

Getac

S400

USER'S MANUAL

August 2010

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Chapter 1

Getting Started

Congratulations on purchasing this rugged computer.

This chapter first tells you step by step how to get the computer up and running. Then, you will find a section briefly introducing the external components of the computer.

Getting the Computer Running

This section guides you through the procedures for getting the computer ready for operation.

Unpacking

After unpacking the shipping carton, you should find these standard items:

- Rugged computer
- Accessories:
 - AC adapter
 - AC power cord
 - Stylus and tether (depending on your model)

Inspect all the items. If any item is damaged or missing, notify your dealer immediately.

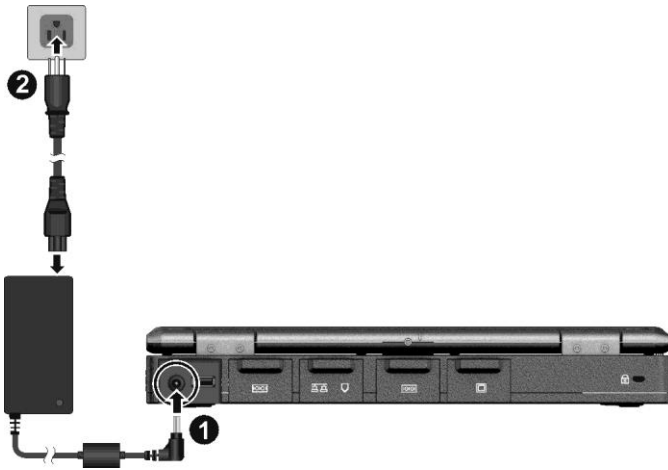
Keep the shipping carton and packing materials in case you need to ship or store the computer in the future.

Connecting to AC Power

The computer operates either on the external AC power or internal battery power. It is suggested that you use AC power when you start up the computer for the very first time.

CAUTION: Use only the AC adapter included with your computer. Using other AC adapters may damage the computer.

1. Plug the DC cord of the AC adapter to the power connector of the computer (❶).
2. Plug the female end of the AC power cord to the AC adapter and the male end to an electrical outlet (❷).



3. When the AC adapter is connected, power is being supplied from the electrical outlet to the AC adapter and onto your computer. Now, you are ready to turn on the computer.

CAUTION:

- When you disconnect the AC adapter, disconnect from the electrical outlet first and then from the computer. A reverse procedure may damage the AC adapter or the computer.

- When unplugging the connector, always hold the plug head. Never pull on the cord.

NOTE: When the AC adapter is connected, it also charges the battery pack. For information on using battery power, see Chapter 3.

Opening the Cover


CAUTION: Be gentle when opening and closing the cover. Opening it vigorously or slamming it shut could damage the computer.

Open the top cover by pulling the cover latch and lifting up the cover. You can tilt the cover forward or backward for optimal viewing clarity.



Turning On and Off the Computer

Turning On

1. Make sure that the computer is connected to AC power or battery is fully charged.
2. Open the top cover
3. Press the power button ().



4. Each time the computer is turned on, it performs a Power-On Self Test (POST), and the operating system such as Windows should start.

Turning Off

When you finish a working session, you can stop the system by turning off the power or leaving it in Sleep or Hibernation mode:

To...	Do this...
Power off (Shutdown)	Use the Windows Start menu in the lower left and follow the shutdown procedure.
Sleep	Press the power button* or use the Windows Start menu to put the computer in Sleep mode.
Hibernate	Use the Windows Start menu to put the computer in Hibernation mode. (See "Hibernation" in Chapter 3 for

To...	Do this...
	more information.)

* "Sleep" is the default setting of the power button. You may change what the power button does in Windows Control Panel.

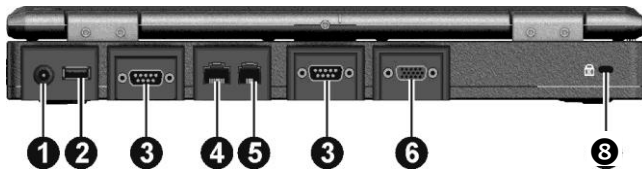
Press the power button to resume or turn on the system from any of these modes.

Taking a Look at the Computer

NOTE:

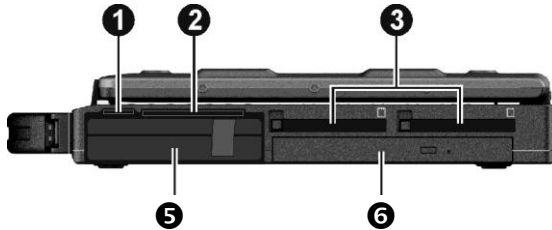
- Depending on the model you purchased, the appearance of your computer may not be exactly the same as those shown in this manual.
- You need to open the protective covers to access the connectors. When not using a connector, make sure to close the cover completely for water- and dust-proof integrity.

Rear Components



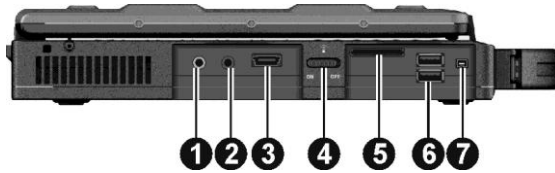
Ref	Component	Description
❶	Power Connector	Connects the AC adapter.
❷	USB Port	Connects a USB device, such as a USB flash disk, printer, digital camera, joystick, and more.
❸	RS232 Serial Connector	Connects a serial mouse or serial communication device. (The available of the serial port on the right depends on the model.)
❹	RJ-45 Connector	Connects the LAN cable.
❺	RJ-11 Connector (optional)	Connects the telephone line.
❻	VGA Connector	Connects an external display monitor.
❼	Kensington Lock	Locks the computer to a stationary object for security.

Right-Side Components



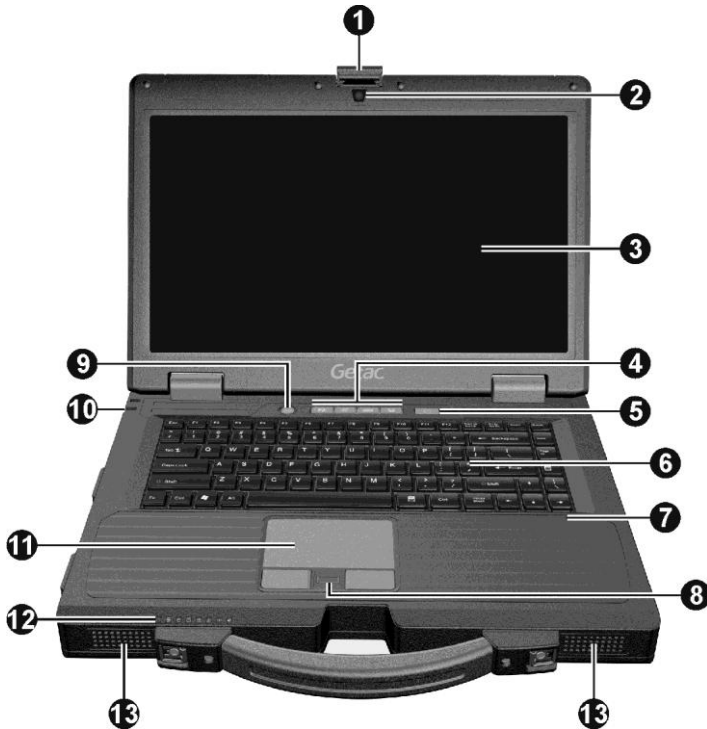
Ref	Component	Description
❶	SIM Card Slot (optional)	Accepts a 3G SIM card. But this configuration has no 3G feature.
❷	Smart Card Reader	Accepts a smart card for additional security feature.
❸	PCMCIA Slot (left)	Accepts a PC card for additional functions.
	ExpressCard Slot (right)	Accepts an ExpressCard/34 or ExpressCard/54 for additional functions. NOTE: Can be a PCMCIA Slot depending on the model.
❺	Battery Pack	Supplies power to your computer when external power is not connected.
❻	Super Multi Drive	Accepts a compact disc for installing or loading software, accessing data, and playing music/video.

Left-Side Components










Ref	Component	Description
①	Audio Output Connector	Connects a set of headphones or external speakers with amplifier.
②	Microphone Connector	Connects an external microphone.
③	eSATA/USB Combo Port	Connects an eSATA device such as an external hard drive or optical drive. Can also function as a USB port.
④	RF (radio frequency) Switch	Serves as the master on/off control for all the wireless modules (wireless LAN, Bluetooth, and WWAN).
⑤	Storage Card Reader	Accepts a MultiMediaCard (MMC), Secure Digital (SD), Memory Stick (MS) or Memory Stick PRO (MS PRO) card for removable storage media.
⑥	USB Port	Connects a USB device, such as a USB flash disk, printer, digital camera, joystick, and more. NOTE: These two connectors support USB power share feature.
⑦	Mini IEEE 1394 Port	Connects an IEEE 1394 device such as a scanner, printer, DVCAM, and VCR.

Top-open Components



Ref	Component	Description
❶	Top Cover Latch	Locks the top cover.
❷	Camera Lens (optional)	Allows you to use the camera function.
❸	LCD Screen	Displays the output of the computer. May include the optional touchscreen feature.
❹	Quick Buttons	Activates specific functions.
❺	Power Button	Turns the power on or off (Sleep mode by default).

Ref	Component	Description
⑥	Keyboard	Serves as the data input device of the computer.
⑦	Microphone	Receives sound and voice for the computer.
⑧	Fingerprint Sensor (optional)	Serves as the fingerprint verification, preventing unauthorized access to your computer.
⑨	P1 Button	Starts G-Manager by default.
10	Stylus	Serves as the input device by tapping on the screen to make selections and enter information.
11	Touchpad	Serves as the pointing device of the computer.
12	Indicators	
	 Power	Lights green when computer is on. Blinks green when computer is in Sleep mode.
	 Battery Charge	Lights green when the battery is fully charged.
		Lights amber when the battery is being charged.
		Blinks red when the battery's capacity is below 10 %.
		Blinks amber when the battery is in an abnormal condition.
	 Hard Disk/ DVD Drive	Blinks green when computer is reading / writing data to the hard disk or DVD drive.
	 Num Lock / HDD Heater (option)	Lights green when Num Lock is on.
	 Caps Lock	Lights green when Caps Lock is on.
	 WLAN	Lights green when WLAN radio is on.
	 Bluetooth	Lights green when Bluetooth radio is on.

Ref	Component	Description
13	Stereo Speaker	Sends out sound and voice from your computer.

Chapter 2

Operating Your Computer

This chapter provides information about the use of the computer.

If you are new to computers, reading this chapter will help you learn the operating basics. If you are already a computer user, you may choose to read only the parts containing information unique to your computer.

CAUTION: The computer can get uncomfortably warm when you use it in high temperatures. As a safety precaution in such a circumstance, do not place the computer on your lap or touch it with your bare hands for extended periods of time. Prolonged body contact can cause discomfort and potentially a burn.

Using the Keyboard

Your keyboard has all the standard functions of a full-sized computer keyboard plus an **Fn** key added for specific functions.

The standard functions of the keyboard can be further divided into four major categories:

- Typewriter keys
- Cursor-control keys
- Numeric keys
- Function keys

Typewriter Keys

Typewriter keys are similar to the keys on a typewriter. Several keys are added such as the **Ctrl**, **Alt**, **Esc**, and lock keys for special purposes. When the lock keys (**Caps Lock** and **Num Lk**) are pressed, their corresponding indicators light up.

The Control (**Ctrl**) / Alternate (**Alt**) key is normally used in combination with other keys for program-specific functions. The Escape (**Esc**) key is usually used for stopping a process. Examples are exiting a program and canceling a command. The function depends on the program you are using.

Cursor-Control Keys

Cursor-control keys are generally used for moving and editing purposes.

NOTE: The word “cursor” refers to the indicator on the screen that lets you know exactly where on your screen anything you type will appear. It can take the form of a vertical or horizontal line, a block, or one of many other shapes.

Numeric Keypad

A 15-key numeric keypad is embedded in the typewriter keys as shown next:

Numeric keys facilitate entering of numbers and calculations. When Num Lock is on, the numeric keys are activated; meaning you can use these keys to enter numerals.

NOTE:

- When the numeric keypad is activated and you need to type the English letter in the keypad area, you can turn Num Lock off or you can press **Fn** and then the letter without turning Num Lock off.
- Some software may not be able to use the numeric keypad on the computer. If so, use the numeric keypad on an external keyboard instead.

Function Keys

On the top row of the keys are the function keys: **F1** to **F12**. Function keys are multi-purpose keys that perform functions defined by individual programs.











Fn Key





The **Fn** key, at the lower left corner of the keyboard, is used with another key to perform the alternative function of a key. The alternative function is identified by a framed-up letter, number, or icon. To perform a desired function, first press and hold **Fn**, then press the other key.

Hot Keys


Hot keys refer to a combination of keys that can be pressed any time to activate special functions of the computer. Most hot keys operate in a cyclic way. Each time a hot key combination is pressed, it shifts the corresponding function to the other or next choice.



You can easily identify the hot keys with the icons imprinted on the keytop. The hot keys are described next.

Key	Description
	Switches the wireless LAN radio on and off.
	Decreases the sound volume.
	Increases the sound volume.
	<p>Switches the display output to one of the following when external devices are connected.</p> <p>Upon booting the system with CRT:</p> <pre> graph LR LCD --> CRT CRT --> LCD_CRT[] LCD_CRT --> LCD </pre> <p>NOTE: This function only applies to Plug & Play display devices.</p>
	Decreases the LCD brightness (16 levels).
	Increases the LCD brightness (16 levels).
	Switches the touchscreen on and off (option).
	Switches the touchpad off and on.
	Switches the system sound output off (mute) and on.
	Switches the display backlight on and off.

Key	Description
 	Serves as the sleep button that you can define with Windows' Power Options .
 	Switches the keyboard backlight on and off (option).

Windows Keys

The keyboard has two keys that perform Windows-specific functions:  Windows Logo key and  Application key.

The  Windows Logo key opens the **Start** menu and performs software-specific functions when used in combination with other keys. The  Application key usually has the same effect as a right mouse click. (See your Windows manual for more information.)

Using the Touchpad

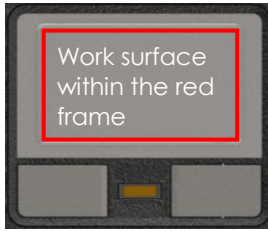
CAUTION: Do not use a sharp object such as a pen on the touchpad. Doing so may damage the touchpad surface.

NOTE:

- Press **Fn+F9** to toggle the touchpad on or off.
- For optimal performance of the touchpad, keep your fingers and the pads clean and dry. When tapping on the pad, tap lightly. Do not use excessive force.

The touchpad is a pointing device that allows you to communicate with the computer by controlling the location of the pointer on the screen and making selection with the buttons.





The touchpad consists of a rectangular pad (work surface) and a left and right buttons. To use the touchpad, place your forefinger or thumb on the pad. The rectangular pad acts like a miniature duplicate of your display. As you slide your fingertip across the pad, the pointer (also called cursor) on the screen moves accordingly. When your finger reaches the edge of the pad, simply relocate yourself by lifting the finger and placing it on the other side of the pad.

Here are some common terms that you should know when using the touchpad:

Term	Action
Point	Move your finger on the pad until the cursor points to the selection on the screen.
Click	Press and release the left button. –or– Tap gently anywhere on the pad.
Double-click	Press and release the left button twice in quick succession. –or– Tap twice on the pad rapidly.

Term	Action
Drag and drop	<p>Press and hold the left button, then move your finger until you reach your destination (drag). Finally, release the button (drop) when you finish dragging your selection to the destination. The object will drop into the new location.</p> <p>–or–</p> <p>Gently tap twice on the pad and on the second tap, keep your finger in contact with the pad. Then, move your finger across the pad to drag the selected object to your destination. When you lift your finger from the pad, the selected object will drop into place.</p>
Scroll	<p>To scroll is to move up and down or left and right in the working area on the screen.</p> <p>To move vertically, place your finger on the right or left edge of the pad and slide your finger up and down along the edge. To move horizontally, place your finger on the top or bottom edge of the pad and slide your finger left and right.</p> <p>This function works only after you install the touchpad driver supplied with the computer and it may not work for all applications.</p>

TABLE NOTE: If you swap the left and right buttons, “tapping” on the touchpad as an alternative method of pressing the left button will no longer be valid.

Configuring the Touchpad

You may want to configure the touchpad to suit your needs. For example, if you are a left-handed user, you can swap the two buttons so that you can use the right button as the left button and vice versa. You can also change the size of the on-screen pointer, the speed of the pointer, and so on.

To configure the touchpad, go to **Control Panel → Mouse Properties**.

Using the Touchscreen (Optional)

NOTE:

- Make sure the touchscreen driver has been installed properly.
- Press **Fn+F8** to toggle the touchscreen on or off.

CAUTION: Do not use a sharp object such as a ballpoint pen or pencil on the touchscreen. Doing so may damage the touchscreen surface. Use your finger or the included stylus.

The touchscreen is a touch-sensitive device that allows you to navigate on the screen without using a keyboard, touchpad, or mouse.



Use the included stylus to select objects on the screen. The stylus can be stretched for better grip and handling.

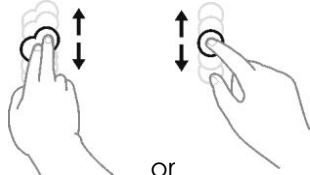
Here are some common terms that you should know when using the touchscreen:


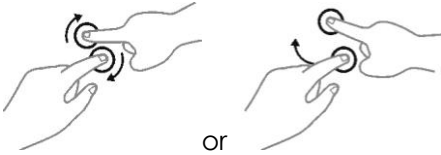
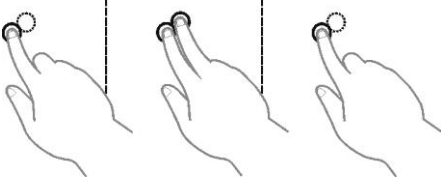
Term	Action
Click/Point	Tap gently on the touchscreen.
Double-click	Tap twice on the touchscreen rapidly.
Drag and drop	Press lightly on the touchscreen and move your finger until you reach your destination (drag). Finally, release your finger (drop) when you finish dragging your selection to the destination. The object will drop into the new location.



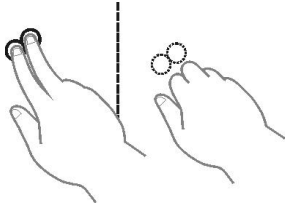
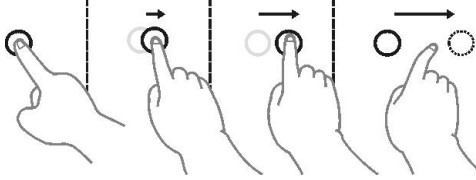
Using Multi-touch Gestures (Windows 7 Only)

If your computer model comes with multi-touch-capable screen and Windows 7, you can interact with your computer by placing two fingers on the screen. The movement of the fingers across the screen creates “gestures,” which send commands to the computer.

Here are the multi-touch gestures that you can use:

Gestures	Actions ○(= finger down; ○) = finger up)	Descriptions
Pan (Scroll)	 <p>Drag 1 or 2 fingers up or down.</p>	Use panning to see another part of a page that has scroll bars.

Gestures	Actions ○ (= finger down; ⦿ = finger up)	Descriptions
Zoom (Pinch)	 <p data-bbox="247 451 655 512">Move two fingers apart/toward each other.</p>	Use zooming to make an item (a photo for example) on the screen larger or smaller. The gesture works in applications that support mouse wheel zooming.
Rotate	 <p data-bbox="253 722 633 783">Move two fingers in opposing directions.</p> <p data-bbox="253 799 297 823">-or-</p> <p data-bbox="253 839 647 900">Use one finger to pivot around another.</p>	Use rotating to move a picture or other item on the screen in a circular direction (clockwise or counter-clockwise). The gesture works in applications that support the specific gesture.
Press and Tap	 <p data-bbox="247 1121 652 1182">Press on target and tap using a second finger.</p>	Use press and tap to access the shortcut menu.

Gestures	Actions  = finger down;  = finger up)	Descriptions
Two-finger Tap	 <p data-bbox="244 488 706 584">Tap two fingers at the same time (where the target is in the midpoint between the fingers).</p>	<p data-bbox="742 268 1003 432">The function is defined by applications that support the specific gesture.</p>
Flicks	 <p data-bbox="244 791 664 855">Make quick drag gestures in the desired direction.</p>	<p data-bbox="742 603 1025 895">Flick left or right to navigate back and forward in a browser and other applications. The gesture works in most applications that support back and forward.</p>

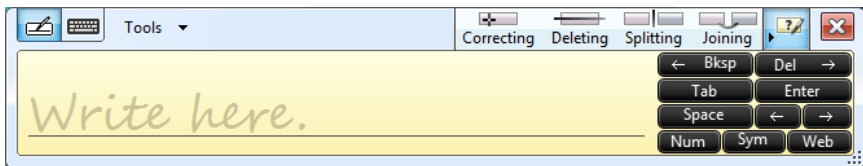
Using the Input Panel



Use the Input Panel to enter text and perform various keyboard functions. There are two types of Input Panels for you to use in Windows 7:

- **Touch Keyboard** allows you to enter text by tapping the keys with your stylus, like pressing the keys on a standard keyboard.



- **Writing Pad** allows you to write on the writing pad, like writing on a piece of paper. Your handwriting will be converted into typed text.



To open the Input Panel, tap the Input Panel tab, which appears by default on the left edge of the screen. To switch between the two types, tap  or  at the upper left corner of the Input Panel.

NOTE: For more information on using the Input Panel, see [Windows' online help](#).

Using the DVD Drive

Your computer comes with a Super Multi drive. The drive can read from and write to CD, DVD+, DVD-, and DVD-RAM media.

CAUTION:

- When inserting a disc, do not use force.
- Make sure that the disc is correctly inserted into the tray, and then close the tray.
- Do not leave the drive tray open. Also, avoid touching the lens in the tray with your hand. If the lens becomes dirty, the drive may malfunction.
- Do not wipe the lens using materials with rough surface (such as paper towel). Instead, use a cotton swab to gently wipe the lens.

FDA regulations require the following statement for all laser-based devices: “Caution, Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.”

NOTE: The DVD drive is classified as a Class 1 laser product. This label is located on the DVD drive.



CLASS 1 LASER PRODUCT
LASER KLASSE 1

NOTE: For DVD and Combo drives only.

This product incorporates copyright protection technology that is protected by method claims of certain U.S. patents and other intellectual property rights owned by Macrovision Corporation and other rights owners. Use of this copyright protection technology must be authorized by Macrovision Corporation, and is intended for home and other limited viewing uses only unless otherwise authorized by Macrovision Corporation. Reverse engineering or disassembly is prohibited.

Inserting and Removing a Disc

Follow this procedure to insert or remove a disc:

1. Turn on the computer.
2. Press the eject button and the DVD tray will slide out partially. Gently pull on it until it is fully extended.
3. To insert a disc, place down the disc in the tray with its label facing up. Slightly press the center of the disc until it clicks into place.

To remove a disc, hold the disc by its outer edge and lift it up from the tray.

4. Gently push the tray back into the drive.
5. Close the media bay cover.

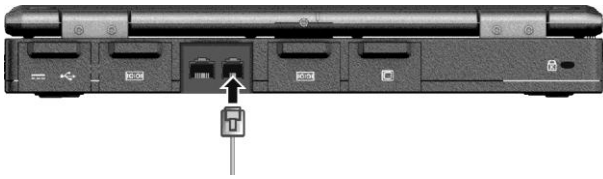
NOTE: In the unlikely event that you are unable to release the drive tray by pressing the eject button, you can manually release the disc. (See “Optical Drive Problems” in Chapter 8.)

Using the Network Features

Using the Modem (Optional)

The internal 56 K fax/data modem allows you to use the telephone line to communicate with others by fax, email, or connect to an online service or bulletin board.

To connect the telephone line to the modem, connect one end of the modem cable to the RJ-11 connector on the computer and the other end to the phone line.



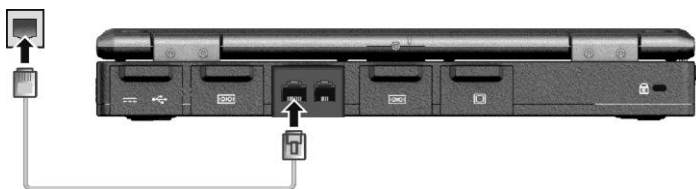
NOTE:

- When using the communication software, you may have to disable power management.
- Set the COM port of the modem to COM3.
- Set parameters such as modem speed (baud rate) and line type (pulse dialing or tone dialing).
- Do not enter the Sleep mode when using the communication software.

Using the LAN

The internal 10/100/1000Base-T LAN (Local Area Network) module allows you to connect your computer to a network. It supports data transfer rate up to 1000 Mbps.

To connect the network cable to the LAN module, connect one end of the LAN cable to the RJ-45 connector on the computer and the other end to the network hub.



Using the Wireless LAN

Depending on your model, an internal mini PCI-E wireless LAN (WLAN) card may have been pre-installed by your computer manufacturer at the factory. This card allows you to access corporate networks or the Internet in a wireless environment.

The WLAN features include:

- Peer-to-Peer (Ad-Hoc) and Access Point (Infrastructure) modes support
- WEP (Wired Equivalent Privacy) 64/128-bit data encryption
- IEEE 802.11a/b/g/n standard compliance

Technology	Stated Maximum Throughput (Mbps)	Data Rates (Mbps)	Band (GHz)	Modulation Technology
802.11a	54	54, 48, 36, 24, 18, 12, 9, 6	5.15 ~ 5.35	OFDM (Orthogonal Frequency Division Multiplexing)
802.11b	11	11, 5.5, 2, 1	2.412 ~ 2.462	DSSS (Direct Sequence Spread Spectrum)
802.11g	54	54, 36, 18, 9	2.4	OFDM (Orthogonal Frequency Division Multiplexing)
802.11n	100 Mbps or more	100 ~ 210	2.4 / 5	Spatial multiplexing, uses MIMO (multiple-input multiple-output)

NOTE: 802.11g mode is backward compatible with 802.11b mode.

If your WLAN card was provided by your dealer instead of the computer manufacturer, contact your dealer for the correct driver to use.


Turning On/Off the WLAN Radio

NOTE: The FAA (Federal Aviation Agency) has deemed it unsafe to operate wireless devices in aircraft as this may interfere with flight safety. Remember to turn off wireless LAN when using your computer in the airplane.

To turn on the WLAN radio:

1. Make sure that the RF switch is at the **ON** position.





2. Press **Fn+F1** to turn on the WLAN radio (see “Hot Keys” in Chapter 2), indicated by the WLAN indicator () glowing in green when on.

If you need to temporarily turn off the radio, press **Fn+F1**. To resume network connection, press **Fn+F1** again.

Connecting to a Wireless Network

To connect to a wireless network:

1. Make sure that the WLAN radio is on (as described in the previous section) and **Windows Mobility Center** has **Wireless Network** turned on (accessed from Windows **Control Panel**).
2. Tap the Wireless Network icon  on the taskbar. (An orange light in the icon  indicates connections are available.)
3. In the list of available wireless networks, tap a network, and then tap **Connect**.



4. Some networks require a network security key or passphrase. To connect to one of those networks, ask your network administrator or Internet service provider (ISP) for the security key or passphrase.

For more information on setting a wireless network connection, refer to Windows online help.

Using the Bluetooth Feature

Depending on your model, your computer may incorporate the Bluetooth capability for short-range (about 10 meters) wireless communications between devices without requiring a cable connection.

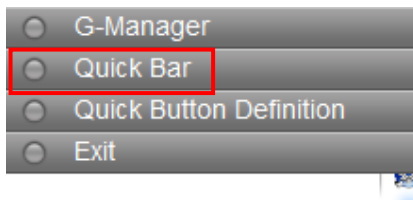
With Bluetooth wireless technology, data can be transmitted through walls, pockets and briefcases as long as two devices are within range.

Turning On/Off the Bluetooth Radio

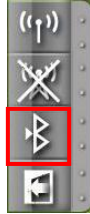
1. Make sure that the RF switch is at the **ON** position.





2. Right-click the Getac Utility icon () located on Windows taskbar and select **Quick Bar**. (You need to tap  on the taskbar to show the hidden icons.)






3. The following appears onscreen. To turn on or off the Bluetooth radio, click the Bluetooth button. (An X means the radio is currently off.)




4. The Bluetooth function is enabled by default, as indicated by the Bluetooth icon  on the Windows taskbar. (In case you have previously disabled the function in the Bluetooth utility, be sure to enable it when using the function the next time.)

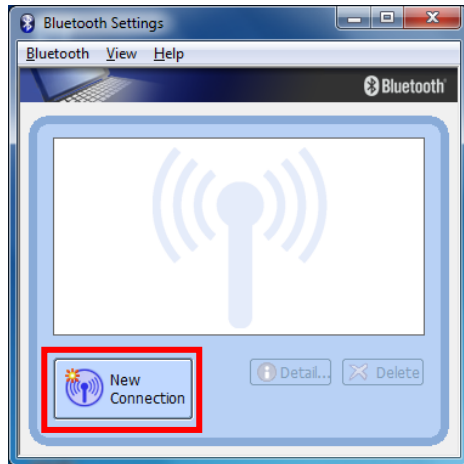
The status of the Bluetooth connection is indicated by the Bluetooth icon located in the taskbar. (You need to tap  on the taskbar to show the hidden icons.)

Status	Icon
Off	 (blue with red logo)
On	 (blue with white logo).
Connected	 (blue with green logo)

You can use the Bluetooth Utility to configure Bluetooth wireless connection settings and transfer files.

Connecting to another Bluetooth Device

1. Make sure that the Bluetooth function is enabled (as described above).
2. Make sure that the target Bluetooth device is turned on, discoverable and within close range. (See the documentation that came with the Bluetooth device.)
3. Start the Bluetooth utility by double-clicking the Bluetooth icon  on the taskbar and click **New Connection**.



4. The **Add New Connection Wizard** window appears. Select **Express Mode (Recommended)**, and then click **Next**.



5. Select the device to connect to and click **Next**.



6. Depending on the type of Bluetooth device that you want to connect to, you will need to enter the pertinent information.

For detailed information on using the Bluetooth Utility, see the Bluetooth Utility Help.

Using the Fingerprint Sensor (Optional)

The fingerprint sensor provides a strong authentication mechanism based on fingerprint recognition. You can log on to your computer or sign in to a web site with your fingerprint instead of a password. You can also encrypt files and folders with your fingerprint.

NOTE: You can register a fingerprint only after creating a password for the Windows user account.

CAUTION: For the fingerprint file/folder encryption feature, the maximum file/folder size allowed is 2GB.

To register your fingerprint, click **Start** → **All Programs** → **Fingerprint Software** → **Fingerprint Registration**. Click the finger you want to register and follow the onscreen instructions to complete.





You can then use the Fingerprint Software to set up how the fingerprint authentication works.



For detailed information, click **Start → All Programs → Fingerprint Software → Help**.

Chapter 3

Managing Power

Your computer operates either on external AC power or on internal battery power.

This chapter tells you how you can effectively manage power. To maintain optimal battery performance, it is important that you use the battery in the proper way.

AC Adapter

CAUTION:

- The AC adapter is designed for use with your computer only. Connecting the AC adapter to another device can damage the adapter.
- The AC power cord supplied with your computer is for use in the country where you purchased your computer. If you plan to go overseas with the computer, consult your dealer for the appropriate power cord.
- When you disconnect the AC adapter, disconnect from the electrical outlet first and then from the computer. A reverse procedure may damage the AC adapter or computer.
- When unplugging the connector, always hold the plug head. Never pull on the cord.

The AC adapter serves as a converter from AC (Alternating Current) to DC (Direct Current) power because your computer runs on DC power, but an electrical outlet usually provides AC power. It also charges the battery pack when connected to AC power.

The adapter operates on any voltage in the range of 100~240 V AC.

Battery Pack

The battery pack is the internal power source for the computer. It is rechargeable using the AC adapter.


The operating time of a fully charged battery pack depends on how you are using the computer. When your applications often access peripherals, you will experience a shorter operating time.

NOTE: Care and maintenance information for the battery is provided in the “Battery Pack Guidelines” section in Chapter 7.

Charging the Battery Pack

NOTE:

- Charging will not start if the battery’s temperature is below 0 °C (32 °F) or above 30 °C (86 °F).
- The charging process will stop and the Battery Charge Indicator flashes green and yellow by turns when the battery’s temperature gets above 60 °C (140 °F). If this happens, the battery pack may be damaged. Please contact your dealer.
- During charging, do not disconnect the AC adapter before the battery has been fully charged; otherwise you will get a prematurely charged battery.

To charge the battery pack, connect the AC adapter to the computer and an electrical outlet. The Battery Charge Indicator () on the computer glows amber to indicate that charging is in progress. You are advised to keep the computer power off while the battery is being charged. When the battery is fully charged, the Battery Charge Indicator lights green.

The charging times are as follows:

Battery Type	Charging Time	
	Computer Is Off	Computer Is On
6-cell (4 A)	2.5~3.5 hours	3.5~4 hours

CAUTION: After the computer has been fully recharged, do not immediately disconnect and reconnect the AC adapter to charge it again. Doing so may damage the battery.

NOTE: The battery level may automatically lessen due to the self-discharge process (0.21 % per day), even when the battery pack is fully charged (100 %). This happens no matter if the battery pack is installed in the computer.

Initializing the Battery Pack

You need to initialize a new battery pack before using it for the first time or when the actual operating time of a battery pack is much less than expected.



Initializing is the process of fully charging, discharging, and then charging. It can take several hours.

1. Make sure that the computer power is turned off. Connect the AC adapter to fully charge the battery pack.
2. After the battery pack is fully charged, turn on the computer. When the message "**Click mouse or press <Enter> for Menu**" appears, click the touchpad's left button or press the **Enter** key to invoke the program.
3. A small window appears, select **Launch System Setup**.
4. Disconnect the AC adapter and leave the computer on until the battery is fully discharged. The computer will shut down automatically.
5. Connect the AC adapter to fully charge the battery pack.

Checking the Battery Level

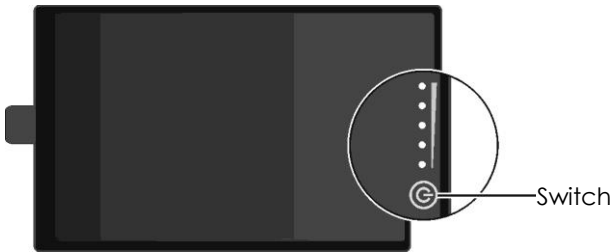
NOTE: Any battery level indication is an estimated result. The actual operating time can be different from the estimated time, depending on how you are using the computer.

By Operating System

You can check the approximate battery level using the battery meter function of the operating system. To read the battery level in Windows, click the battery icon ( when running on battery power or  when running on external power) on the taskbar.

By Gas Gauge

On the exterior side of the battery pack is a gas gauge for displaying the estimated battery charge. When the battery pack is not installed in the computer and you want to know the battery charge, you can press the switch with a pointed device to see the corresponding value of indicator segment that light green.



The value of the corresponding green segment indicates the relative percentage of the battery charge. The battery pack is fully discharged when you see no segment glowing green.

Replacing the Battery Pack

CAUTION:

- There is danger of explosion if the battery is incorrectly replaced. Replace the battery only with the computer manufacturer's optional battery packs. Discard used batteries according to the dealer's instructions.
- Do not attempt to disassemble the battery pack.

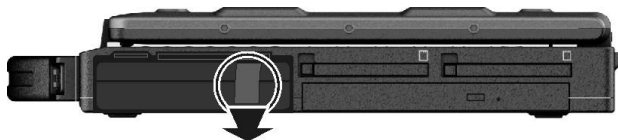
If you often rely on battery power for a long period of time while traveling, you may consider the purchase of an additional battery pack from your dealer and keep it with you in a fully charged state as a backup.

To replace the battery pack, follow these steps:

1. Turn off the computer and disconnect the AC adapter.
2. Press the two latches toward each other to open the protection cover.







3. Pull the ribbon strip and slide the battery pack out of the slot.




4. With the ribbon strip facing outward, insert the new battery pack all the way into the slot.
5. Close the cover. Make sure the latches are engaged.

Battery Low Signals and Actions

The battery icon  changes appearance to display the current state of the battery.

Battery Icon	Battery Level	Description
	Discharging	The icon shows the charge remaining in 10-percent increments until the charge reaches the low-battery level.
	Low	The battery charge has reached the low-battery level (10% by default).
	Critically low	The battery charge has reached the critical battery level (5% by default). By default, Windows will display a notification and put your computer into Hibernation.

When the battery is low, the computer's Battery Charge Indicator () also blinks red to alert you to take actions.

Always respond to low-battery by connecting the AC adapter, placing your computer in Hibernation mode, or turning off the computer.

Power Management

Your computer supports ACPI (Advanced Configuration and Power Interface) for power management. The power management feature allows you to reduce the power consumption for energy saving.

With an ACPI-compliant operating system such as Windows, power supply to different computer components is controlled on an as-needed basis. This allows maximum power conservation and performance at the same time.

In general, Windows' power management works in this way:

What_	When_
Power to the hard disk is turned off	When the hard disk has been idle for a set period.
Power to the display is turned off	When the display has been idle for a set period.
The computer enters the Sleep mode. The hard disk and display are turned off and the entire system consumes less power.	When the entire system has been idle for a set period.
	When you manually activate the mode.
The computer enters the Hibernation mode. (See the next subsection for more information.)	When the entire system has been idle for a set period.
	When you manually activate the mode.

For detailed information on power management, see Windows' Help.

Hibernation

Hibernation is a very useful feature. People frequently open many applications when they use computers. It takes some time to get all these applications open and running, and normally they all have to be closed before the computer can be turned off.

When you use the hibernation feature, you do not have to close the applications. The computer stores the state of your computer to a file on the hard disk and then shuts down. The next time you turn on your computer, you return to exactly where you left off.

Power-Saving Tips

Aside from enabling your computer's power saving mode (see previous section), you can do your part to maximize the battery's operating time by following these suggestions.

- Press the power saving quick button (**ECO**) to enter into power saving mode when using battery power.
- Do not disable Power Management.
- Decrease the LCD brightness to the lowest comfortable level.
- Shorten the length of time before Windows turn off the display.
- Many USB devices use power just by being connected. If you use a USB mouse, you can save power by disconnecting the mouse and using the touchpad. If you use a USB flash drive, unplug it when you are not using it.
- Remove the card (such as PC card and Smart Card) if not using it.
- Turn off the wireless radio if you are not using the wireless module (such as WLAN, Bluetooth).
- Turn off the computer when you are not using it.

Chapter 4

Expanding Your Computer

You can expand the capabilities of your computer by connecting other peripheral devices. When using a device, be sure to read the instructions accompanying the device together with the relevant section in this chapter.

Connecting an External Monitor (Optional)

If you want the benefits of a larger display screen with higher resolution, you can connect an external display monitor to your computer. Follow this procedure to connect an external monitor:

1. Turn off the computer.
2. Plug the monitor's D-type signal connector to the computer's VGA connector.



3. Plug one end of the monitor's power cord into the power socket on the monitor and the other end to an electrical outlet.
4. To use the monitor, turn on the monitor before turning on the computer.
5. The connected device should respond by default. If not, you can switch the display output by pressing the **Fn+F5** hot keys. (You can also change the display through Windows **Control Panel** → **Display Settings** Properties.)

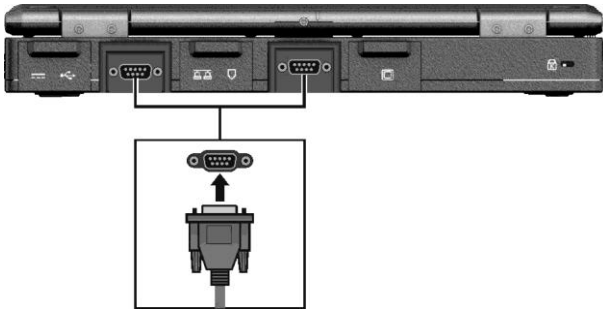
CAUTION: Do not disconnect the external monitor while the computer is in the Sleep mode or Hibernation mode. If no external monitor is connected when the computer resumes, the LCD might not display properly.

Connecting a Serial Device

Your computer has one or two serial port (depending on model) for connecting a serial device such as a serial mouse or serial communication device (modem).

Follow this procedure to connect a serial device:

1. Turn off the computer.
2. Plug the device cable to the serial port on the rear of the computer.



3. Turn on the computer.

NOTE: Portable modems that derive power through the serial port cannot be used with the computer. Instead, use a modem that is powered by its own internal battery or external AC power.

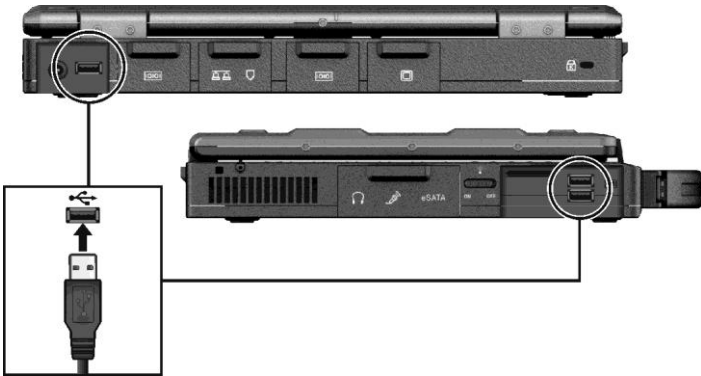
Connecting a USB Device

Your computer has two USB ports for connecting USB devices, such as a digital camera, scanner, printer, modem, and mouse.

NOTE: The eSATA/USB Combo port can also function as a USB port.

The USB ports support transfer rates up to 12 MB/s for USB 1.1 devices and 480 MB/s for USB 2.0 devices.

To connect a USB device, slide the release latch towards the right to open the port cover and then simply plug the device cable to one of the USB ports.

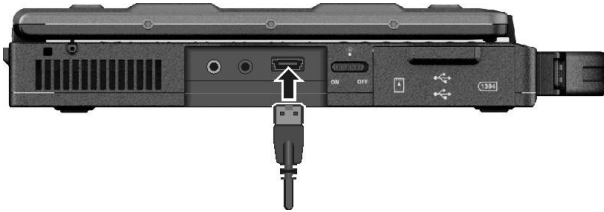


Connecting an eSATA Device

Your computer has an eSATA/USB combo port for connecting eSATA devices (such as an external hard drive and external optical drive) / USB devices (see previous section).

The port supports SATA II with transfer rate up to 3.0Gbit/s. It can provide 5V power if a certified USB-eSata combo cable is used.

To connect an external eSATA device, simply plug the device cable to the eSATA port.



Connecting an IEEE 1394 Device

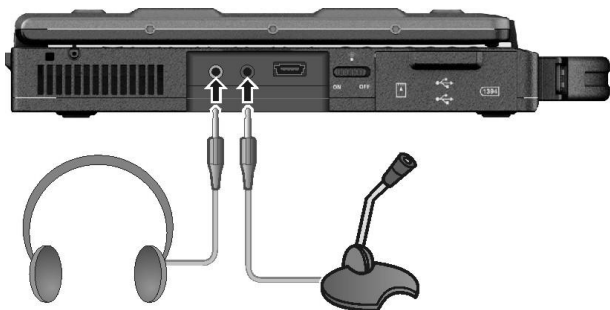
Your computer has a mini IEEE 1394 port for connecting IEEE 1394 devices that include not only computer peripheral devices such as scanner, printer and high-quality CCD, but also consumer electronic equipment such as DVCAM and VCR.

To connect an IEEE 1394 device, prepare an IEEE 1394 cable. Slide the release latch towards the right to open the connector cover. Then plug the appropriate end of the cable to the computer's mini IEEE 1394 connector and the other end to the device's corresponding connector.



Connecting Audio Devices

For higher audio quality, you can send or receive sound through external audio devices.



NOTE: After connecting an external audio device, make sure that you specify the use of the correct audio device in Windows.

- **Audio Output Connector** (green) can be connected to speakers, headphones, or earphone set.
- **Microphone Connector** (pink) can be connected to an external microphone for recording voice or sound.

NOTE: When using the external speakers/headphones or microphone, you cannot use the internal one.

Using Smart Cards (Optional)

Depending on the model, your computer has a smart card slot.

With an embedded microcontroller, smart cards have the unique ability to store large amounts of data, carry out their own on-card functions (e.g., encryption and mutual authentication), and interact intelligently with a smart card reader.

To insert a smart card:

1. Locate the smart card slot on the right of the computer and open the cover.
2. Slide the smart card, with its label and embedded computer chip facing down into the slot.
3. When a new card is seated, use the third-party smart card software to allow your computer to read it.

To remove a smart card:

1. Make sure that the third-party smart card software is not accessing the smart card.
2. Pull the card out of the slot.

Using PC Cards

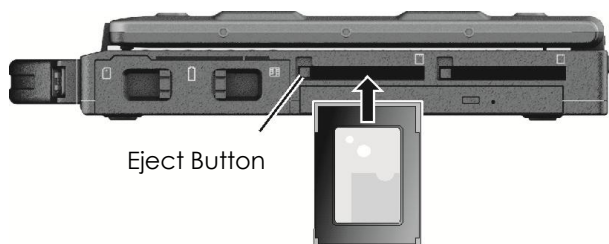
Depending on your model, your computer has one or two PC card slots which supports type II card and CardBus specifications.

NOTE:

- Some PC cards require additional system resources. Before using such PC card, you may have to free other system resources for the PC card.
- Although some PC cards can be inserted and removed without turning off the computer, you cannot remove or install PC cards during Sleep mode.

To insert a PC card:

1. Locate the PC card slot(s) on the right side of the computer and open the cover.
2. Slide the PC card, with its label facing up, into the slot until the eject button pops out.



3. When a new card is seated, the computer will detect it and try to install the appropriate driver. Follow the on-screen instructions to complete the process.

To remove a PC card:

1. Double-click on the **Safely Remove Hardware**  icon found on the Windows taskbar and the **Safely Remove Hardware** window appears on screen.
2. Select (highlight) the PC card from the list to disable the card.

3. Push the eject button and the card will slide out slightly.
4. Pull the card out of the slot.

Using ExpressCards (Optional)

Depending on the model, your computer has an ExpressCard slot.

ExpressCard supports the PCI Express and USB 2.0 serial data interfaces (supporting speeds of up to 2.5 Gbps and 480 Mbps respectively), improving speed in data transfer while conserving power usage.

The ExpressCard slot can accommodate a 54 mm (ExpressCard/54) or 34 mm (ExpressCard/34) wide ExpressCard. Typical ExpressCards support a very extensive range of applications including memory, wired and wireless communication cards, and security devices.

Shown next are the appearances of ExpressCards for your reference.

ExpressCard/54



ExpressCard/34



To insert an ExpressCard:

1. Locate the ExpressCard slot on the right side of the computer and open the cover.
2. Slide the ExpressCard, with its label facing up, all the way into the slot until the rear connectors click into place.

3. When a new card is seated, the computer will detect it and try to install the appropriate driver. Follow the on-screen instructions to complete the process.

To remove an ExpressCard:

1. Double-click on the **Safely Remove Hardware**  icon found on the Windows taskbar and the **Safely Remove Hardware** window appears on screen.
2. Select (highlight) the ExpressCard from the list to disable the card.
3. Push the eject button and the card will slide out slightly.
4. Pull the card out of the slot.

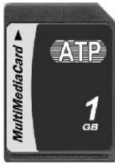


Using Storage Cards

NOTE:

- If your hard disk is divided into several drives, make sure that all drives have been formatted before using the Card Reader. Otherwise, you may encounter problems when using the Card Reader.
- You can use only storage cards. Your Card Reader does not support cards with I/O (input/output) functions such as a wireless network card or Bluetooth card.

Your computer has a storage card reader. The card reader is a small drive for reading from and writing to removable storage cards (or called memory cards). The reader supports MMC (MultiMediaCard), SD (Secure Digital), SDHC (Secure Digital High Capacity), MS (Memory Stick) and MS PRO cards.

Shown next are the appearance and size of each card type for your reference.

Type	MMC	SD/SDHC	MS/MS PRO
Appearance			
Size (mm)	24×32×1.4	24×32×2.1	21.5×50×2.8

To insert a storage card:

1. Locate the card reader on the left side of the computer and open the cover.
2. Align the card with its connector pointing to the slot and its label facing up. Slide the card into the slot until it reaches the end.
3. Windows will detect the card and assign it a drive name.

To remove a storage card:

1. Double-click **My Computer**.
2. Right-click the drive with the card and select **Eject**.
3. Push the card to release and then pull it out of the slot.

Chapter 5

Using BIOS Setup and System Recovery

BIOS Setup Utility is a program for configuring the BIOS (Basic Input/ Output System) settings of the computer. BIOS is a layer of software, called firmware, that translates instructions from other layers of software into instructions that the computer hardware can understand. The BIOS settings are needed by your computer to identify the types of installed devices and establish special features.

System Recovery reinstalls Windows to your system and configures it to the system's factory default settings.

This chapter tells you how to use the BIOS Setup and System Recovery.

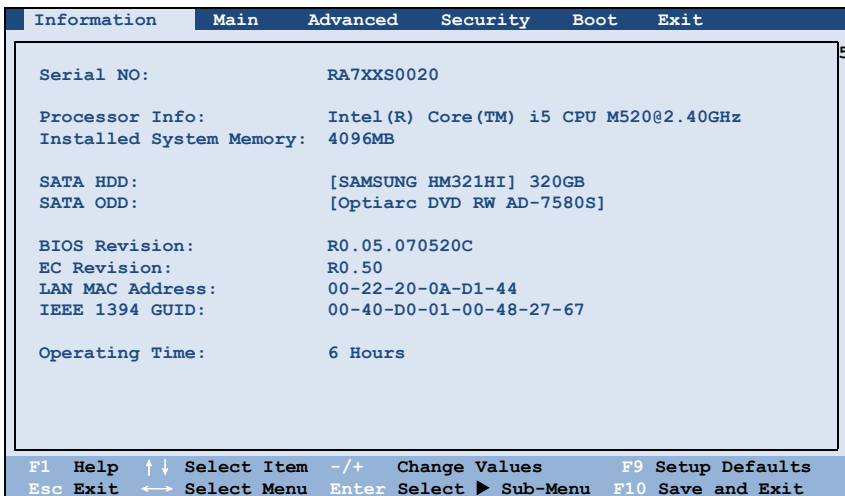
BIOS Setup

When and How to Use

You need to run BIOS Setup Utility when:

- You see an error message on the screen requesting you to run BIOS Setup Utility.
- You want to restore the factory default BIOS settings.
- You want to modify some specific settings according to the hardware .
- You want to modify some specific settings to optimize the system performance.

To run BIOS Setup Utility, press the **F2** key when the prompt appears on the screen during system startup. The prompt shows up on the screen for only a few seconds. You must press **F2** quickly. The BIOS Setup Utility main screen appears as shown next.



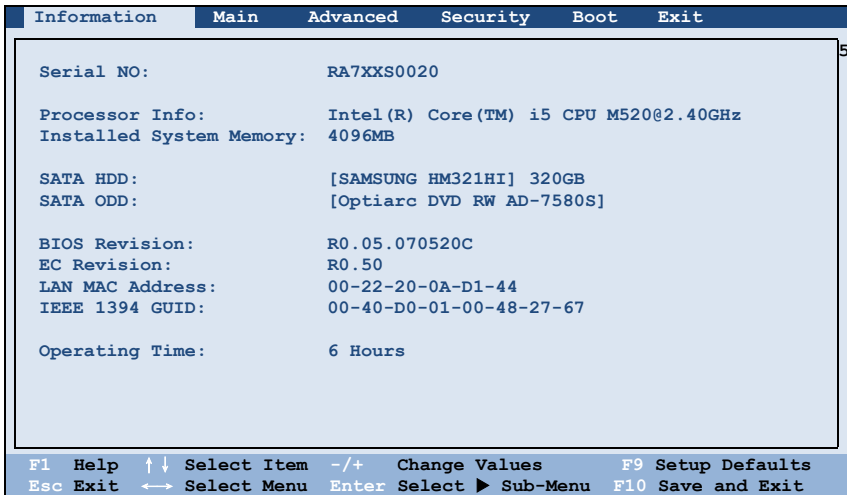
Use the keyboard to move around and make selections. Keyboard information can be found at the bottom of the screen.

NOTE:

- The BIOS Setup Utility screens shown in this chapter are for your reference only. The actual items or settings on your computer may differ.
- The BIOS Setup Utility program may have been updated after the publication of this manual.
- The settings you select in your operating system might override similar settings in BIOS Setup Utility.

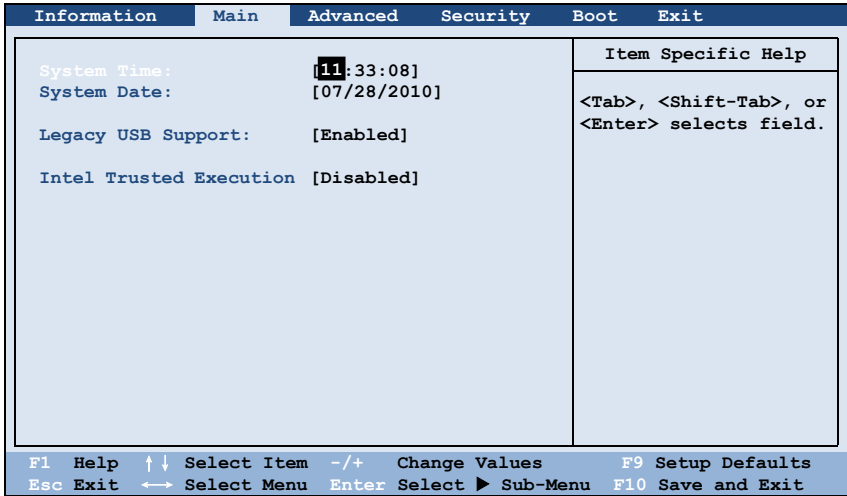
Information Menu

The Information menu contains the basic configuration information of the system. There are no user-definable items in this menu.



Main Menu

The Main menu contains the various system settings.



System Time sets the system time.

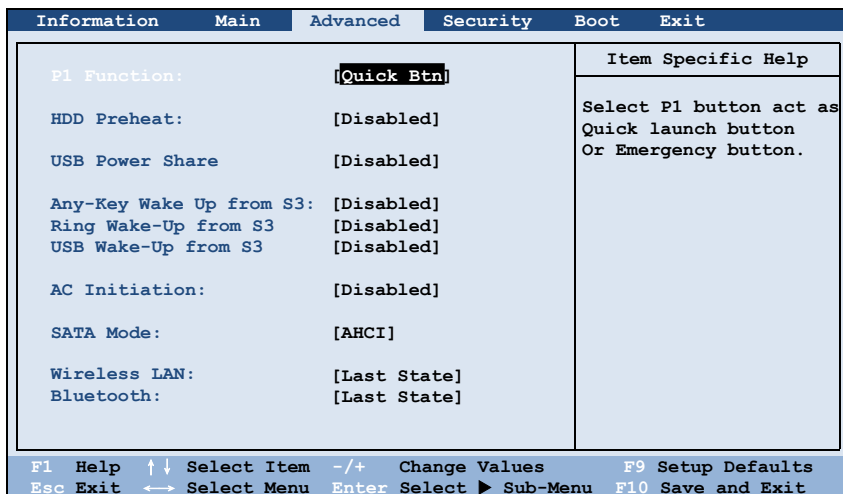
System Date sets the system date.

Legacy USB Support enables or disables the system's support for Legacy USB device in DOS mode.

Intel Trusted Execution enables or disables utilization of additional hardware capabilities provided by Intel® Trusted Execution Technology.

Advanced Menu

The Advanced menu contains the advanced settings.



F1 Function specifies the **F1** quick button function. When set to *Quick Btn*, the **F1** quick button serves as a user-defined quick launch key. When set to *Emergency Btn*, the **F1** quick button serves as the Emergency button. "Emergency button" only works with customized applications that support the specific button.

HDD Preheat keeps the hard disk drive's temperature above 5°C (41°F) during system shutdown period as long as external AC power is connected. When set to *Enabled*, the optional heater will automatically turn on whenever the hard disk drive's temperature drops below 5°C (41°F). (The availability of this item depends on your model.)

USB Power Share allows the USB ports (on the left side of the computer) to charge a connected USB device with a rechargeable battery.

Any-key Wake Up from S3 allows any key to wake up the system from S3 (Sleep) state.

Ring Wake-Up from S3 allows a modem activity to wake up the system from S3 (Sleep) state.

USB Wake-Up from S3 allow a USB device activity to wake up the system from S3 (Sleep) state.

AC Initiation sets if connecting AC power will automatically start or resume the system.

SATA Mode set to *AHCI* if your hard disk supports AHCI. AHCI allows you to take advantage of Advanced Host Controller Interface features. The options are *IDE* and *AHCI*.

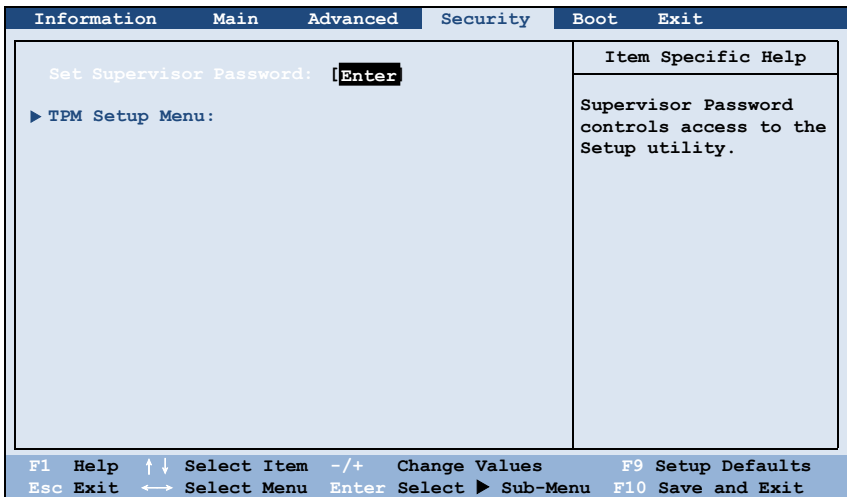
CAUTION: Incorrect SATA mode settings can result in hard disk drive boot failure.

Wireless LAN specifies the on/off state of the wireless LAN radio when the system starts up. When set to *Last State*, the on/off state remains the same as the last state before you turn off the system.

Bluetooth specifies the on/off state of the Bluetooth radio when the system starts up. When set to *Last State*, the on/off state remains the same as the last state before you turn off the system.

Security Menu

The Security menu contains the security settings, which safeguard your system against unauthorized use.



Set Supervisor Password sets the supervisor password. When typing the password, first make sure that Num Lock is off, and then type the password in the entry fields and press **Enter**. Confirm your password by typing it again and pressing **Enter**. When set, the supervisor password is required for entering BIOS Setup.

TPM Setup sets various TPM parameters. Press **Enter** to access the submenu as shown below.

Information	Main	Advanced	Security	Boot	Exit
TPM Setup Menu			Item Specific Help		
TPM Support Enabled Current TPM State: Disabled and Deactivated Change TPM State [No Change]			Enable Trusted Platform Module support		
F1 Help ↑↓ Select Item -/+ Change Values F9 Setup Defaults Esc Exit ←→ Select Menu Enter Select ► Sub-Menu F10 Save and Exit					

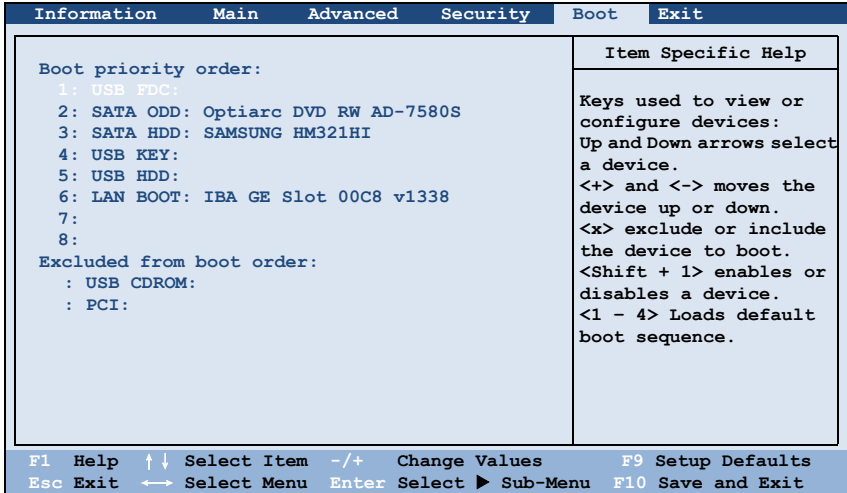
TPM Support enables or disables TPM support (see chapter 6 for details).

Current TPM State shows the current TPM state.

Change TPM State allows you to select between *No Change*, *Clear*, *Deactivate & Disable*, and *Enable & Activate*.

Boot Menu

The Boot menu sets the sequence of the devices to be searched for the operating system.



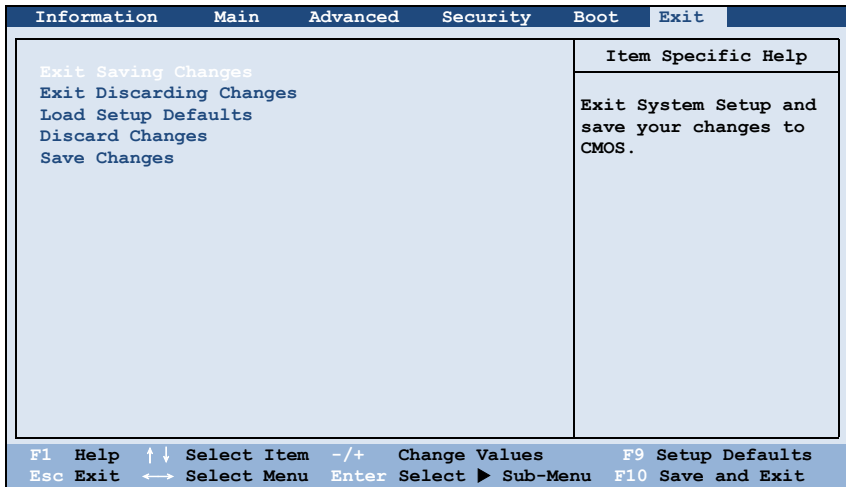
The bootable devices will be automatically detected during POST and shown here, allowing you to set the sequence that the BIOS uses to look for a device from which to load the OS. Below is a brief description of keyboard usage:

Key	Function
↑, ↓	Selects (highlight) a boot device.
+, -	Changes the boot sequence.
1 to 4	Loads the default boot sequence.
f or r	Specifies if the boot device is fixed (f) or removable (r).
X	Moves the highlighted boot device from the "Boot priority order" list to the "Excluded from boot order" list, and vice versa.

Key	Function
Shift+F1	Deactivates/activates the highlighted boot device on the “Boot priority order” list. When a device has been deactivated, an “!” (exclamation) symbol appears beside the item and system will bypass it when detecting boot device during POST.

Exit Menu

The Exit menu displays ways of exiting BIOS Setup Utility. After finishing with your settings, you must save and exit so that the changes can take effect.



Exit Saving Changes saves the changes you have made and exits BIOS Setup Utility.

Exit Discarding Changes exits BIOS Setup Utility without saving the changes you have made.

Load Setup Defaults loads the factory default values for all the items.

Discard Changes restores the previous values for all the items.

Saves Changes saves the changes you have made.

System Recovery

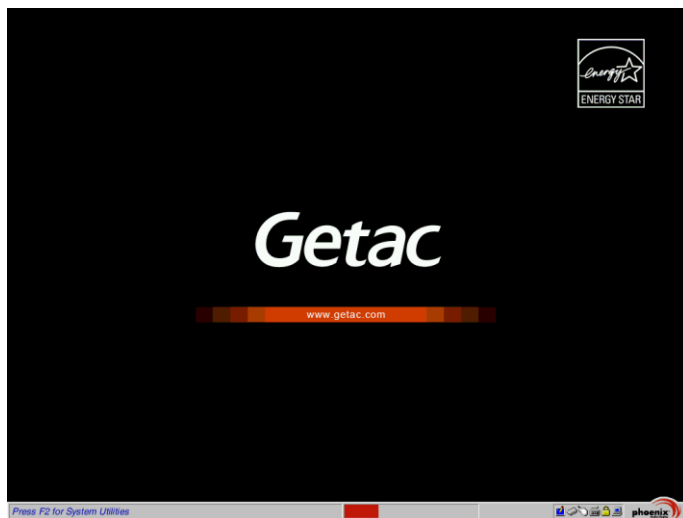
You need to run System Recovery when:

- Your Windows operating system does not start at all.
- You want to restore the factory default Windows settings.

WARNING: Using this feature will reinstall Windows to your system and configure it to the system's factory default settings. All data on the hard disk drive will be lost.

To run System Recovery:

1. During system startup when the following screen appears, press **Ctrl + Alt + F2** keys for four seconds or press **Enter** and select **HDI Recovery** when a small window appears on the screen.

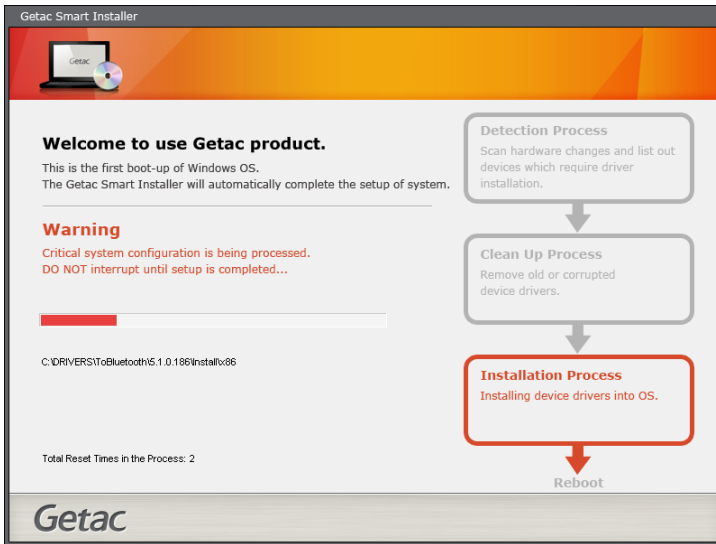


2. The message **This will help you reinstall Windows to the whole HDD to factory default. All data on HDD will be lost** appears on the screen to ask if you want to access System Recovery. Type **1** to continue or type **0** to exit.

3. A warning message appears as follows:
- ```

You must accept the following terms before performing the recovery
process:
1. The recovery software is solely the purpose of reinstalling or
restoring software associated with the hard disk of this operating
Getac machine.
2. Except the above, no other use is granted hereunder.

(1)Yes, I agree to the provisions of this agreement and wish to
continue.
(0)No, I do not agree to the provisions of this agreement and do
not wish to continue.
Type 1 to continue.
```
4. Type **1** again when the message **Are you sure you want to recover now?**  
**(1)Yes (0)No** appears onscreen. The following screen appears:



5. Your system will start the recovery process and Windows operating system will be re-installed to its default setting.



## Chapter 6

# Caring for the Computer

Taking good care of your computer will ensure a trouble-free operation and reduce the risk of damage to your computer.

This chapter gives you guidelines covering areas such as protecting, storing, cleaning, and traveling.

# Protecting the Computer

To safeguard the integrity of your computer data as well as the computer itself, you can protect the computer in several ways as described in this section.

## Using an Anti-Virus Strategy

You can install a virus-detecting program to monitor potential viruses that could damage your files.

## Using Windows Action Center

Windows Action Center alerts you to take action on the following security essentials:

- Windows Firewall
- Windows Update
- Malware Protection (anti-virus, anti-spyware)
- Others (Internet security, user account control)

For detailed information on Windows Security Center, see Windows' Help.



## Using the Cable Lock

You can use a Kensington-type cable lock to protect your computer against theft. The cable lock is available in most computer stores.

To use the lock, loop the lock cable around a stationary object such as a table. Insert the lock to the Kensington lock hole and turn the key to secure the lock. Store the key in a safe place.

# Taking Care of the Computer

## Location Guidelines

- For optimal performance, use the computer where the recommended temperature is between 0 °C (32 °F) and 55 °C (131 °F) – actual operating temperature depending on product specifications.
- Avoid placing the computer in a location subject to high humidity, extreme temperatures, mechanical vibration, direct sunlight, or heavy dust.
- Do not cover or block any ventilation openings on the computer. For example, do not place the computer on a bed, sofa, rug, or other similar surface. Otherwise, overheating may occur that results in damage to the computer.
- Keep the computer at least 13 cm (5 inches) away from electrical appliances that can generate a strong magnetic field such as a TV, refrigerator, motor, or a large audio speaker.
- Avoid moving the computer abruptly from a cold to a warm place. A temperature difference of more than 10 °C (18 °F) may cause condensation inside the unit, which may damage the storage media.
- Do not place the computer on an unsteady surface.

## General Guidelines

- Do not place heavy objects on top of the computer when it is closed as this may damage the display.
- The screen surface is easily scratched. Do not use paper towels to clean the display but use the included soft cloth. Avoid touching it with your fingers, pen, or pencil.

- To maximize the life of the backlight in the display, allow the backlight to automatically turn off as a result of power management. Avoid using a screen saver or other software that prevents the power management from working.

## **Cleaning Guidelines**

- Never clean the computer with its power on.
- Use a soft cloth moistened with water or a non-alkaline detergent to wipe the exterior of the computer.
- Gently wipe the display with a soft, lint-free cloth. Do not use alcohol or detergent on the display.
- Dust or grease on the touchpad can affect its sensitivity. Clean the pad by using adhesive tape to remove the dust and grease on its surface.

## **Battery Pack Guidelines**

- Recharge the battery pack when it is nearly discharged. When recharging, make sure that the battery pack is fully charged. Doing so may avoid harm to the battery pack.
- The battery pack is a consumable product and the following conditions will shorten its life:
  - when frequently charging the battery pack
  - when using, charging, or storing the battery in high temperature condition
- To avoid hastening the deterioration of the battery pack thereby prolonging its useful life, minimize the number of times you charge it so as not to frequently increase its internal temperature.
- Charge the battery pack between 10 °C ~ 30 °C (50 °F ~ 86 °F) temperature range.  
A higher environment temperature will cause the battery pack's temperature to rise. Avoid charging the battery pack inside a closed

vehicle and in hot weather condition.

Also, charging will not start if the battery pack is not within the allowed temperature range.

- It is recommended that you do not charge the battery pack more than once a day.
- It is recommended that you charge the battery pack with the computer's power off.
- To maintain the battery pack's operating efficiency, store it in a cool dark place removed from the computer and with 30 % ~ 40 % charge remaining.
- Important guidelines when using the battery pack.

When installing or removing the battery pack take note of the following:

- avoid installing or removing the battery pack when the computer is in Sleep mode. Abruptly removing the battery pack may cause loss of data or the computer may become unstable.
- avoid touching the battery pack terminals or damage may occur, thereby causing improper operation to it or the computer.

The computer's input voltage and surrounding temperature will directly affect the battery pack's charge and discharge time:

- charging time will be prolonged when the computer is turned on. To shorten the charging time, it is recommended that you place the computer in sleep or hibernation mode.
- a low temperature will prolong the charging time as well as hasten the discharge time.

## **Touchscreen Guidelines**

- Use the finger or the included stylus on the display. Using a sharp or metallic object other than your finger or stylus may cause scratches and damage the display, thereby causing errors.
- Avoid using excessive force that may cause damage to the display.

- Use a soft cloth to remove dirt on the display. The touchscreen surface has a special protective coating that prevents dirt from sticking to it. Not using a soft cloth may cause damage to the special protective coating on the touchscreen surface.  
To remove hard to remove dirt, blow some steam on the particular area and gently wipe away using a soft cloth.
- Turn off the computer power when cleaning the display. Cleaning the display with the power on may cause improper operation.
- Use the touchscreen within the intended area only. The display area and touchscreen operating area is the same. Using it beyond the allowed area may cause damage to the display and result in improper operation.
- Do not use excessive force on the display. Avoid moving the computer while holding the display or twisting the display. Avoid placing objects on top of the display as this may cause the glass to break thereby damaging the display.
- Using the touchscreen during low temperature (less than 5 °C) may cause a slower response time, this is normal. A normal response time may be restored upon returning to room temperature.
- When there is noticeable discrepancy in the operation of the touchscreen function (wrong location on intended operation or improper display resolution), refer to the Windows online Help for instructions on recalibrating the touchscreen display.

# When Traveling

- Before traveling with your computer, make a backup of your hard disk data into flash disks or other storage devices. As an added precaution, bring along an extra copy of your important data.
- Make sure that the battery pack is fully charged.
- Make sure that the computer is turned off and the top cover is securely closed.
- Make sure that all the connector covers are closed completely to ensure the waterproof integrity.
- Do not leave objects in between the keyboard and closed display.
- Disconnect the AC adapter from the computer and take it with you. Use the AC adapter as the power source and as a battery-charger.
- Hand-carry the computer. Do not check it in as luggage.
- If you need to leave the computer in the car, put it in the trunk of the car to avoid exposing the computer to excessive heat.
- When going through airport security, it is recommended that you send the computer and flash disks through the X-ray machine (the device you set your bags on). Avoid the magnetic detector (the device you walk through) or the magnetic wand (the handheld device used by security personnel).
- If you plan to travel abroad with your computer, consult your dealer for the appropriate AC power cord for use in your country of destination.

# Chapter 7

# Troubleshooting

Computer problems can be caused by hardware, software, or both. When you encounter any problem, it might be a typical problem that can easily be solved.

This chapter tells you what actions to take when solving common computer problems.

# Preliminary Checklist

Here are helpful hints to follow before you take further actions when you encounter any problem:

- Try to isolate which part of the computer is causing the problem.
- Make sure that you turn on all peripheral devices before turning on the computer.
- If an external device has a problem, make sure that the cable connections are correct and secure.
- Make sure that the configuration information is properly set in the BIOS Setup program.
- Make sure that all the device drivers are correctly installed.
- Make notes of your observations. Are there any messages on the screen? Do any indicators light? Do you hear any beeps? Detailed descriptions are useful to the service personnel when you need to consult one for assistance.

If any problem persists after you follow the instructions in this chapter, contact an authorized dealer for help.



# Solving Common Problems

## Battery Problems

### **The battery does not charge (Battery Charge indicator does not light amber).**

- Make sure that the AC adapter is properly connected.
- Make sure that the battery is not too hot or cold. Allow time for the battery pack to return to room temperature.
- Make sure that the battery pack is installed correctly.
- Make sure that the battery terminals are clean.

### **The operating time of a fully charged battery becomes shorter.**

- If you often partially recharge and discharge, the battery might not be charged to its full potential. Initialize the battery to solve the problem. (See “Initializing the Battery Pack” in Chapter 3 for instructions.)

### **The battery operating time indicated by the battery meter does not match the actual operating time.**

- The actual operating time can be different from the estimated time, depending on how you are using the computer. If the actual operating time is much less than the estimated time, initialize the battery. (See “Initializing the Battery Pack” in Chapter 3 for instructions.)

## Bluetooth Wireless Transmission Problems

### **I cannot connect to another device with Bluetooth wireless technology.**

- Make sure that the Bluetooth wireless card is correctly installed.
- Make sure that both devices have activated Bluetooth feature.

- Make sure that the distance between the two devices are not over 10 meters or that there are no walls or other obstructions between the devices.
- Make sure that the other device is not in “Hidden” mode.
- Make sure that both devices are compatible.

## Display Problems

### **Nothing appears on the screen.**

- During operation, the screen may automatically turn off as a result of power management. Press any key to see if the screen comes back.
- The brightness level might be too low. Increase brightness by pressing the **Fn+F7** hot key.
- The display output might be set to an external device. To switch the display back to the LCD, press the **Fn+F5** hot key or change the display through the **Display Settings** Properties.

### **The characters on the screen are dim.**

- Adjust the brightness and/or contrast.

### **Bad dots appear on the display at all times.**

- A small number of missing, discolored, or bright dots on the screen are an intrinsic characteristic of TFT LCD technology. It is not regarded as a LCD defect.

### **The external monitor displays nothing.**

- Make sure that the monitor is turned on.
- Make sure that the monitor's signal cable is properly connected.
- Switch the display to the monitor by pressing the **Fn+F5** hot key or change the display through the **Display Settings** Properties.

### **Simultaneous display/multi-display does not work.**

- Make sure that you turn on the external monitor before turning on the computer.
- Press the **Fn+F5** hot key to toggle through the display options or change the **Display Settings** Properties in Windows.

## **ExpressCard Problems**

### **The ExpressCard does not work.**

- Make sure that the ExpressCard is correctly seated.
- If the card requires an IRQ (Interrupt ReQuest), make sure that there is one available.

### **The ExpressCard stops communicating properly.**

- The application may have been reset when the computer is turned off or in Sleep mode. Exit and restart the application.

## **Hardware Device Problems**

### **The computer does not recognize a newly installed device.**

- The device may not be correctly configured in the BIOS Setup program. Run the BIOS Setup program to identify the new type.
- Make sure if any device driver needs to be installed. (Refer to the documentation that came with the device.)
- Make sure if the device needs any jumper or switch settings. (Refer to the documentation that came with the device.)
- Check the cables or power cords for correct connections.
- For an external device that has its own power switch, make sure that the power is turned on.

## Hard Disk Drive Problems

### **The hard disk drive error message appears on the screen.**

- The hard disk drive has defects. Ask your dealer for help.

### **The hard disk drive operations seem slow.**

- The data files stored on the hard disk drive may be fragmented. Use a tool such as Window's **Disk Defragmenter** to defragment the files.

### **The hard disk drive in-use indicator glows without blinking.**

- The data files stored on the hard disk drive may be fragmented. Use a tool such as Window's **Disk Defragmenter** to defragment the files.

## Keyboard, Mouse, and Touchpad Problems


### **The keyboard does not respond.**

- Try connecting an external keyboard. If it works, contact an authorized dealer, as the internal keyboard cable might be loose.

### **Water or liquid is spilt into the keyboard.**

- Immediately turn off the computer and unplug the AC adapter. Then turn the keyboard upside down to drain the liquid out of the keyboard. Make sure to clean up any part of the spill you can get to. Though the keyboard of your computer is spill-proof, liquid will remain in the keyboard enclosure if you don't remove it.

### **The numeric keypad is disabled.**

- Make sure that the **Num Lock** is switched on. (Check if the Num Lock Indicator  glows or not.)

### **The external keyboard does not work.**

- Make sure that the keyboard cable is properly connected.

### **The USB mouse does not work.**

- Make sure that the mouse cable is properly connected.

## **The touchpad does not work, or the pointer is difficult to control with the touchpad.**

- Make sure that the touchpad is clean.

## **LAN Problems**

### **I cannot access the network.**

- Make sure that the LAN cable is properly connected to the RJ-45 connector and the network hub.
- Make sure that the network configuration is appropriate.
- Make sure that the user name or password is correct.

## **Modem Problems**

### **The modem does not work.**

- Make sure that the telephone line is properly connected.
- Make sure that the COM port in the communication software is correctly set.
- Turn off power management.

## **DVD Drive Problems**

### **The DVD drive cannot read a disc.**

- Make sure that the disc is correctly seated in the tray, with the label facing up.
- Make sure that the disc is not dirty. Clean the disc with a disc cleaning kit, available in most computer stores.
- Make sure that the computer supports the disc or the files contained.

## **You cannot eject a disc.**

The disc is not properly seated in the drive. Manually release the disc following the method described next:

1. Turn off the computer.
2. Insert a small rod, such as a straightened paperclip, into the drive's manual eject hole and push firmly to release the tray.



3. Pull the tray out until fully extended, and then remove the disc.

## **PC Card Problems**

### **The PC card does not work.**

- Make sure that the PC card is correctly seated.
- If the card requires an IRQ (Interrupt ReQuest), make sure that there is one available.

### **The PC card stops communicating properly.**

- The application may have been reset when the computer is turned off or in Sleep mode. Exit and restart the application.

# Power Management Problems

## **The computer does not enter Sleep or Hibernation mode automatically.**

- If you have a connection to another computer, the computer does not enter Sleep or Hibernation mode if the connection is actively in use.
- Make sure that the Sleep or Hibernation time-out is enabled.

## **The computer does not enter Sleep or Hibernation mode immediately.**

- If the computer is performing an operation, it normally waits for the operation to finish.

## **The computer does not resume from Sleep or Hibernation mode.**

- The computer automatically enters Sleep or Hibernation mode when the battery pack is empty. Do any one of the following:
  - Connect the AC adapter to the computer.
  - Replace the empty battery pack with a fully charged one.

## **The computer does not enter Hibernation mode with the Fn+F12 hot keys.**

- Make sure that the Hibernation function is specified for the sleep button.
- You might be using a PC card that prevents the computer from entering Hibernation mode. To enter the mode, stop the communication program and then remove the card or stop the card.

# Software Problems

## **An application program does not work correctly.**

- Make sure that the software is correctly installed.
- If an error message appears on the screen, consult the software program's documentation for further information.
- If you are sure the operation has stop, reset the computer. (See "Resetting the Computer" later in this chapter.)

# Sound Problems

## **No sound is produced.**

- Make sure that the volume control is not set too low.
- Make sure that the computer is not in Sleep mode.
- If using an external speaker, make sure that the speaker is properly connected.

## **Distorted sound is produced.**

- Make sure that the volume control is not set too high or too low. In most cases, a high setting can cause the audio electronics to distort the sound.

## **The sound system does not record.**

- Adjust the playback or recording sound levels.

## **The external microphone or audio device does not work.**

- Make sure that the microphone is connected to the proper connector on the computer.
- Click the speaker symbol on the taskbar and check the Windows volume control.
- Check the volume control of your computer.

# Startup Problems

## **When you turn on the computer, it does not respond and the Power Indicator does not light green.**

- If you are using an external AC power, make sure that the AC adapter is correctly and securely connected. If so, make sure that the electrical outlet works properly.
- If you are using the battery power, make sure that the battery is not discharged.



### **When you turn on the computer, it stops after POST.**

- Restart your computer.

## **WLAN Problems**

### **I cannot use the WLAN feature.**

- Make sure that the mini PCI-E WLAN card is correctly installed.
- Make sure that the WLAN feature is turned on.

### **Transmission quality is poor.**

- Your computer may be in an out-of-range situation. Move your computer closer to the Access Point or another WLAN device it is associated with.
- Check if there is high interference around the environment and solve the problem as described next.

### **Radio interference exists.**

- Move your computer away from the device causing the radio interference such as microwave oven and large metal objects.
- Plug your computer into an outlet on a different branch circuit from that used by the affecting device.
- Consult your dealer or an experienced radio technician for help.

### **I cannot connect to another WLAN device.**

- Make sure that the WLAN feature is turned on.
- Make sure that the SSID setting is the same for every WLAN device in the network.
- Your computer is not recognizing changes. Restart the computer.
- Make sure that the IP address or subnet mask setting is correct.

## **I cannot communicate with the computer in the network when Infrastructure mode is configured.**

- Make sure that the Access Point your computer is associated with is powered on and all the LEDs are working properly.
- If the operating radio channel is in poor quality, change the Access Point and all the wireless station(s) within the BSSID to another radio channel.
- Your computer may be in an out-of-range situation. Move your computer closer to the Access Point it is associated with.
- Make sure that your computer is configured with the same security option (encryption) to the Access Point.
- Use the Web Manager/Telnet of the Access Point to check whether it is connected to the network.
- Reconfigure and reset the Access Point.

## **I cannot access the network.**

- Make sure that the network configuration is appropriate.
- Make sure that the user name or password is correct.
- You have moved out of range of the network.
- Turn off power management.

## **Other Problems**

### **The date/time is incorrect.**

- Correct the date and time via the operating system or BIOS Setup program.
- After you have performed everything as described above and still have the incorrect date and time every time you turn on the computer, the RTC (Real-Time Clock) battery is at the end of its life. Call an authorized dealer to replace the RTC battery.

# Resetting the Computer

You may have to reset (reboot) your computer on some occasions when an error occurs and the program you are using hangs up.

If the computer operation seems to hang up, first wait. It is possible that the computer is processing data. Periodically check the hard disk drive in-use indicator, if it flashes irregularly, the program may be accessing data and preventing you from using the keyboard. If you are sure the operation has stopped and you cannot use the “restart” function of the operating system, reset the computer.

Reset the computer by any one of these methods:

- Press **Ctrl+Alt+Del** on the keyboard.
- If the above action does not work, turn off the computer with the power button. Wait for at least five seconds and turn it on again.

**CAUTION:** Resetting will cause any unsaved data to be lost.



# Appendix A

# Specifications

**NOTE:** Specifications are subject to change without any prior notice.

| Parts           |                 | Specifications                                                                                                                                                                      |
|-----------------|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CPU             |                 | Intel® Arrandale SV i5-540M 2.53GHz or i5-520M 2.4GHz, 35W, Turbo Boost Technology                                                                                                  |
| Chipset         |                 | Ibex Peak PCH QM57                                                                                                                                                                  |
| BIOS            |                 | SPI 8 MB EEPROM, ACPI, Computrace compatible, Intel® vPro (option)                                                                                                                  |
| RAM (system)    |                 | Up to 8GB, 2 × 204-pin DDR3 SO-DIMM sockets for 1GB/2GB/4GB, 1066/1333 MHz, 1.25-inch height                                                                                        |
| Display         | Panel           | 14-inch (16:9) wide TFT LCD, 1 channel, resolution up to 1366×768 WXGA, with light sensor, default 200 nits (optional 500 nits), resistive matrix multi-touch with AR film (option) |
|                 | Controller      | UMA                                                                                                                                                                                 |
|                 | Video port      | Analog VGA                                                                                                                                                                          |
| Audio           | Features        | Azalia interface, 2 channel analog output, internal microphone                                                                                                                      |
|                 | Speaker         | 1.5 watt (4 ohm) stereo × 2                                                                                                                                                         |
|                 | Ports           | Two audio ports for Line-out (green color) / Mic-in (pink color)                                                                                                                    |
| Keyboard        |                 | Standard keys with numeric pad keys, 12 function keys, special <b>Fn</b> (Function) key and Windows keys with water-proof membrane or backlight (option)                            |
| Pointing device |                 | Glide touchpad with 2 buttons, scroll bar                                                                                                                                           |
| Storage device  | Hard disk drive | SATA interface, 2.5-inch diameter (9.5 mm height), 5400 rpm support, G-sensor, shock-mounted, user-removable, solid-state disk (option), HDD heater (option)                        |
|                 | DVD drive       | SATA interface, Super-Multi DVD drive                                                                                                                                               |

| Parts                                                             |              | Specifications                                                                                                                                                                                                   |                                                   |
|-------------------------------------------------------------------|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|
| Card slots                                                        |              | Card Reader 4-in-1 (MMC/SD/MS/MS PRO) module<br>PCMCIA CardBus Type II × 2 or 1 with ExpressCard/34/54<br>Smart Card                                                                                             |                                                   |
| I/O ports                                                         |              | USB port × 4 (1 standard USB 2.0, 2 stack USB for power share, and 1 for eSATA USB combo), serial port (RS-232), eSATA/ USB port, RJ-45 port, RJ-11 port (option), mini IEEE 1394a port, expansion bus connector |                                                   |
| Modem (option)                                                    |              | Azalia interface, 56 Kbps, V.90 MDC 1.5 internal fax modem                                                                                                                                                       |                                                   |
| LAN                                                               |              | Intel® 82577LM Gigabit Network Connection, Hanksville, supporting Intel® AMT 6.0 (vPro™ brand), 10/100/1000 Mbps                                                                                                 |                                                   |
| Wireless LAN                                                      |              | Intel® Centrino® Ultimate N 6200/6300 AGN Half Mini Card, IEEE 802.11a/b/g/n, on/off slide switch                                                                                                                |                                                   |
| Bluetooth wireless technology                                     |              | Specification 2.0 module, 2.1 class 2 +EDR, on/off slide switch                                                                                                                                                  |                                                   |
| GPS                                                               |              | GPS module                                                                                                                                                                                                       |                                                   |
| CMOS Web CAM                                                      |              | 1.3M pixel fixed type                                                                                                                                                                                            |                                                   |
| Security                                                          |              | Kensington lock<br>TPM 1.2<br>Fingerprint sensor, slide type<br>Smart Card Reader                                                                                                                                |                                                   |
| Power                                                             | AC adapter   | Universal AC adapter 65 W; input: 100~240 V, output: 19 V                                                                                                                                                        |                                                   |
|                                                                   | Battery Pack | Li-ion smart battery 6-cell or 9-cell (option), 5200 mAh                                                                                                                                                         |                                                   |
| Dimension (W×D×H)                                                 |              | ≤ 348×258×49.2 mm (13.7×10.15×1.93 inch) (excluding rubber feet and bumper)                                                                                                                                      |                                                   |
| Weight                                                            |              | ≤ 2.8 kg (6.17 lb)                                                                                                                                                                                               |                                                   |
| Safety/EMI Compliance of HDD (model MKXX65GSX) and ODD (AD-7585H) |              | Underwriters Laboratories (UL)                                                                                                                                                                                   | UL 60950 Third Edition: 2000                      |
|                                                                   |              | Canadian Standard Association (CSA)                                                                                                                                                                              | CAN/CSA-C22.2 No. 60950-01-03                     |
|                                                                   |              | Technischer Überwachungs-Verein (TUV)                                                                                                                                                                            | EN60950-1: 2001+A11                               |
|                                                                   |              | Bureau of Standards, Metrology and Inspection (BSMI)                                                                                                                                                             | CNS 13438<br>(CISPR Pub. 22 Class B): D33003      |
|                                                                   |              | Ministry of Information and Communication (KCC)                                                                                                                                                                  | 電磁波障害防止基準 告示 2004-23 號<br>(CISPR Pub. 22 Class B) |

| <b>Parts</b> | <b>Specifications</b>            |                |
|--------------|----------------------------------|----------------|
|              | Spectrum Management Agency (SMA) | AS/NZS CISPR33 |





# Appendix B

## Regulatory Information

This appendix provides regulatory statements and safety notices on your computer.

**NOTE:** Marking labels located on the exterior of your computer indicate the regulations that your model complies with. Please check the marking labels and refer to the corresponding statements in this appendix. Some notices apply to specific models only.

# On the Use of the System

## Class B Regulations

### USA

#### **Federal Communications Commission Radio Frequency Interference Statement**

#### **NOTE:**

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 the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

#### **Please note:**

The use of a non-shielded interface cable with this equipment is prohibited.

# Canada

## Canadian Department of Communications Radio Interference Regulations Class B Compliance Notice

This Class B digital apparatus meets all requirements of the Canada Interference-Causing equipment regulations.

Cet appareil numérique de Classe B respecte toutes les exigences du Règlement Canadien sur le matériel brouilleur.

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

## Safety Notices

### About the Battery

#### Caution Texts Concerning Lithium Batteries

##### DANISH

ADVARSEL! Lithiumbatteri – Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Levér det brugte batteri tilbage til leverandøren.

##### NORWEGIAN

ADVARSEL: Eksplosjonsfare ved feilaktig skifte av batteri. Benytt samme batteritype eller en tilsvarende type anbefalt av apparatfabrikanten. Brukte batterier kasseres i henhold til fabrikantens instruksjoner.

##### SWEDISH

VARNING: Explosionsfara vid felaktigt batteribyte. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

## **FINNISH**

**VAROITUS:** Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan valmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

## **ENGLISH**

**CAUTION:** Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the equipment manufacturer. Discard used batteries according to manufacturer's instructions.

## **DEUTSCH**

**VORSICHT:** Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

## **FRENCH**

**ATTENTION:** Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type équivalent recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

## **Attention (for USA Users)**

The product that you have purchased contains a rechargeable battery. The battery is recyclable. At the end of its useful life, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Check with your local solid waste officials for details in your area for recycling options or proper disposal.

## **About the AC Adapter**

- Use only the AC adapter supplied with your computer. Use of another type of AC adapter will result in malfunction and/or danger.
- Do not use the adapter in a high moisture environment. Never touch the adapter when your hands or feet are wet.
- Allow adequate ventilation around the adapter when using it to operate the device or charge the battery. Do not cover the AC

adapter with paper or other objects that will reduce cooling. Do not use the AC adapter while it is inside a carrying case.

- Connect the adapter to a proper power source. The voltage requirements are found on the product case and/or packaging.
- Do not use the adapter if the cord becomes damaged.
- Do not attempt to service the unit. There are no serviceable parts inside. Replace the unit if it is damaged or exposed to excess moisture.

## **About the Modem**

### **Caution**

- Never install telephone wiring during a lightning storm.
- Never install telephone jacks in wet locations unless the jack is specifically designed for wet locations.
- Never touch non-insulated telephone wires or terminals unless the telephone line has been disconnected at the network interface.
- Use caution when installing or modifying telephone lines.
- Avoid using the telephone function (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
- Do not use the telephone function to report a gas leak in the vicinity of the leak.
- Do not use this product near water, for example near a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.

### **Caution (for USA Users)**

To reduce the risk of fire, use only No.26 AWG or larger telecommunication line cord.

# On the Use of the RF Device

**NOTE:** The information in this section applies to models with the wireless LAN module.

## USA and Canada Safety Requirements and Notices

**IMPORTANT NOTE:** This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter. This equipment complies with FCC RF radiation exposure limits set forth for an uncontrolled environment.

### Use in specific environments:

- The use of wireless devices in hazardous locations is limited by the constraints posed by the safety directors of such environments.
- The use of wireless devices on airplanes is governed by the Federal Aviation Administration (FAA).
- The use of wireless devices in hospitals is restricted to the limits set forth by each hospital.

## **Explosive Device Proximity Warning**

**WARNING:** Do not operate a portable transmitter (such as a wireless network device) near unshielded blasting caps or in an explosive environment unless the device has been modified to be qualified for such use.

## **Use on Aircraft Caution**

**CAUTION:** Regulations of the FCC and FAA prohibit airborne operation of radio-frequency wireless devices because their signals could interfere with critical aircraft instruments.

## **EMC Requirements**

This device uses, generates and radiates radio frequency energy. The radio frequency energy produced by this device is well below the maximum exposure allowed by the Federal Communications Commission (FCC).

This device complies with the limits for a Class B digital device pursuant to Part 15 subpart C of the FCC Rules and Regulations. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference.
- (2) This device must accept any interference received, including interference that may cause undesired operation.

Operation on the 5.15-5.25GHz frequency band is restricted to indoor use only. The FCC requires indoor use for the 5.15-5.25GHz band to reduce the potential for harmful interference to co-channel Mobile Satellite Systems. Therefore, it will only transmit on the 5.25-5.35 GHz, 5.47-5.725 GHz and 5.725 –5.850 GHz band when associated with an access point (AP).

**CAUTION:** The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency.

## **Canada Radio Frequency Interference Requirements**

To prevent radio interference to the licensed service, this device is intended to be operated indoors and away from windows to provide maximum shielding. Equipment (or its transmit antenna) that is installed outdoors is subject to licensing.

Pour empêcher que cet appareil cause du brouillage au service faisant l'objet d'une licence, il doit être utilisé à l'intérieur et devrait être placé loin des fenêtres afin de fournir un écran de blindage maximal. Si le matériel (ou son antenne d'émission) est installé à l'extérieur, il doit faire l'objet d'une licence.

## **European Union CE Marking and Compliance Notices**

### **Statements of Compliance**

#### **English**

This product follows the provisions of the European Directive 1999/5/EC.

#### **Danish**

Dette produkt er i overensstemmelse med det europæiske direktiv 1999/5/EC.

#### **Dutch**

Dit product is in navolging van de bepalingen van Europees Directief 1999/5/EC.

#### **Finnish**

Tämä tuote noudattaa EU-direktiivin 1999/5/EC määräyksiä.

#### **French**

Ce produit est conforme aux exigences de la Directive Européenne 1999/5/EC.



**German**

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 1999/5/EC.

**Greek**

Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 1999/5/EC.

**Icelandic**

Þessi vara sténst reglugerð Evrópska Efnahags Bandalagsins númer 1999/5/EC.

**Italian**

Questo prodotto è conforme alla Direttiva Europea 1999/5/EC.

**Norwegian**

Denne produktet er i henhold til bestemmelsene i det europeiske direktivet 1999/5/EC.

**Portuguese**

Este produto cumpre com as normas da Diretiva Europeia 1999/5/EC.

**Spanish**

Este producto cumple con las normas del Directivo Europeo 1999/5/EC.

**Swedish**

Denna produkt har tillverkats i enlighet med EG-direktiv 1999/5/EC.

**Local Restrictions of 802.11a/g/n Radio Usage**

**CAUTION:** Due to the fact that the frequencies used by 802.11 a/g/n wireless LAN devices may not yet be harmonized in all countries, 802.11 a/g/n products are designed for use only in specific countries or regions, and is not allowed to be operated in countries or regions other than those of designated use. As a user of these products, you are responsible for ensuring that the products are used only in the countries or regions for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country or region of use. Any deviation from permissible settings and restrictions in the country or region of use could be an infringement of local law and may be punished as such.

The European variant is intended for use throughout the European Economic Area. However, authorization for use is further restricted in particular countries or regions within countries, as follows:

**General**

European standards dictate maximum radiated transmit power of 100 mW Effective Isotropic Radiated Power (EIRP) and the frequency range 2400 – 2483.5 MHz.

**Belgium and the Netherlands**

In Belgium and the Netherlands, the product may not be used outdoors. See the instructions next under the heading “Turning Off the Wireless LAN Radio.”

**France**

**Departments in Which the Wireless LAN Module Can Be Used (Indoors Only)**

The wireless LAN module can currently be used indoors only in the following 38 departments of mainland France. Please turn off your wireless LAN radio when operating the device in areas/places other than the 38 departments listed:

|    |                |    |                |    |                       |
|----|----------------|----|----------------|----|-----------------------|
| 01 | Ain Orientales | 36 | Indre          | 66 | Pyrénées              |
| 02 | Aisne          | 37 | Indre et Loire | 67 | Bas Rhin              |
| 03 | Allier         | 41 | Loir et Cher   | 68 | Haut Rhin             |
| 05 | Hautes Alpes   | 42 | Loire          | 70 | Haute Saône           |
| 08 | Ardennes       | 45 | Loiret         | 71 | Saône et Loire        |
| 09 | Ariège         | 50 | Manche         | 75 | Paris                 |
| 11 | Aude           | 55 | Meuse          | 82 | Tarn et Garonne       |
| 12 | Aveyron        | 58 | Nièvre         | 84 | Vaucluse              |
| 16 | Charente       | 59 | Nord           | 88 | Vosges                |
| 24 | Dordogne       | 60 | Oise           | 89 | Yonne                 |
| 25 | Doubs          | 61 | Orne           | 90 | Territoire de Belfort |
| 26 | Drôme          | 63 | Puy du Dôme    | 94 | Val de Marne          |
| 32 | Gers           | 64 | Pyrénées       |    |                       |

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Departments in Which the Wireless LAN Module's Maximum EIRP Not Shown in the Previous Table

| Frequency Ranges (MHz) | Indoors | Outdoors                                                     |
|------------------------|---------|--------------------------------------------------------------|
| 2400 – 2446.5          | 10 mW   | Not permitted                                                |
| 2446.5 – 2483.5        | 100 mW  | 100 mW on private property with Ministry of Defense approval |

## Turning Off the Wireless LAN Radio

**NOTE:** Turning the wireless LAN radio off is not the same as disabling the wireless LAN card. It is not necessary to disable the card to meet the regulatory requirements.

While operating the computer in those French departments that do not allow use of the wireless LAN equipment, the user of the equipment must turn off the wireless LAN radio in order to comply with local regulations.