck in a comfortable and neutral (vertical, or upright) position.

Chair: Use a chair that gives you good back support and seat height adjustment. Use chair adjustments to best suit your desired posture.

Arm and Hand Position: If available, utilize chair arm rests or an area on your working surface to provide weight support for your arms. Keep your forearms, wrists, and hands in a relaxed and neutral (horizontal) position. Type with a soft touch without pounding the keys.

Leg Position: Keep your thighs parallel to the floor and your feet flat on the floor or on a footrest.

■ **What if you are traveling?**

It may not be possible to observe the best ergonomic practices when you are using your computer while on the move or in a casual setting. Regardless of the setting, try to observe as many of the tips as possible. Sitting properly and using adequate lighting, for example, will help you maintain desirable levels of comfort and performance.

■ **Questions about vision?**

Your computer's visual display screen is designed to meet the highest standards and to provide you with clear, crisp images and large, bright displays that are easy to see, yet easy on the eyes. Of course, any concentrated and sustained visual activity can be tiring. If you have questions on eye fatigue or visual discomfort, consult a vision care specialist for advice.

■■ Maintenance

An important part of owning your computer is maintenance. With proper care, you can avoid common problems. The following sections provide information that can help you to keep your computer running smoothly.