User Guide

Lenovo LaVie Z

This document applies to the following models:

20FF0012US

20FG0013US

Notes:

- Before using the product, be sure to read “Read this first” on page iii.
- Some instructions in this document are by default based on the Microsoft ® Windows® 8.1. If you are using another Windows operating system, some operations might be slightly different. If you are using other operating systems, some operations might not apply to you.
- The illustrations, icons, and on-screen text shown in this document might differ from the actual product. Refer to the actual product.
- Configuration and application installation should be conducted by a user who has administrator privileges. If a User Account Control screen comes up, be sure to confirm the contents before continuing.

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Read this first

Be sure to follow the important tips given here to get the most use and enjoyment out of your computer. Failure to do so might lead to discomfort or injury, or cause the computer to fail.

Protect yourself from the heat that your computer generates.



When your computer is turned on or the battery is charging, the base, the palm rest, and some other parts may become hot. The temperature they reach depends on the amount of system activity and the level of charge in the battery.

Extended contact with your body, even through clothing, could cause discomfort or even a skin burn.

- 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 time.
- Periodically take hands from using the keyboard by lifting your hands from the palm rest.

Protect yourself from the heat generated by the ac power adapter.



When the ac power adapter is connected to an electrical outlet and your computer, it generates heat.

Extended contact with your body, even through clothing, may cause a skin burn.

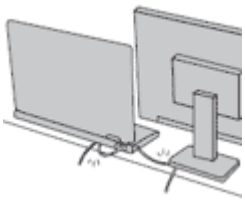
- Do not place the ac power adapter in contact with any part of your body while it is in use.
- Never use it to warm your body.

Prevent your computer from getting wet.



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

Protect the cables from being damaged.

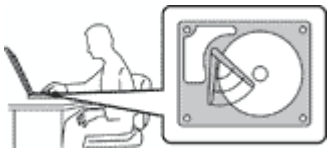


Applying strong force to cables may damage or break them.

Route communication lines, or the cables of an ac power adapter, a mouse, a keyboard, a printer, or any other electronic device, so that they cannot be walked on, tripped over, pinched by your computer or other objects, or in any way subject to treatment that could interfere with the operation of your computer.

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Protect your computer and data when moving it.



Before moving a computer equipped with a hard disk drive, do one of the following:

- Turn it off.
- Put it in sleep mode.
- Put it in hibernation mode.

This will help to prevent damage to the computer, and possible loss of data.

Handle your computer gently.



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

Carry your computer carefully.



- Use a quality carrying case that provides adequate cushioning and protection.
- Do not pack your computer in a tightly packed suitcase or bag.
- Before putting your computer in a carrying case, make sure that it is off, in sleep mode, or in hibernation mode. Do not put a computer in a carrying case while it is turned on.

Important safety information

Note: Read the important safety information first.

This information can help you safely use your notebook 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 “Warranty Information” in the *Instructions for Safe Use* that comes with your computer.

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 the following Web site:
http://www.lenovo.com/support/phone

Frequently inspect your computer and its components for damage or wear or signs of danger. If you have any question 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.
- 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.

Service and upgrades

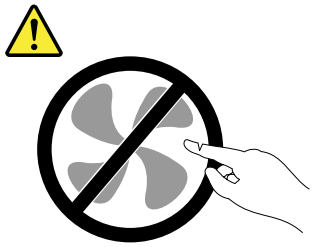
Do not attempt to service a product yourself unless instructed to do so by the Customer Support Center or your documentation. Only use a Service Provider who is approved to repair your particular product.

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 a power cord, always make

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sure that the power is turned off and that the product is unplugged from any power source. 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.



CAUTION:
Hazardous moving parts. Keep fingers and other body parts away.

CAUTION:



Before you open the computer cover, turn off the computer and wait several minutes until the computer is cool.

Power cords and power adapters

DANGER

Use only the power cords and power adapters supplied by the product manufacturer.

The power cords shall be safety approved. For Germany, it shall be H05VV-F, 3G, 0.75 mm^2, or better. For other countries, the suitable types shall 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 so that they will not be walked on, tripped over, or pinched by objects.

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.

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 pins 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.

To prevent possible overheating, do not cover the power adapter with clothing or other objects when the power adapter is plugged into an electrical outlet.

Extension cords and related devices

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 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.



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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.

External devices

CAUTION:
Do not connect or disconnect any external device cables other than USB and 1394 cables while the computer power is on; otherwise, you might damage your computer. To avoid possible damage to attached devices, wait at least five seconds after the computer is shut down to disconnect external devices.

General battery notice



DANGER

Batteries supplied by Lenovo for use with your product have been tested for compatibility and should only be replaced with approved parts. A battery other than the one specified by Lenovo, or a disassembled or modified battery is not covered by the warranty.

Battery abuse or mishandling can cause overheat, liquid leakage, or an explosion. To avoid possible injury, do the following:

- **Do not open, dissemble, or service any battery.**
- **Do not crush or puncture the battery.**
- **Do not short-circuit the battery, or expose it to water or other liquids.**
- **Keep the battery away from children**
- **Keep the battery away from fire.**

Stop using the battery if it is damaged, or if you notice any discharge or the buildup of foreign materials on the battery leads.

Store the rechargeable batteries or products containing the rechargeable batteries at room temperature, charged to approximately 30 to 50% of capacity. We recommend that the batteries be charged about once per year to prevent overdischarge.

Do not put the battery in trash that is disposed of in landfills. When disposing of the battery, comply with local ordinances or regulations.

Notice for removable rechargeable battery



DANGER

Only recharge the battery strictly according to instructions included in the product documentation.

If the battery is incorrectly replaced, there is danger of an explosion. The battery contains a small amount of harmful substance.

Notice for built-in rechargeable battery

DANGER

Do not attempt to replace the built-in rechargeable battery. Replacement of the battery must be done by a Lenovo-authorized repair facility or technician.

Only recharge the battery strictly according to instructions included in the product documentation.

The Lenovo-authorized repair facilities or technicians recycle Lenovo batteries according to local laws and regulations.

Notice for non-rechargeable coin-cell battery

DANGER

Do not attempt to replace the non-rechargeable coin-cell battery. Replacement of the battery must be done by a Lenovo-authorized repair facility or technician.

The Lenovo-authorized repair facilities or technicians recycle Lenovo batteries according to local laws and regulations.

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

California Perchlorate Information:

Products containing manganese dioxide lithium coin-cell batteries may contain perchlorate.

Perchlorate Material - special handling may apply, See www.dtsc.ca.gov/hazardouswaste/perchlorate

Heat and product ventilation

DANGER

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

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- **When the ac power 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 power 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).**

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 all internal parts enclosures are fastened into place. Never use the computer when internal parts and circuits are exposed.**



DANGER

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 the 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.

DANGER

During electrical storms, do not perform any replacement and do not connect the telephone cable to or disconnect it from the telephone outlet on the wall.

Liquid crystal display (LCD) notice

CAUTION:
The liquid crystal display (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 fluid gets into your eyes or on your hands, immediately wash the affected areas with water for at least 15 minutes; if any symptoms are present after washing, get medical care.

Note: For products with mercury-containing fluorescent lamps (for example, non-LED), the fluorescent lamp in the liquid crystal display (LCD) contains mercury; dispose of according to local, state, or federal laws.

Using headphones or earphones

CAUTION:
Excessive sound pressure from earphones and headphones can cause hearing loss. Adjustment of the equalizer to maximum increases the earphone and headphone output voltage and the sound pressure level. Therefore, to protect your hearing, adjust the equalizer to an appropriate level.

Excessive use of headphones or earphones for a long period of time at high volume can be dangerous if the output of the headphone or earphone connectors do not comply with specifications of EN 50332-2. The headphone output connector of your computer complies with EN 50332-2 Sub clause 7. This specification limits the computer's maximum wide band true RMS output voltage to 150 mV. To help protect against hearing loss, ensure that the headphones or earphones you use also comply with EN 50332-2 (Clause 7 limits) for a wide band characteristic voltage of 75 mV. Using headphones that do not comply with EN 50332-2 can be dangerous due to excessive sound pressure levels.

If your Lenovo computer came with headphones or earphones in the package, as a set, the combination of the headphones or earphones and the computer already complies with the specifications of EN 50332-1. If different headphones or earphones are used, ensure that they comply with EN 50332-1 (Clause 6.5 Limitation Values). Using headphones that do not comply with EN 50332-1 can be dangerous due to excessive sound pressure levels.

Additional safety information

Plastic bag notice

DANGER

Plastic bags can be dangerous. Keep plastic bags away from babies and children to avoid danger of suffocation.

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Glass parts notice

CAUTION:
Some parts of your product may be made of glass. This glass could break if the product is dropped on a hard surface or receives a substantial impact. If glass breaks, do not touch or attempt to remove it. Stop using your product until the glass is replaced by trained service personnel.

Choking hazard notice



CHOKING HAZARD – Product contains small parts.
Keep away from children under three years.

Polyvinyl Chloride (PVC) cable and cord notice

Many personal computer products and accessories contain cords, cables or wires, such as power cords or cords to connect the accessory to a personal computer. If this product has such a cord, cable or wire, then the following warning applies:

WARNING: Handling the cord on this product or cords associated with accessories sold with this product will expose you to lead, a chemical known to the State of California to cause cancer, and birth defects or other reproductive harm. ***Wash hands after handling***.

Chapter 1. Product overview

Checking that all included items are present

Open the shipping box and check that all included items are there. Immediately contact the place of purchase if any items happen to be missing or damaged.

Your shipping box includes:

- *Instructions for Safe Use*
- Power cord
- ac power adapter
- This computer

For the warranty information of your computer, go to:
http://www.lenovo.com/warranty-status

Locating computer controls, connectors, and indicators

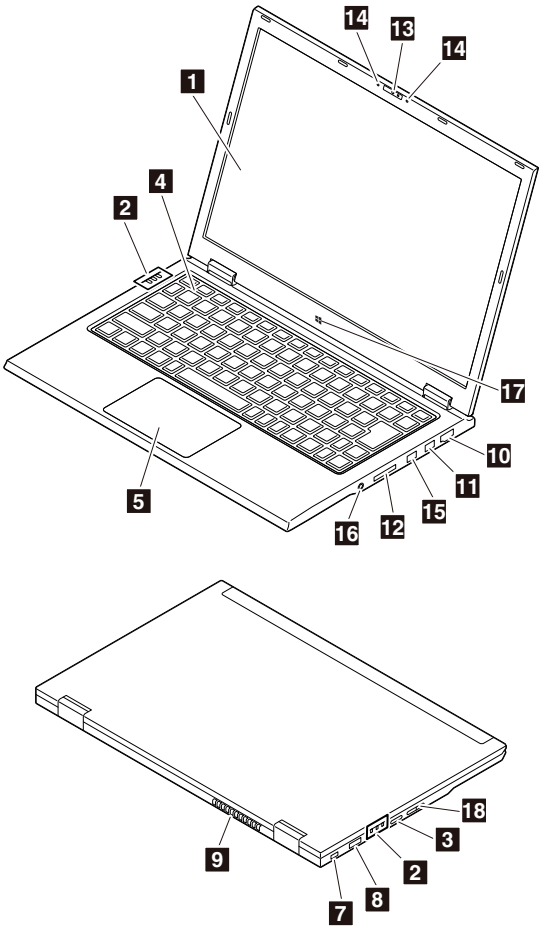
Locations

Note: Depending on the model, your computer might look slightly different from the illustration in this topic.

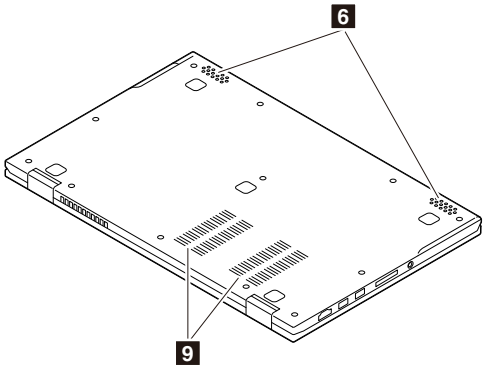
Front and right-side view:

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Back and left-side view:



Bottom view:



Number	Name	Explanation
1	LCD	Liquid crystal display (LCD) of the computer
2	Status LEDs	Indicators showing various states of the computer
3	Power button⏻	Press the power button to turn on the computer, turn off the computer, or change the power state.
4	Keyboard	Use the keyboard to input characters or control programs.

Number	Name	Explanation
5	Touchpad	Use the touchpad to move the pointer, click an object, or perform scrolling, without the need of a traditional mouse.
6	Speakers	Built-in stereo speakers
7	Security-lock slot	To protect your computer from theft, you can purchase a security cable lock that fits the security-lock slot to lock the computer to a stationary object. **Note:** You are responsible for evaluating, selecting, and implementing the locking device and security feature. Lenovo makes no comments, judgments, or warranties about the function, quality, or performance of the locking device and security feature.
8	dc power-input connector	Connect the ac power adapter to this connector.
9	Air vent	These holes enable air to circulate in the computer and to ensure proper cooling, especially the cooling of the microprocessor. Avoid covering them with materials such as hands or clothes.
10	HDMI connector	This connector is used to connect to High-Definition Multimedia Interface (HDMI™) connectors compatible televisions or external displays that are equipped with an HDMI port.
11	USB 3.0 connector	The Universal Serial Bus (USB) 3.0 connector is used for connecting USB-compatible devices, such as a USB printer or a digital camera. **Attention:** When you attach a USB cable to the USB 3.0 connector, ensure that the USB mark is facing upward. Otherwise the connector might get damaged.
12	SD (SDHC/SDXC) memory card slot	The slot supports SD memory cards, SDHC memory cards, and SDXC memory cards
13	Camera	Used the camera to take pictures or hold a video conference. While the camera is in use, the indicator light on the side of the camera is on.
14	Microphones	The microphones capture sound and voice when used with a program capable of handling audio. While you are using this microphone for recording, it is not possible to play back what you are recording through speakers at the same time.
15	USB connector (supports USB 3.0, Power off USB Power Charge function)	Used to connect devices that are compatible with USB 3.0. This connector also enables you to charge some mobile digital devices or smartphones when your computer is in sleep or hibernation mode.
16	Audio connector	Used to connect headphones or a headset that has a 4-pole (CTIA) mini-plug to the audio connector to listen to the sound form the computer. The audio connector does not support a conventional microphone.
17	Windows icon (Convertible model)	Has the same function as the Windows key on the keyboard of your computer If you press and hold the Windows icon first and then press the power button, a function list will be displayed for you to choose from: • Lock • Switch user • Sign out • Change a password • Task Manager
18	Volume Button (Convertible model)	Press this button to control the system volume.

Status LEDs

Power LED

LED state	Computer state
Solid blue	The computer is powered on.
Blinking blue	The computer is in entering sleep mode.
Solid orange	The battery power is low.
Slow-blinking orange	Low battery in sleep mode
Fast-blinking orange	Extremely low battery
Off	The computer is powered off or in hibernation mode.

Battery recharge LED

LED state	Computer state
Solid orange	The battery is recharging.
Blinking orange	There are battery recharging errors or deterioration errors.
Off	The computer is disconnected from the ac power adapter, or the battery is fully charged. **Note:** In some cases, when the battery is fully charged, or nearly fully charged, the battery recharge LED will turn off and the battery will no longer be charged.

Caps lock LED

LED state	Computer state
Green	This indicates that the Caps Lock is on. In this case, all letters are entered as capital letters.
Off	This indicates that the Caps Lock is off. In this case, all letters are entered as lowercase letters.

Specifications

Model name	20FF0012US and 20FG0013US
Microprocessor	Intel® Core™ i7 processor*1
Memory	Onboard, 8 GB low-power double data rate 3 low voltage synchronous dynamic random access memory (LPDDR3)
Power	Lithium polymer battery (DC 14.8 V, Typ. 2000 mAh) (The battery pack is a consumable.) Input rating of the ac power adapter: 100 to 240 V ac, 50 to 60 Hz **Note:** The included power cord is adapted to suit your region's specifications. For use outside your region, another power cord will be required.
Storage	SATA solid-state drive: 256 GB
Power consumption (maximum configuration)	Approx. 45 W

External Dimensions (excluding protrusions)	Depending on the models: • Convertible model: 319 mm (12.6 inches) (wide) x 217 mm (8.5 inches) (depth) x 16.9 mm (0.7 inch) (height) • Clamshell model: 319 mm (12.6 inches) (wide) x 212 mm (8.3 inches) (depth) x 16.9 mm (0.7 inch) (height)
Weight (including battery)	Depending on the models: • Convertible model: 926 g (2.0 lb) • Clamshell model: 850 g (1.9 lb)

- *1: Supports hyperthreading technology. Enhanced Intel SpeedStep® technology driver is built in.

Initial Setup

Important points when connecting

- Do not touch connector terminals when connecting any items. Failure to do so might cause damage.
- Connect the LAN cable to your computer after completing Windows setup and firewall configuration. This ensures that your computer is safely connected to a network.

Connecting to ac power

The power to run your computer can come either from the battery or from ac power. While you use ac power, the battery charges automatically.

Your computer comes with an ac power adapter and a power cord.

- ac power adapter: Converts ac power for notebook computer use.
- Power cord: Connects the ac outlet and the ac power adapter.

To connect the computer to ac power, do the following:

Attention: Using an improper power cord might cause severe damage to your computer.

Note: Ensure that you perform the actions in the order in which they are listed.

1. Connect the power cord to the ac power adapter.
2. Connect the ac power adapter to the power connector of the computer.
3. Connect the power cord into an electrical outlet.

Tips for using the ac power adapter

- When the ac power adapter is not in use, disconnect it from the electrical outlet.
- Do not bind the power cord tightly around the ac power adapter transformer pack when it is connected to the transformer.
- Before you charge the batteries, make sure that their temperature is at least 10°C (50°F).
- You can charge the batteries when the ac power adapter is connected to the computer. You need to charge the batteries in any of the following situations:
  - When the battery icon in the Windows notification area shows a low percentage of battery power remaining
  - When the batteries have not been used for a long time

Windows Setup

When you turn on your computer for the first time, you need to perform Windows setup. To set up the Windows operating system, make sure that your computer is connected to ac power. Then, follow the on-screen instructions. Contact your system administrator for the appropriate settings when necessary.

Using the fast startup function

The fast startup function enables your computer to quickly start up from the power-off state. The fast startup function is enabled by factory default.

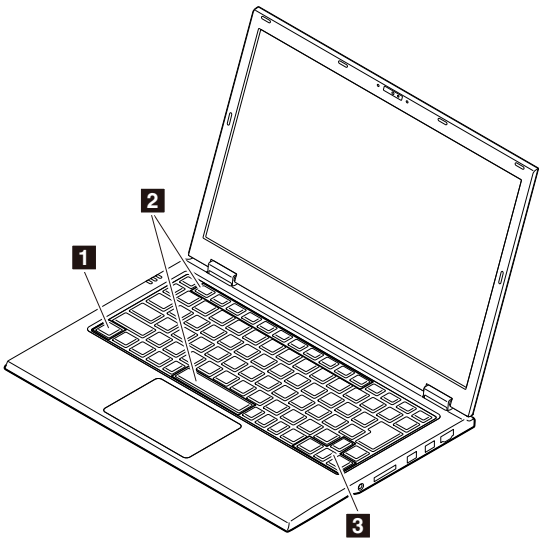
Before installing or removing a peripheral device, disable the fast startup function and shut down the computer. Otherwise, the device might not be detected by the system.

To enable or disable the fast startup function on your computer, do the following:

1. Click **Desktop** on the start screen.
2. Display the charm bar on the desktop, and then click **Settings**.
3. Click **Control Panel**.
4. Click **System and Security**, and then select **Change what the power buttons do** from the **Power Options**.
5. Select **Change settings that are currently unavailable**.
6. In the **Shutdown settings** area, select the **Turn on fast startup (recommended)** check box to enable fast startup or clear the check box to disable it.
7. Click **Save changes**.

Chapter 2. Keyboard

The keyboard has several function keys, which consist of the Fn key 1 and the other function keys 2 and 3.



Key combinations	Function
Fn+F1	Mute (🔇) or unmute
Fn+F2	Turn on or turn off the wireless function
Fn+F3 *1	Switch between the computer display and the external display (🖵 / ▣)
Fn+F7	Decrease the screen brightness ▼☼
Fn+F8	Increase the screen brightness ▲☼
Fn+F9	Decrease the volume 🔉
Fn+F10	Increase the volume 🔊
Fn + ↑	Page up
Fn + ↓	Page down
Fn + ←	Home
Fn + →	End
Fn + Space bar *2	Turn on or turn off the touchpad

*1: This function is disabled if the driver is not installed.

*2: This function is disabled if the touchpad driver is changed to the Standard PS/2 port mouse.

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Chapter 3. The touchpad

This chapter covers the touchpad usage and extended feature settings, as well as the driver update process.

Using the touchpad

When settings are at the factory default values, the following operations can be performed with the touchpad.

Operation name	Touchpad operation
Move the mouse pointer	Touch the touchpad and move your finger in the direction as desired to move the mouse pointer.
Click	Press and immediately release any part of the touchpad except the lower right part or tap a fingertip against the touchpad.
Right-click	Press and immediately release the lower right part of the touchpad.
Double-click	Move the pointer to an icon or folder and quickly click twice or quickly tapping the touchpad twice.
Drag	• Move the pointer to an icon or a folder, press the touchpad, and move your finger on the touchpad while continuing to press the touchpad. • Tap the touchpad with the pointer aligned on the target, and then touch the touchpad again and move your finger.
Scroll	Click the application window displaying the scroll bar and touch two points on the touchpad. The two points should be slightly separated from each other. Move your two fingers in the direction you want to move the scroll bar.
Zoom	Click the application window that you want to zoom in to or zoom out from, and touch two points on the touchpad. While keeping your fingers in the same place, you can zoom in or zoom out by widening or narrowing the distance between your fingers.
Rotate	Click the application window that you want to rotate, and touch two points on the touchpad. While keeping your fingers in the same place, rotate and twist the two fingers.

Notes:

- Scroll, zoom, and rotation are not supported by some applications.
- Tapping the touchpad to produce a click or double-click is called tapping or double tapping.

Configuring the touchpad

Configuration of the touchpad buttons, pointer behavior, and extended features is done using the Mouse Properties window.

1. Click **Control Panel**.
2. Click **Hardware and Sound**, and click **Mouse** in **Devices and Printers**. The Mouse Properties window should come up. Click on each tab in the Mouse Properties window to change the touchpad settings.

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Chapter 4. External display

Switching display outputs

Display outputs can be switched using the keyboard.

Note: The external display refers to the external display connected to the HDMI port on your computer.

To switch display outputs, do the following:

1. Press Fn+F3. The available outputs are displayed.

Screen output	Explanation
Computer screen only	Your computer display
Duplicate	Displays the same output on both your computer screen and an external display
Extend	Extends the output from your computer display to an external display
Second screen only	An external display

2. Select an output using the ↑ or ↓ key, and then press Enter. The display output will be switched as desired.

Intel® WiDi

The Intel WiDi (Intel Wireless Display) function uses the wireless LAN function to display the screen of this computer on an external display or TV set that has the Intel WiDi adapter.

Notes:

- The external display or TV set needs to have the optional Intel WiDi adapter.
- The external display or TV set needs to have an HDMI input terminal or composite video and audio input terminals. In addition, they should have a terminal to connect the Intel WiDi adapter. Regarding whether or not the Intel WiDi adapter can be connected, consult the manufacturer of the devices before you purchase the adapter.

Precautions

- Intel WiDi uses the wireless LAN function. The high-speed and stable wireless LAN communication environment is required because high-resolution screen images are transferred.
- Image and sound of an external display or TV set may be interfered with by the increased communication speed or increased load of communication processing.
- When video images are played, instances of jerky motions or dropping frames may increase.
- The image and sound played on the external display or TV set are delayed by approximately 0.3 seconds compared to those played on the computer. Therefore, it may be difficult to operate the mouse and keyboard or to enter characters.
- Intel WiDi confirms to the High-bandwidth Digital Content Protection (HDCP) standard.
- The playback may fail depending on the copyright protection system adopted in the contents.
- If the **Duplicate these displays** option is selected when using Intel WiDi, the selectable screen resolutions may be limited.

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- If the computer is connected to an external display or TV set using Intel WiDi and if the sound settings are changed, the connection with the computer may be terminated.
- If the Intel WiDi connection is used, and if the computer is manually switched to the Sleep, Hybrid Sleep, or Hibernate, or if you wish to switch the Windows user account, terminate the WiDi application once and release the WiDi connection.
- If the computer is connected to an external display or TV set using Intel WiDi and if the screen output is changed to the LCD display of this computer only, the WiDi connection is terminated.

Connecting to an external display or a TV set

To connect the computer to an external display or a TV set using Intel WiDi, do the following:

1. Attach the Intel WiDi adapter to the external display or TV set. For more information about the WiDi adapter, refer to the Intel WiDi adapter manual.
2. Prepare the display so that the Intel WiDi standby screen appears.
3. Display the Charm bar, and click **Devices**.
4. Click **Project → Add a wireless display**.
5. When the connected device is detected, select the desired wireless display and follow the instructions on the screen.

   Note: If the WPS PIN input window is displayed, enter the 8-digit security code that is shown on the TV set or external display, and click **Next**. Enter the 8-digit security code after enabling the use of single-byte alphanumeric characters by selecting it from **Single/Dual/Kanji**.

Disconnecting from an external display or a TV set

To disconnect the computer from the external display or TV set, do the following:

1. Display the Charm bar, and click **Devices**.
2. Click **Project → Disconnect**.

Chapter 5. Connecting to the network

Your computer has one or more network cards that enable you to connect your computer to the Internet or other network connections.

Before connecting to a network

This topic provides information about how to perform network setup in order to connect to a network.

Setting up a network connection

You can change the network connection settings by doing the following:

1. Open Control Panel.
2. Click **Network and Internet** → **View network status and tasks** → **Change adapter settings**.
3. Follow the on-screen instructions.

For more information, refer to the Windows help information system.

Setting the computer name and network to connect to

You can change settings related to the connected network such as your computer name. To change the computer name, do the following:

1. Open Control Panel.
2. Click **System and Security** → **System**.
3. Select **Change settings** under **Computer name, domain, and workgroup settings**.
4. Follow the on-screen instructions.

For more information, refer to the Windows help information system.

Ethernet connections

You can connect your computer to a local network or a broadband connection by using the built-in Ethernet feature of the computer.

To attach an Ethernet cable to your computer, you need a ThinkPad® USB 3.0 Ethernet Adapter. The Ethernet adapter is available as an option. You can purchase one from Lenovo at: http://shop.lenovo.com/us/en/accessories/

DANGER

To avoid the risk of electrical shock, do not connect the telephone cable to the Ethernet connector on the Ethernet adapter.

Using the wireless-LAN connection

Wireless connection is the transfer of data without the use of cables but by means of radio waves only.

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Attention:

- If you want to use the wireless features on an airplane, check the wireless services with the airline before boarding the airplane.
- If there are restrictions on the use of computer wireless features on an airplane, disable the wireless features of your computer before boarding.

A wireless local area network (LAN) covers a relatively small geographic area, such as an office building or a house. Devices based on the 802.11 standards can connect to this type of network.

Your computer comes with a built-in wireless network card and a configuration utility to help you establish wireless connections and monitor the connection status. This enables you to stay connected to your network while you are at the office, in a meeting room, or at home, with no need for a wired connection.

To establish a wireless-LAN connection, do the following:

1. Ensure that the wireless feature is enabled and airplane mode is set to **off**.
2. Click the wireless-network-connection-status icon in the Windows notification area. A list of available wireless networks is displayed.
3. Double-click a network to connect to it. Provide required information if needed.

The computer automatically connects to an available wireless network when the location changes. Open Network and Sharing Center to manage multiple network profiles. For more information, refer to the Windows help information system.

Tips for using the wireless-LAN feature

To achieve the best connection, use the following guidelines:

- Place your computer so that there are as few obstacles as possible between the wireless-LAN access point and the computer.
- Open your computer lid to an angle of slightly more than 90 degrees.
- If you use the wireless feature (the 802.11 standards) of your computer simultaneously with a Bluetooth option, the data transmission speed can be delayed and the performance of the wireless feature can be degraded.

Configuring the wireless-LAN modules

When the settings of your computer are set at factory default values, you can use the wireless LAN only with the frequency band of 2.4 GHz. If you want to use the wireless LAN with the frequency band of 5 GHz, do the following to configure the network adapters:

1. Open Control Panel. Set the view of Control Panel as Large icons.
2. Click **Device Manager**.
3. Double-click **Network adapters**, and then double-click **Intel(R) Dual Band Wireless-AC 7265**.
4. In the window opened, click the **Advanced** tab and then select **Wireless Mode** in the **Property** area.
5. In the **Value** drop-down list box, select **6. 802.11a/b/g**.
6. Click **OK**, and then restart your computer if necessary.

Chapter 6. System Configuration

The BIOS Setup Utility

Notes:

- Do not turn off your computer with the power switch while in the BIOS Setup Utility. When turning the power off, be sure to either exit the BIOS Setup Utility and shut down your computer from the Windows menu, or turn the power off after selecting **Save Changes and Power Off** from the **Exit** menu when you wish to save the new settings.
- During the following states, if you turn on the power switch and start the BIOS Setup Utility, do not change settings under the **Advanced** menu.
  - Hibernation
  - Shutdown when the fast startup function is enabled (for more information about the fast startup function, see “Using the fast startup function” on page 6)

    To change the settings under **Advanced** menu, select **Settings → Power → Restart** from the charms bar. When the computer is restarting, start the BIOS Setup Utility again. Now you can change the settings under **Advanced** menu.

Entering the BIOS Setup Utility

Turn on the power and immediately press the F2 key several times. The BIOS Setup Utility will then be displayed.

BIOS Setup Utility basic operation

Use the keyboard to configure the BIOS settings. The following is a list of the main keys used.

Key	Function/Operation
← and →	Select menu bars such as **Main** or **Advanced**.
↑ and ↓	• Select items to be configured. • In cases where possible configuration values are listed on the screen, use these keys to select the desired value.
Enter	• Brings up a list of possible configuration values for the current item or displays the selected menu. It is also used to select a setting value and close the menu. • Displays the submenu for items that are highlighted with a ► symbol. • Moves digits when entering the **System Time** and **System Date** parameters.
Esc	• Exits the BIOS Setup Utility without saving the settings • Returns to the previous screen
F9	Returns all settings to the factory default settings.
F10	Saves any changes and restarts the computer.
Tab	Moves digits when entering the **System Time** and **System Date** parameters.

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Restoring the factory default setting

Do the following to restore your computer to the factory default settings:

1. Enter the BIOS Setup Utility.
2. Press the F9 key. A confirmation window is displayed.
3. Select **Yes** and press Enter. The factory default settings are loaded.
4. Press the F10 key. A confirmation window is displayed.
5. Select **Yes** and press Enter. The default settings are saved and the system will restart or power off.

Chapter 7. Security

Security chip function

Notes:

- The security chip does not guarantee complete protection of data or hardware. Always exercise appropriate caution when managing and handling important data.
- In addition to the security chip function, we recommend configuring supervisor and user passwords in the BIOS Setup Utility.
- When performing computer recovery, reinstalling the operating system, resetting, or using a separately sold operating system, initialize the security chip before enabling it.

Before sending your computer for repair

When you send your computer for repair, be sure to cancel supervisor and user password settings in the BIOS Setup Utility and initialize the security chip to prevent information from being divulged.

Refer to the following procedures for security chip initialization.

If the Windows BitLocker drive encryption is used, first disable it and then initialize the security chip.

1. Turn on the power and immediately press the F2 key several times. The BIOS Setup Utility will then be displayed.
2. In the **Security** menu, select **Security Chip Configuration** and press Enter.
3. Confirm that **Current TPM State** is set to **Enabled&Activated**. If **Current TPM State** is not set to **Enabled&Activated**, enable the security chip, see “Enable the security chip” on page 17.
4. Set **Change TPM State** to **Clear**.
5. Press the F10 key. A confirmation message is displayed.
6. Select **Yes** and then press Enter. The settings are saved and the BIOS Setup Utility exits.
7. If a confirmation screen is displayed after the computer restarts, press Shift + F10. The settings are saved and the computer restarts.

The security chip is now initialized.

Enable the security chip

After initializing the security chip, do the following to enable it for use again.

1. Turn on the power and immediately press the F2 key several times. The BIOS Setup Utility will then be displayed.
2. In the **Security** menu, select **Security Chip Configuration** and press Enter.
3. Confirm that **TPM Support** is set to **Enabled**. If it is set to **Disabled**, change it to **Enabled**.
4. Set **Change TPM State** to **Enable&Activate**.
5. Press the F10 key. A confirmation message is displayed.
6. Select **Yes** and then press Enter. The settings are saved and the BIOS Setup Utility exits.
7. After the Windows system has started, restart the computer.

The features of the security chip are now enabled.

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Note: You can reset security chip feature settings by setting **Change TPM State** to **Clear**. Therefore, we recommend that you set up a supervisor password/user password before you use security chip features so that a higher level of security can prevent a third party from resetting security chip feature settings.

Notice on deleting data from your solid-state drive

Some of the data stored on the solid-state drive might be sensitive. Handing your computer over to someone else without deleting the loaded software, such as operating systems and application software, might even violate license agreements. Be sure to delete data stored on the solid-state drive before you dispose of, sell, or hand over your computer.

You can use the following methods to delete data from the solid-state drive:

- Move the data to the Recycle Bin, and then empty the Recycle Bin.
- Delete the data.
- Format your solid-state drive, using the software for initializing it.
- Use the recovery program provided by Lenovo to bring the solid-state drive back to the factory default settings.

These operations, however, only change the file location of the data; they do not delete the data itself. In other words, the data retrieval processing is disabled under an operating system such as Windows. The data is still there, even though it seems to be lost. Thus, it is sometimes possible to read the data by use of special software for data recovery. There is a risk that people of bad faith might read and misuse the critical data on solid-state drives for unexpected purposes.

To prevent leakage of data, it is important that you delete all the data from the solid-state drive when you dispose of, sell, or hand over your computer. You can destroy the data physically by smashing the solid-state drive with a hammer, or magnetically by means of strong magnetic power, thus making the data unreadable. But it is recommended that you use the software (payware) or service (pay service) developed for that purpose. The process might take several hours.

For disposing of data on the solid-state drive, Lenovo provides Drive Erase Utility for Resetting the Cryptographic Key and Erasing the Solid State Drive tool. Go to http://www.lenovo.com/support to download these tools.

If an Encryption solid-state drive is supported and installed in your computer, you can logically dispose of all the data on the drive in a short time by erasing the cryptographic key. The data encrypted with the old key is not physically erased but remains on the drive; however, it cannot be decrypted without the old key. This feature is also available with Drive Erase Utility for Resetting the Cryptographic Key and Erasing the Solid State Drive tool.

Chapter 8. Recovery overview for the Windows 8.1 operating system

This section provides information about the recovery solutions for the Windows 8.1 operating system.

A Windows recovery image is preinstalled in the recovery partition on your computer. The Windows recovery image enables you to refresh your computer, or reset your computer to the factory default settings.

You can create a recovery USB drive as backups or replacement for the Windows recovery image. With the recovery USB drive, you can troubleshoot and fix the problems on your computer even if you cannot start the Windows 8.1 operating system. It is recommended that you create the recovery USB drive as early as possible. For more information, see “Creating the recovery USB drive” on page 21.

Before recovery

Read this section before performing recovery.

Required device

If the operating system is to be recovered from a recovery USB drive, a USB key of 16 GB or larger is required.

Backing up data from the solid-state drive

If there is data that you would like to maintain, make a backup of the data and then perform recovery. For multi-user computers, each user should log on and make personal backups.

Maintaining system settings

Once recovery is performed, all the settings including system configuration will be reset to the factory default settings. If you would like to use the current settings again after recovery, such as BIOS Setup Utility settings and network settings, make a note of the current settings.

Restoring the BIOS Setup Utility settings

Before recovery, be sure to load the factory default settings for the BIOS Setup Utility.

Note: Be sure to initialize the security chip using the BIOS Setup Utility before the computer recovery. For the security chip initialization, refer to “Before sending your computer for repair” on page 17.

Precautions during recovery

Take the following precautions during recovery:

- Be sure to follow the steps in this manual and on the recovery screen.
- Be sure to connect your computer to the ac power.
- Ensure that the computer power is turned on.
- Ensure that the wireless LAN function is turned on.
- Ensure that the peripheral devices are disconnected.
- Do not interrupt recovery.
- Do not leave the computer alone during recovery.
- If the message “Recovery could not be completed” is displayed, it is possible that model information is written incorrectly. Contact your local service provider.

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Refreshing your computer

If your computer does not perform well and the problem might be caused by a recently installed program, you can refresh your computer without losing your personal files or changing your settings.

Attention: If you refresh your computer, only the programs that came with your computer and the programs that you installed from Windows Store will be reinstalled.

To refresh your computer, do the following:

1. Move your pointer to the top-right or bottom-right corner of the screen to display the charms. Click **Settings → Change PC settings → Update and recovery → Recovery**.
2. In the **Refresh your PC without affecting your files** section, click **Get started**.
3. Follow the instructions on the screen to refresh your computer.

Resetting your computer to the factory default settings

If you want to recycle your computer or just start over, you can reset your computer to the factory default settings. Resetting the computer will reinstall the operating system, reinstall all the programs that came with your computer, and reset all the settings to the factory default settings.

Attention: If you reset the computer to the factory default settings, all your personal files and settings will be deleted. To avoid data loss, make a backup copy of all the data that you want to keep.

To reset your computer to the factory default settings, do the following:

1. Move your pointer to the top-right or bottom-right corner of the screen to display the charms. Click **Settings → Change PC settings → Update and recovery → Recovery**.
2. In the **Remove everything and reinstall Windows** section, click **Get started**. Then click **Next** to confirm the operation.
3. Depending on your needs, do one of the following:
   - To perform a quick format, click **Just remove my files** to start the process. The process will take several minutes.
   - To perform a complete format, click **Fully clean the drive** to start the process. The process will take several hours.
4. Follow the instructions on the screen to reset your computer to the factory default settings.

Using the advanced startup options

With the advanced startup options, you can change the firmware settings of the computer, change the startup settings of the Windows operating system, start the computer from an external device, or restore the Windows operating system from a system image.

To use the advanced startup options, do the following:

1. Move your pointer to the top-right or bottom-right corner of the screen to display the charms. Click **Settings → Change PC settings → Update and recovery → Recovery**.
2. In the **Advanced startup** section, click **Restart now → Troubleshoot → Advanced options**.
3. Select a desired startup option, and then follow the instructions on the screen.

Recovering your operating system if Windows 8.1 fails to start

The Windows recovery environment on your computer is capable of operating independently from the Windows 8.1 operating system. This enables you to recover or repair the operating system even if the Windows 8.1 operating system fails to start.

After two consecutive failed boot attempts, the Windows recovery environment starts automatically. Then you can choose repair and recovery options by following the instructions on the screen.

Note: Ensure that your computer is connected to ac power during the recovery process.

Creating and using a recovery USB drive

You can create a recovery USB drive as backups for the Windows recovery environment and the Windows recovery image. If you cannot start the computer, you can use the recovery USB drive to troubleshoot and fix the problems on your computer.

It is recommended that you create the recovery USB drive as early as possible. Once you create the recovery USB drive, keep it in a safe place and do not use it to store other data.

Creating the recovery USB drive

To create the recovery USB drive, you need a USB drive with at least 16 GB of storage. The required USB capacity depends on the size of the recovery image.

Attention: Creating the recovery USB drive will delete anything stored on the USB drive. To avoid data loss, make a backup copy of all the data that you want to keep.

To create the recovery USB drive, do the following:

Note: Ensure that your computer is connected to ac power.

1. Move your pointer to the top-right or bottom-right corner of the screen to display the charms, and click **Search**.
2. Type `recovery` in the **Search** field and click the Search button. Then click **Create a recovery drive**.
3. Click **Yes** in the User Account Control window to enable the recovery USB drive Creator program to start.
4. Ensure that you select the **Copy the recovery partition from the PC to the recovery drive.** option. Then click **Next**.

   Important: If you clear the **Copy the recovery partition from the PC to the recovery drive.** option, you will create the recovery USB drive without the recovery partition content. You still can start the computer from the recovery USB drive, but you might be unable to recover your computer if the recovery partition on your computer is damaged.
5. Connect a proper USB drive, and then click **Next**.
6. Click **Create** in the Recovery Drive window. The creation of the recovery USB drive starts.
7. When the creation of the recovery USB drive finishes, do one of the following:
   - To keep the recovery partition on your computer, click **Finish**.
   - To delete the recovery partition on your computer, click **Delete the recovery partition**.

     Attention: If you delete the recovery partition on your computer, do keep the recovery USB drive in a safe place. The Windows recovery image will not be stored in your computer anymore, and you will need the recovery USB drive to refresh or reset your computer.
8. Remove the USB drive. The recovery USB drive is created successfully.

Using the recovery USB drive

If you cannot start your computer, or if you cannot start the Windows recovery image on your computer, use the recovery USB drive to recover your computer.

To use the recovery USB drive, do the following:

Note: Ensure that your computer is connected to ac power during the following process.

1. Turn on the computer and start the BIOS Setup Utility.
2. On the **Boot** submenu, set the recovery drive as the first startup device.
3. Follow the on-screen instructions to recovery your computer.

For more information about the recovery solutions provided by the Windows 8.1 operating systems, go to: http://go.microsoft.com/fwlink/?LinkID=263800

Lenovo factory recovery USB key

Lenovo factory recovery USB key enables you to reset your computer to the factory default settings.

To obtain a Lenovo factory recovery USB key, contact Lenovo Customer Support Center. Shipping and handling fees apply. For more information, see “Get Support” in the *Instructions for Safe Use* that came with your computer.

To use the Lenovo factory recovery USB key, do the following:

Note: Ensure that your computer is connected to ac power during the following process.

1. Turn off the computer, wait for about five seconds, and then connect the Lenovo factory recovery USB key to your computer.
2. Turn on the computer and immediately press F2 several times. The BIOS setup utility will then be started.
3. On the **Boot** submenu, set **USB Hard Disk:UEFI:xxx** (where xxx refers to the name of the USB key that you are using) as the first startup device.
4. Follow the on-screen instructions to reset your computer to the factory default settings.

Appendix A. Regulatory Information

Wireless related information

Wireless interoperability

The M.2 wireless LAN card is designed to be interoperable with any wireless LAN product that is based on Direct Sequence Spread Spectrum (DSSS), Complementary Code Keying (CCK), and/or Orthogonal Frequency Division Multiplexing (OFDM) radio technology, and is compliant to the 802.11b/g Standard, 802.11a/b/g, 802.11n or 802.11ac on Wireless LANs, as defined and approved by the Institute of Electrical and Electronics Engineers.

Usage environment and your health

Integrated wireless cards emit 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.

Due to the fact that integrated wireless cards operate within the guidelines found in radio frequency safety standards and recommendations, Lenovo believes they 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 integrated wireless cards might be restricted by the proprietor of the building or responsible representatives of the organization. These situations and areas might for example include:

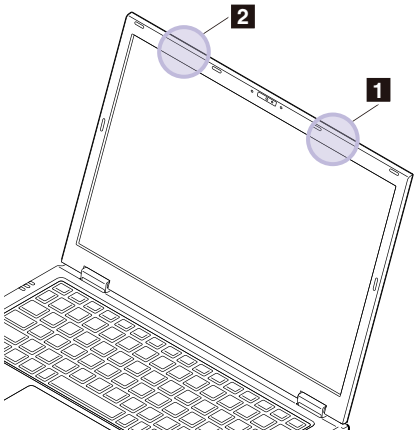
- Using the integrated wireless cards on board of airplanes, in hospitals or near petrol stations, blasting areas (with electro-explosive devices), medical implants or body-worn electronic medical devices, such as pace makers.
- In any other environment where the risk of interference to other devices or services is perceived or identified as harmful.

If you are uncertain of the policy that applies to the use of wireless devices in a specific organization (such as airport or hospital), you are encouraged to ask for authorization to use integrated wireless cards prior to turning on the computer.

Locations of the UltraConnect™ wireless antennas

Lenovo LaVie Z models feature a diversified antenna system built into the display for optimal reception, which enables wireless communication wherever you are.

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1 Wireless LAN antenna (main)

2 Wireless LAN antenna (auxiliary)

USA — Federal Communications Commission (FCC)

Approved wireless devices

This section presents the FCC ID and model number of each wireless device.

Preinstalled wireless LAN module

Lenovo LaVie Z:

FCC ID: I4L-LAVIEZ7265 (Models with wireless LAN: 7265NGW)

Notes:

- The wireless LAN and the Bluetooth features operate at different frequencies exclusively, and transmit radio frequencies simultaneously.
- The wireless LAN modules marketed in the USA do not support or function in the extended channels (12ch, 13ch).

Preinstalled wireless LAN and Bluetooth module

The wireless LAN and Bluetooth module in your computer is preinstalled by Lenovo, and you are prohibited to replace with other wireless adapter nor remove it. If the device requires replacement due to some problem during warranty, it must be serviced by a Lenovo authorized servicer.

FCC ID location

There is no FCC ID for the wireless LAN module shown on the enclosure of your computer. Instead you will find an indicator pointing to the location of the FCC ID on the bottom of your computer. The FCC ID is affixed on the approved module installed in the wireless LAN module slot, and the FCC ID is visible prior to installation.

FCC RF exposure compliance

The total radiated energy from the antennas connected to one of the wireless LAN modules conforms to the FCC limit of the SAR (Specific Absorption Rate) requirement regarding 47 CFR Part 2 section 1093, when the computer was tested in either conventional notebook or tablet computer orientations.

The transmission antennas for the wireless LAN module are located in the LCD cover. See “Locations of the UltraConnect™ wireless antennas” on page 23.

Radio Frequency interference requirements

Each device has been tested and found to comply with the limits for a Class B digital device pursuant to FCC Part 15 Subpart B. Refer to “Electronic emission notices” on page 25.

When you use a wireless LAN module in the 802.11 a/n transmission mode, note that high power radars are allocated as primary users of the 5250 to 5350 MHz and 5650 to 5850 MHz bands. These radar stations can cause interference with and/or damage this device.

Simultaneous use of RF transmitters

Your computer is approved for simultaneous use of one of the approved wireless LAN modules. For a list of those transmitters, refer to “Approved wireless devices” on page 24.

Make sure of the following conditions when you use any other external RF option device:

1. When you use any other RF option device, you are requested to confirm that the device conforms to the RF Safety requirement and is approved to use for your computer.
2. You must follow the RF Safety instructions of the RF option device that are included in the user manual of the RF option device.
3. If the RF option device is prohibited to use in conjunction with another transmitters, you must turn off all other wireless features in your computer.

Export classification notice

This product is subject to the United States Export Administration Regulations (EAR) and has an Export Classification Control Number (ECCN) of 5A992.c. It can be re-exported except to any of the embargoed countries in the EAR E1 country list.

Electronic emission notices

Federal Communications Commission Declaration of Conformity

The following information refers to the Lenovo LaVie Z computer, machine types: 20FF and 20FG.

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 that 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.

Lenovo is not responsible for any radio or television interference caused by using other than specified or recommended cables and connectors or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

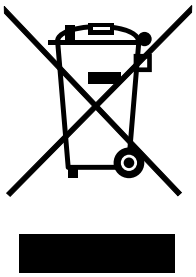
This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Responsible Party:
Lenovo (United States) Incorporated
1009 Think Place - Building One
Morrisville, NC 27560
Phone Number: 919-294-5900

WEEE and recycling statements

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

Important WEEE information



The WEEE marking on Lenovo products applies to countries with WEEE and e-waste regulations (for example, the European WEEE Directive, India E-Waste Management & Handling Rules, 2011). Appliances are labeled in accordance with local regulations concerning waste electrical and electronic equipment (WEEE). These regulations determine the framework for the return and recycling of used appliances as applicable within each geography. This label is applied to various products to indicate that the product is not to be thrown away, but rather put in the established collection systems for reclaiming these end of life products.

Users of electrical and electronic equipment (EEE) with the WEEE marking must not dispose of end of life EEE as unsorted municipal waste, but use the collection framework available to them for the return, recycle, and recovery of WEEE and to minimize any potential effects of EEE on the environment and human health due to the presence of hazardous substances. For additional WEEE information, go to:
http://www.lenovo.com/recycling

Battery recycling information for the United States and Canada



US & Canada Only

Appendix B. Accessibility information

Lenovo is committed to providing people with disabilities greater access to information and technology. Some technologies are already provided in your operating system. Others can be purchased through vendors.

Users also can use the Ease of Access Center provided in the Windows operating system to configure their computers to suit their physical and cognitive needs. The Ease of Access Center is a central location that you can use to configure the accessibility settings and programs available in the Microsoft Windows operating system. To use the Ease of Access Center, open Control Panel and click **Ease of Access → Ease of Access Center**.

The following information provides ways to help users who have hearing, vision, and mobility limitations get the most out of their computer experience.

On-screen notification

On-screen notification helps hearing-impaired people be aware of the status of their computer. On-screen notification replaces sounds with visual cues or text captions to indicate that activity is happening on the computer. As a result, system alerts are noticeable even when they are not heard. For example, when you select one object with your keyboard, the object is highlighted. When you move the pointer to one object with your mouse, the introductory text of the object is displayed.

To use on-screen notification, open Control Panel, click **Ease of Access → Ease of Access Center**, and then click **Use text or visual alternative for sounds**.

Audio notification

Audio notification helps visually impaired people or people with weak sight be aware of the status of their computer.

To use audio notification, open Control Panel, click **Ease of Access → Ease of Access Center → Use the computer without a display**, and then select **Turn on Audio Description**.

Narrator

Narrator is a screen reader that reads what is displayed on the screen aloud and describes events like error messages.

To open Narrator, click the Search icon on the top-right corner of the Start screen and then type `Narrator` into the displayed search box. If you are using a keyboard, you can just start typing on the Start screen and then the search box and search results are displayed automatically. In the list of results, click **Narrator**.

For more information about how to use and configure Narrator, see the Windows Help and Support information system.

Screen-reader technologies

Screen-reader technologies are primarily focused on software program interfaces, help information systems, and a variety of online documents. For additional information about screen readers, see the following:

- Using PDFs with screen readers:
  http://www.adobe.com/accessibility.html?promoid=DJGVE
- Using the JAWS screen reader:
  http://www.freedomscientific.com/jaws-hq.asp

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- Using the NVDA screen reader:
  http://www.nvaccess.org/

Speech Recognition

Speech Recognition enables you to control your computer by voice.

Using only your voice, you can start programs, open menus, click buttons and other objects on the screen, dictate text into documents, and write and send e-mails. Everything you do with the keyboard and mouse can be done with only your voice.

To open Speech Recognition, click the Search icon on the top-right corner of the Start screen and then type `Speech Recognition` into the displayed search box. If you are using a keyboard, you can just start typing on the Start screen and then the search box and search results are displayed automatically. In the list of results, click **Speech Recognition**.

For more information about how to use and configure Speech Recognition, see the Windows Help and Support information system.

Customizable text size

Depending on your preference, you can change only the text size instead of changing the size of everything on the desktop. To change the text size, open Control Panel and click **Appearances and Personalization** → **Display**. Then, go to **Change only the text size** and set a text size that meets your needs.

Magnifier

Your computer is equipped with the Microsoft Magnifier to help visually impaired people use the computer more comfortably. Magnifier is a useful utility that enlarges part or all of your screen so that you can see the words and images better. Magnifier is part of the Ease of Access Center.

To open Magnifier, click the Search icon on the top-right corner of the Start screen and then type `Magnifier` into the displayed search box. If you are using a keyboard, you can just start typing on the Start screen and then the search box and search results are displayed automatically. In the list of results, click **Magnifier**.

For more information about how to use and configure Magnifier, see the Windows Help and Support information system.

Note: For touch-screen computer models, you also can zoom in and zoom out by using touch gestures instead of the keyboard. See “Zoom” on page 30.

Zoom

You can use the zoom feature to enlarge or reduce the size of text, pictures, maps, or other objects.

- From the keyboard:
  - Zoom in: Press the Windows logo key + the plus-sign key (+) to enlarge the size of text, pictures, maps, or other objects.
  - Zoom out: Press the Windows logo key + the minus-sign (-) key to reduce the size of text, pictures, maps, or other objects.
- From the touch screen:
  - Zoom in: Move two fingers farther apart on the touch screen to enlarge the size of text, pictures, maps, or other objects.
  - Zoom out: Move two fingers closer together on the touch screen to reduce the size of text, pictures, maps, or other objects.

Screen resolution

You can make your documents easier to read by adjusting the screen resolution of your computer. To adjust the screen resolution, right click anywhere on the desktop, click **Screen resolution**, and then adjust the settings as you prefer.

Note: Setting too low of a resolution might prevent some items from fitting on the screen.

For alternatives on increasing the size of text and other objects, see the following:

- "Customizable text size" on page 30
- "Magnifier" on page 30
- "Zoom" on page 30

Ease of Access keyboard shortcuts

Keyboard shortcuts are combinations of two or more keys that you can use to perform a task that would typically require a mouse or other pointing devices. Keyboard shortcuts provide an easier alternative to interact with your computer as you work with the Windows operating system and most applications.

The following table contains keyboard shortcuts that can help make your computer easier to use.

Note: Some keyboard shortcuts might not be available on your computer.

Keyboard shortcut	Function
Windows logo key + U	Open the Ease of Access Center
Right Shift for eight seconds	Turn Filter Keys on or off
Shift five times	Turn Sticky Keys on or off
Left Alt+Left Shift+PrtScn (or PrtSc)	Turn High Contrast on or off

For more information, go to http://windows.microsoft.com/, and then type any of the following keywords for searching: `keyboard shortcuts`, `access keys`, `key combinations`, `shortcut keys`.

On-Screen Keyboard

If you prefer to type or enter data into your computer without using a physical keyboard, you can use On-Screen Keyboard. On-Screen Keyboard displays a visual keyboard with all the standard keys. You can select keys using the mouse or another pointing device, or you can tap to select the keys if your computer supports multi-touch screen.

To open On-Screen Keyboard, click the Search icon on the top-right corner of the Start screen and then type `On-Screen Keyboard` into the displayed search box. If you are using a keyboard, you can just start typing on the Start screen and then the search box and search results are displayed automatically. In the list of results, click **On-Screen Keyboard**.

For more information about how to use and configure On-Screen Keyboard, see the Windows Help and Support information system.

Personalized keyboard

The tactile bumps on the keyboard provide a reference point from which you can easily locate all keys on the keyboard without visual assistance.

To adjust your keyboard settings, open Control Panel, click **Ease of Access → Ease of Access Center**, and then click **Make the keyboard easier to use**.

Industry-standard connectors

Your computer provides industry-standard connectors that enable you to connect assistive devices, if needed.

For more information on the location and function of each connector, see “Locations” on page 1 .

Documentation in accessible formats

Lenovo provides electronic documentation in accessible formats. Lenovo electronic documentation, such as properly tagged PDF files or HyperText Markup Language (HTML) files, is developed to ensure that visually impaired users can read the documentation through a screen reader. Each image in the documentation also includes adequate alternative text to explain the image so that visually impaired users can understand the image when they use a screen reader.

Appendix C. Restriction of Hazardous Substances Directive (RoHS)

European Union RoHS

Lenovo products sold in the European Union, on or after 3 January 2013 meet the requirements of Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment (“RoHS recast” or “RoHS 2”).

For more information about Lenovo progress on RoHS, go to:
http://www.lenovo.com/social_responsibility/us/en/RoHS_Communication.pdf

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Appendix D. Notices

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The software interface and hardware configuration described in all the manuals included with your computer may not match the actual configuration of the computer you purchased.

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