

Using ExpressCards

Your computer has an ExpressCard slot.

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.

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.



To remove an ExpressCard:

1. Double-click 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.
5. Close the cover.

Using Storage Cards

NOTE: 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 SD (Secure Digital) cards.

To insert a storage card:

1. Locate the SD card reader on the right side of the computer and open the cover.
2. Align the card with its connector pointing to the slot and its label facing down. 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. Open **File Explorer** and click **Computer**.
2. Right-click the drive with the card and select **Eject**.
3. Slightly push the card to release and then pull it out of the slot.
4. Close the cover.

Changing or Replacing

System Memory Upgrade

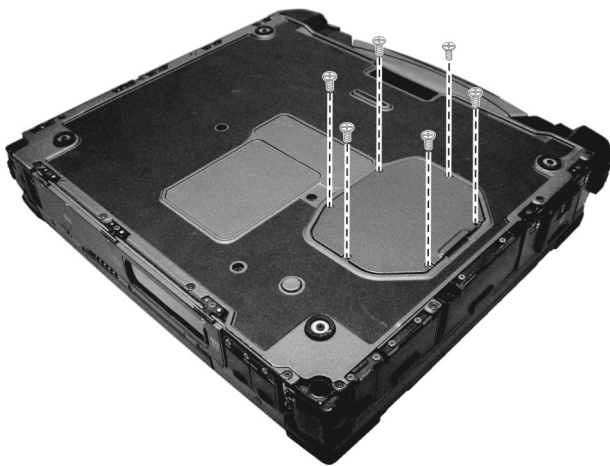
You can upgrade your computer by expanding system memory.

CAUTION:

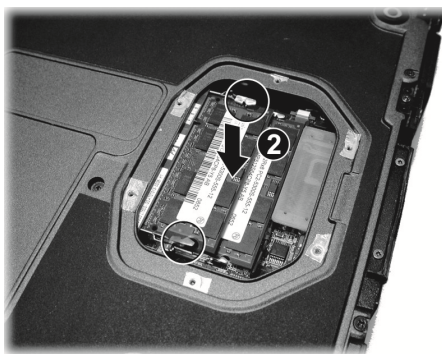
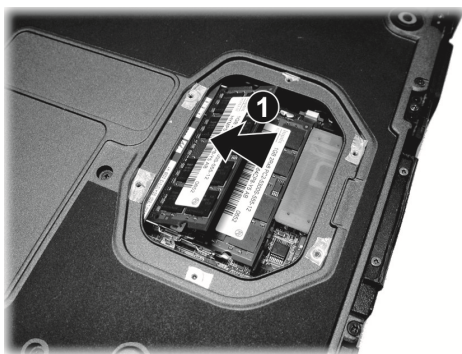
- It is not recommended that you buy and install RAM modules by yourself. If you want to expand system memory, please ask Getac service center to install DRAM modules for you so that full compatibility can be guaranteed.
- RAM modules are extremely sensitive to static electricity. There are cases where static electricity generated by the human body has adversely affected such modules. When inserting or removing a RAM module, do not touch the terminals or internal components, insert objects other than the module, or allow foreign particles to enter. Doing so has been known to cause damage, fire, or electrical shock.

To install the RAM module:

1. Disconnect the AC adapter and remove the battery pack (see chapter 3).
2. Carefully place the computer upside down.
3. Remove the six screws to open the compartment cover.



4. To install the RAM module, match the module's notched part with the socket's projected part and firmly insert the module into the socket at a 20-degree angle **(1)**. Then push down until the retaining clips lock the module into position **(2)**.



CAUTION: If the RAM module is difficult to insert or difficult to push down, do not force it. Check once more to ensure that the module is positioned correctly.

5. Close the compartment cover and secure with six screws.
6. Replace the battery pack.

Replacing the Hard Disk Drive

1. Disconnect the AC adapter and remove the battery pack (see chapter 3).
2. Locate the hard disk drive compartment on the right side of the computer. Slide the cover lock to the left (❶) and then lift the release latch (❷) to open the compartment cover.



3. Pull the strip and slide the hard disk drive out of the slot.

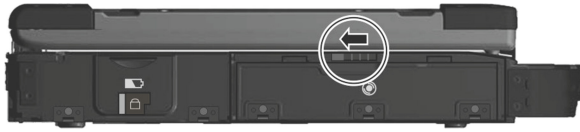


4. With the strip facing outward, insert the new hard disk drive all the way into the slot.
5. Close the cover, press the release latch downward to engage, and then slide the lock towards the right to secure the cover.
6. Replace the battery pack.

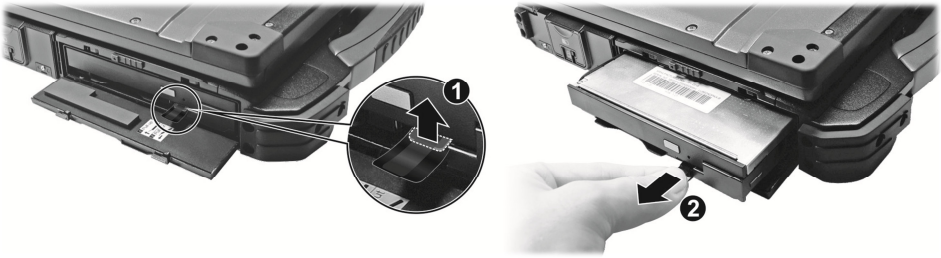
Installing a Secondary Battery Pack or Hard Disk Drive

You can purchase a secondary battery pack or hard disk drive to be installed in the multi-purpose bay.

1. Make sure that system power is off.
2. Open the multi-purpose bay cover by sliding the release latch towards the left.



3. Press upward the release latch (❶) and pull the ribbon strip (❷) to slide the existing device out of the bay.



NOTE: The position of the release latch and ribbon strip varies with the device. Only one example is shown here.

4. With the ribbon strip facing outward, insert the new device all the way into the media bay.



5. Close the multi-purpose bay cover.

CAUTION: When closing the cover, make sure the ribbon strip does not get in the way. If you leave the ribbon strip jammed between the cover's edge and the computer, the cover will lose its sealing capability.

Chapter 5

Using BIOS Setup

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.

This chapter tells you how to use the BIOS Setup Utility.

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:

1. Click  → **Settings** → **Update & security** → **Recovery**. Under **Advanced startup**, click **Restart now**. In the boot options menu, click **Troubleshoot** → **Advanced options** → **UEFI Firmware Settings**. Click **Restart**.
2. The BIOS Setup Utility main screen appears.

In general, you can use the arrow keys to move around and + / – keys to change the setup values. Keyboard information can be found at the bottom of the screen.

NOTE :

- The actual setting items on your model may differ from those described in this chapter.
- The availability of some setting items depends on the Windows version your computer is running.

Menu Descriptions

Information Menu

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

NOTE: The “Asset Tag” information appears when you have entered the asset number for this computer using the asset management program. The program is provided in the **Asset tag** folder of the Driver disc.

Main Menu

The Main menu contains the various system settings.

- **System Date** sets the system date.
- **System Time** sets the system time.
- **Boot Priority** determines the first device that the system boots from. Select Legacy First or UEFI First according to your needs.
- **Legacy USB Support** enables or disables the system’s support for Legacy USB.
- **CSM Support** enables or disables CSM (Compatibility Support Mode). You can set this item to Yes for backward compatibility with legacy BIOS services.
- **PXE Boot** sets the PXE boot to *UEFI* or *Legacy*. PXE (Preboot eXecution Environment) is an environment to boot computers using a network interface independently of data storage devices or installed operating systems.
- **Internal Numlock** sets if the Num Lock function of the built-in keyboard can work. When set to Enabled, you can press **Fn + Num LK** to activate the numeric keypad, which is embedded in the typewriter keys. When set to Disabled, Num Lock does not work. In this case, you can still press **Fn +** a letter key to enter a number.

Advanced Menu

The Advanced menu contains the advanced settings.

- **CD/DVD Auto Power Control** sets if power to the CD/DVD drive is controlled for energy saving. When set to *ZPODD* (Zero Power Optical Disc Drive), power will not be supplied to the drive when there is no CD/DVD in the drive. When set to *ODD Door*, power will not be supplied to the drive when there is no CD/DVD in the drive and the protective door of the drive is closed.
- **Wake Up Capability** specifies events for waking up the system from S3 (Sleep) state.
Any-key Wake Up From S3 allows any key 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.
- **System Policy** sets the system performance. When set to *Performance*, the CPU always runs at full speed. When set to *Balance*, the CPU speed changes according to the current workload, therefore balancing between performance and power consumption.
- **AC Initiation** sets if connecting AC power will automatically start or resume the system.
- **Active Management Technology Support** (This item appears only on models supporting vPro.)
Intel AMT Support enables or disables Intel® Active Management Technology BIOS extension execution. AMT allows the system administrator to access an AMT featured computer remotely.
Intel AMT Setup Prompt determines whether the prompt for entering Intel AMT Setup appears or not during POST.
- **Virtualization Technology Setup** sets Virtualization Technology parameters.
Intel(R) Virtualization Technology enables or disables Intel® VT (Intel Virtualization Technology) feature which provides hardware support for processor virtualization. When enabled, a VMM (Virtual Machine Monitor) can utilize the additional hardware virtualization capabilities provided by this technology.
Intel(R) VT for Directed I/O (VT-d) enables or disables VT-d (Intel® Virtualization

Technology for Directed I/O). When enabled, VT-d helps enhance Intel platforms for efficient virtualization of I/O devices.

- **Graphic Setup** sets graphics related options.
DVMT Pre-Allocated sets the amount of pre-allocated (fixed) graphics memory for use by the internal graphics device.

NOTE: Graphic Setup parameters apply to the internal graphics device only.

- **Device Configuration** enables or disables several hardware components. The items available for setting depend on your model.
- **Recovery Partition** allows you to restore your Windows 10 system to the factory default state by using the “recovery partition” feature. Recovery partition is a portion of your hard disk drive that is set aside by the manufacturer to hold the original image of your system.

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.
- Make sure that power is not interrupted during the recovery process. An unsuccessful recovery may result in Windows startup problems.
- **Windows RE** launches Windows Recovery Environment. Windows RE (Windows Recovery Environment) is a recovery environment that provides recovery, repair, and troubleshooting tools in Windows 10.

Security Menu

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

NOTE :

- You can set the user password only when the supervisor password has been set.
- If both the administrator and user passwords are set, you can enter any of them for starting up the system and/or entering BIOS Setup. However, the user password only allows you to view/change the settings of certain items.
- A password setting is applied right after it is confirmed. To cancel a password, leave the password empty by pressing the **Enter** key.
- **Set Supervisor/User Password** sets the supervisor/user password. You can set the supervisor/user password to be required for starting up the system and/or entering BIOS Setup.
- **Strong Password** enables or disables strong password. When enabled, the password you set must contain at least one upper-case letter, one lower-case letter, and one digit.
- **Password Configuration** sets the minimum password length. Enter the number in the input field and select **[Yes]**. The number should be between 4 and 64.
- **Password on Boot** allows you to enable or disable the entering of password for booting up your system.
- **Secure Boot Configuration** You can access this item only after setting the **Supervisor Password**.
Secure Boot enables or disables Secure Boot. Secure Boot is a feature that helps prevent unauthorized firmware, operating systems, or UEFI drivers from running at boot time.
Delete all Security Boot Keys deletes all secure boot variables.
Restore Factory Defaults resets secure boot variables to manufacturing defaults.
- **Set HDD 0 User Password** sets the password for locking the Primary Master hard disk drive. After setting a password, the hard disk drive can only be unlocked by the password no matter where it is installed.

- **Security Freeze Lock** enables or disables the “Security Freeze Lock” function. This function is only applicable to SATA drives in AHCI mode. It prevents attacks on the SATA drive by freezing the security state of the drive at POST and also when the system resumes from S3.
- **TPM Setup Menu**
TPM Support enables or disables TPM (Trusted Platform Module) support. TPM (Trusted Platform Module) is a component on your computer’s mainboard that is specifically designed to enhance platform security by providing a protected space for key operations and other security critical tasks.
Change TPM Status allows you to select between *No Change* and *Clear*.

Boot Menu

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

Press the arrow key to select a device on the boot order list and then press **+/-** key to change the order of the selected device.

The **[X]** sign after a device name means the device is included in the search. To exclude a device from the search, move to the **[X]** sign of the device and press **Enter**.

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.

Quick BIOS Settings

During POST, you can quickly access specific BIOS settings using the hot keys as described below.

Keys	Functions
F10	Opens the Boot menu where you can specify the device to boot from.
F12	Enables LAN boot.
Ctrl + P	Opens Intel® ME setup (MEBx) menu where you can change the Intel® Management Engine settings for the computer. NOTE: The MEBx is intended for use by advanced users. Making changes in the MEBx configuration program can cause system problems. The MEBx configuration should only be changed from default settings to address a specific need.

Chapter 6

Using Getac Software

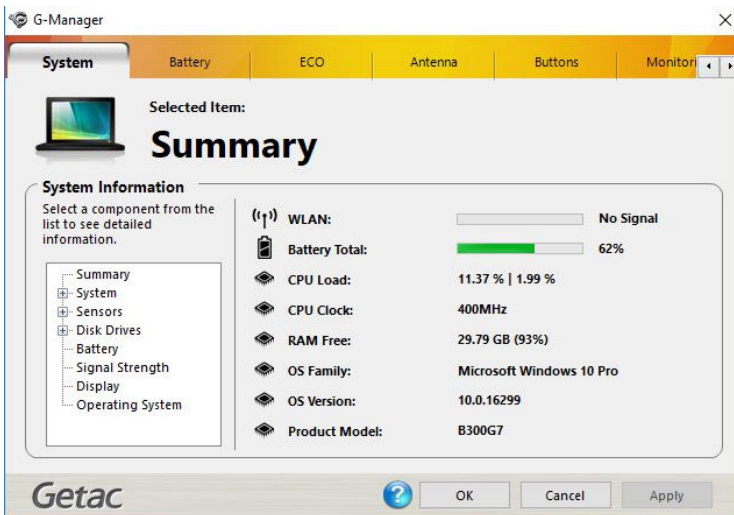
Getac software includes application programs for specific computer components and utility programs for overall management.

This chapter briefly introduces the programs.

G-Manager

G-Manager allows you to view, manage, and configure several system functions and features.

Right-click the Getac Utility icon  located on Windows taskbar and select **G-Manager** to start the program. The G-Manager window appears, containing several tabs.



For detailed information, see the program's online help.

Chapter 7

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 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. Using the computer in extreme environments for long periods can result in product deterioration and a shortened product life.
- Operating in an environment with metallic dust is not allowed.
- Place the computer on a flat and steady surface. Do not stand the computer on its side or store it in an upside-down position. A strong impact by dropping or hitting may damage the computer.
- 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.
- As the computer can become very hot during operation, keep it away from objects that are vulnerable to heat.
- 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.

General Guidelines

- Do not expose your skin to the computer when operating it in a very hot or cold environment.

- Do not place heavy objects on top of the computer when it is closed as this may damage the display.
- Do not move the computer simply by grasping the display screen.
- The screen surface is easily scratched. Do not use paper towels to clean the display but use the included soft cloth.
- LCD image sticking occurs when a fixed pattern is displayed on the screen for a prolonged period of time. You can avoid the problem by limiting the amount of static content on the display. It is recommended that you use a screen saver or turn off the display when it is not in use.
- To maximize the life of the backlight in the display, allow the backlight to automatically turn off as a result of power management.

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.
- 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.
- If water or liquid is split onto the computer, wipe it dry and clean when possible. Though your computer is water-proof, do not leave the computer wet when you can dry it.
- If the computer gets wet where the temperature is 0°C (32°F) or below, freeze damage may occur. Make sure to dry the wet computer.

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 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.
- When using battery power in an extremely low temperature environment, you may experience shortened operating time and incorrect battery level reading. This phenomenon comes from the chemical characteristics of batteries. The

appropriate operating temperature for the battery is -10 °C ~ 50 °C (14 °F ~ 122 °F).

- Do not leave the battery pack in storage for more than six months without recharging it.

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.
- 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.
- Turn off the computer power when cleaning the display. Cleaning the display with the power on may cause improper operation.
- Do not use excessive force on the display. Avoid placing objects on top of the display as this may cause the glass to break thereby damaging the display.
- In low and high temperatures (below 5 °C / 41 °F and above 60 °C / 140 °F), the touchscreen may have a slower response time or register the touch in the wrong location. It will go back to normal after 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 8

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.
- If the battery doesn't charge after it has been stored in very low temperatures, try disconnecting and reconnecting the AC adapter to solve the problem.
- 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.

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.

Bluetooth Problems

I cannot connect to another Bluetooth-enabled device.

- Make sure that both devices have activated Bluetooth feature.
- Make sure that the distance between the two devices is within the limit and 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.
- 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.

The display brightness cannot be increased.

- As a protection, the display brightness will be fixed at a low level when the surrounding temperature is too high or too low. It is not a malfunction in this situation.

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.

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 by inserting a small rod, such as a straightened paperclip, into the drive's manual eject hole and pushing firmly to release the tray.



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. Defragment the drive. (See Windows online help for instructions.).

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

- The data files stored on the hard disk drive may be fragmented. Defragment the drive. (See Windows online help for instructions.).

Keyboard 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 spilled 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. Wait for the keyboard to air dry before using the computer again.

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.

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.

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.

Startup Problems

When you turn on the computer, it does not seem to respond.

- Make sure that either the AC adapter is connected or the battery has power.
- **For models with the “HDD preheat” feature:** When turning on the computer in an extremely low temperature environment, the computer will heat up the hard disk before starting up. The Num Lock indicator glows amber to indicate the heater is on. Wait till the heating is finished. However, if external AC power is not available and the remaining battery power is too low for the heating to complete, the computer may not start up. In case the computer fails to start up, turn off the computer and leave it in room temperature for about an hour before trying to turn it on again.

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 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 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 of these methods:

- Press **Ctrl+Alt+Del** on the keyboard. This opens the **Ctrl+Alt+Del** screen where you can select actions including **Restart**.
- If the above action does not work, press and hold the power button for more than 5 seconds to force the system to turn off. Then turn on the power again.

System Recovery

Using Windows RE

Windows 10 has a recovery environment (Windows RE) that provides recovery, repair, and troubleshooting tools. The tools are referred to as Advanced Startup Options. You can access these options by selecting  → **Settings** → **Update & security**. There are several choices:

- **System Restore**
This option allows you to restore Windows to an earlier point in time if you have created a restore point.
- **Recover from a drive**
If you have created a recovery drive on Windows 10, you can use the recovery drive to reinstall Windows.
- **Reset this PC**
This option allows you to reinstall Windows with or without keeping your files.

See Microsoft website for more information.

NOTE:

- If you are in a situation where your computer won't boot into Windows, you can access the Advanced Startup Options by running the BIOS Setup Utility and selecting **Advanced** → **Windows RE**.
- System recovery for Windows 10 typically will take several hours to complete.

Using Recovery Partition

When necessary, you can restore your Windows 10 system to the factory default state by using the “recovery partition” feature. Recovery partition is a portion of your hard disk drive that is set aside by the manufacturer to hold the original image of your system.

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.
- Make sure that power is not interrupted during the recovery process. An unsuccessful recovery may result in Windows startup problems.

To restore your system to the factory default state:

1. Connect the AC adapter.
2. Run BIOS Setup Utility. Select **Advanced → Recovery Partition**. (See Chapter 5 for more information.)
3. Follow the onscreen instructions to complete the process.

Using the Driver Disc (Optional)

NOTE: You can download the latest drivers and utilities from Getac website at <http://www.getac.com> → **Support**.

The Driver disc contains drivers and utilities required for specific hardware in your computer.

Since your computer comes with drivers and utilities pre-installed, you normally do not need to use the Driver disc. In case you want to manually install Windows, you will have to install the drivers and utilities one by one after installing Windows.

To manually install drivers and utilities:

1. Start up the computer.
2. Insert the Driver disc. Make sure you use the disc that matches the Windows version of your computer.
3. The autorun program should automatically start. You will see the installation menu. Click **NEXT** to go to the next page if there is more than one.
4. To install a driver or utility, just click the particular button and follow the onscreen instructions to complete the installation.

Appendix A

Specifications

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

Parts		Specifications
CPU		Kabylake Platform - Intel® Core™ i7-8550U Processor, 1.8GHz, up to 3.7GHz, 8M cache - Intel® Core™ i5-8250U Processor, 1.6GHz, up to 3.4GHz, 6M cache - Option: Intel® Core™ i7-8650U vPro™ Processor, 1.9GHz, up to 3.9GHz, 8M cache - Option: Intel® Core™ i5-8350U vPro™ Processor, 1.7GHz, up to 3.6GHz, 6M cache
BIOS		UEFI, TPM, vPro, NIST, Computrace, HDD Security Erasure, fingerprint security, self-diagnostics, SmartCard security, Asset Tag
RAM (system)		DDR4 SO-DIMM sockets for 4GB/8GB 2400MHz
Display	Panel	13.3-inch (4:3) TFT LCD, resolution up to 1024 × 768 XGA, with light sensor, supporting dimmer mode, blackout mode, and night vision Can come with one of the below options: – Sunlight-readable (1400 nits) touchscreen – Standard brightness (700 nits) screen with protection glass
	Video controller	Intel® UHD Graphics 620
Audio	Features	Azalia interface, 2 channel analog output, internal microphone
	Speaker	1.5 watt (8 ohm) stereo × 2
	Microphone	Integrated microphone
Keyboard		Standard keys with numeric pad keys, 12 function keys, special Fn (Function) key and Windows keys, with backlight (option)
Pointing device		Glide touchpad with 2 buttons, scroll bar, capacitive type
Storage device	Hard disk drive	SATA III interface, 500GB, 256GB SSD (solid-state disk) (option)
	DVD drive	SATA interface, Super-Multi DVD drive

Parts		Specifications
Card slots		SecureDigital card PCMCIA CardBus Type II ExpressCard/54 Smart Card
I/O ports		USB 3.0 x 3, serial (RS-232) x 2, VGA, HDMI, RJ-45, headphone out, microphone, docking (80 pin)
LAN		Intel® Gigabit i219-LM (vPro) LAN 10/100/1000 Mbps
Wireless LAN and Bluetooth		Intel Wireless AC 8265 - 2x2 802.11 ac WiFi + Bluetooth 4.2 combo module
GPS (option)		GPS module, GPS pass-through
WWAN (option)		WCDMA/HSDPA/LTE, external accessible SIM card slot, WWAN pass-through
Security		Kensington lock TPM 2.0 Fingerprint scanner (option) Smart Card Reader
Power	AC adapter	Universal AC adapter 90 W; input: 100~240 V, output: 19 V
	Battery	Li-ion smart battery 9-cell, 8100 mAh or 8700 mAh (option), 10.8 Vdc
Dimension (W×D)		303.5×298×60 mm (11.9×11.7×2.36 inch) with handle
Weight		3.5 kg (7.7 lb)

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.

US Representative information:

a. Name of the company : Getac Inc.

b. Address of the company : 400 Exchange, Suite 100 Irvine, CA 92602

c www.getac.com

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.

ANSI Warning

Equipment approved for ANSI/ISA 12.12.01, Nonincendive Electrical Equipment for use in Class 1, Division 2, Group A, B, C, and D.

Maximum ambient temperature: -25°C~55°C; Temperature code: T5

- **WARNING:** To prevent ignition of a hazardous atmosphere, batteries must only be changed or charged in an area known to be non-hazardous.
- **EXPLOSION HAZARD WARNING:** External connections/hubs through the connectors as mentioned (USB connector, Ethernet connector, phone connector, video port, serial port, power supply connector, microphone jack, headphones jack, and buttons/switches) and super multi DVD/combo drive are not to be used in a hazardous location.
- Power adapter shall not be used in hazardous locations.

Safety Notices

About the Battery

If the battery is mishandled, it may cause fire, smoke or an explosion and the battery's functionality will be seriously damaged. The safety instructions listed below must be followed.

Danger

- Do not immerse the battery with liquid such as water, sea water or soda.
- Do not charge/discharge or place the battery in high-temperature (more than 80 °C / 176 °F) locations, such as near a fire, heater, in a car in direct sunlight, etc.
- Do not use unauthorized chargers.
- Do not force a reverse-charge or a reverse-connection.
- Do not connect the battery with AC plug (outlet) or car plugs.
- Do not adapt the battery to unspecified applications.
- Do not short circuit the battery.
- Do not drop or subject the battery to impacts.
- Do not penetrate with a nail or strike with a hammer.
- Do not directly solder the battery.
- Do not disassemble the battery.

Warning

- Keep the battery away from infants.
- Stop using the battery if there are noticeable abnormalities such as abnormal smell, heat, deformities, or discoloration.
- Stop charging if the charging process cannot be finished.
- In case of a leaking battery, keep the battery away from flames and do not touch it.

- Pack the battery tightly during transport.

Caution

- Do not use the battery where static electricity (more than 100V) exists that might damage the protection circuit of the battery.
- When children are using the system, parents or adults must ensure that they are using the system and battery correctly.
- Keep the battery away from flammable materials during charging and discharging.
- In case lead wires or metal objects come out from the battery, you must seal and insulate them completely.

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 gleich-wertigen 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.

On the Use of the RF Device

USA and Canada Safety Requirements and Notices

IMPORTANT NOTE: To comply with FCC RF exposure compliance requirements, the antenna used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Radio Frequency Interference Requirements and SAR

This device meets the government's requirements for exposure to radio waves.

This device is designed and manufactured not to exceed the emission limits for exposure to radio frequency (RF) energy set by the Federal Communications Commission of the U.S. Government.

This device complies with FCC radiation exposure limits set forth for an uncontrolled environment.

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 Part 15 of the FCC Rules. 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.

The FCC limits are designed to provide reasonable protection against harmful interference when the equipment is installed and used in accordance with the instruction manual and operated in a commercial environment. However, there is no guarantee that interference will not occur in a particular commercial installation, or if operated in a residential area.

If harmful interference with radio or television reception occurs when the device is turned on, the user must correct the situation at the user's own expense. The user is encouraged to try one or more of the following corrective 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.

CAUTION: The Part 15 radio device operates on a non-interference basis with other devices operating at this frequency. Any changes or modification to said product not expressly approved by the manufacturer could void the user's authority to operate this device.

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 2014/53/EU.

Danish

Dette produkt er i overensstemmelse med det europæiske direktiv 2014/53/EU.

Dutch

Dit product is in navolging van de bepalingen van Europees Directief 2014/53/EU.

Finnish

Tämä tuote noudattaa EU-direktiivin 2014/53/EU määräyksiä.

French

Ce produit est conforme aux exigences de la Directive Européenne 2014/53/EU.

German

Dieses Produkt entspricht den Bestimmungen der Europäischen Richtlinie 2014/53/EU.

Greek

Το προϊόν αυτό πληροί τις προβλέψεις της Ευρωπαϊκής Οδηγίας 2014/53/EU.

Icelandic

Þessi vara stenst reglugerð Evrópska Efnahags Bandalagsins númer 2014/53/EU.

Italian

Questo prodotto è conforme alla Direttiva Europea 2014/53/EU.

Norwegian

Dette produktet er i henhold til bestemmelsene i det europeiske direktivet 2014/53/EU.

Portuguese

Este produto cumpre com as normas da Diretiva Europeia 2014/53/EU.

Spanish

Este producto cumple con las normas del Directivo Europeo 2014/53/EU.

Swedish

Denna produkt har tillverkats i enlighet med EG-direktiv 2014/53/EU.

Notices

CE Max power:

WLAN 2.4G: 16.5 dBm

WLAN 5G: 17.14 dBm

BT: 9.9 dBm

WWAN: 31.73 dBm

The device is restricted to indoor use only when operating in the 5150 to 5350 MHz frequency range.

	AT	BE	BG	HR	CY	CZ	DK
	EE	FI	FR	DE	EL	HU	IE
	IT	LV	LT	LU	MT	NL	PL
	PT	RO	SK	SI	ES	SE	UK

 	Waste Electrical and Electronic Equipment (WEEE) This symbol means that according to local laws and regulations your product and/or its battery shall be disposed of separately from household waste. When this product reaches its end of life, take it to a collection point designated by local authorities. Proper recycling of your product will protect human health and the environment.
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User Notification of Take-back Service

To Institutional (B2B) Users in United States:

Getac believes in providing our institutional customers with easy-to-use solutions to recycle your Getac-brand products for free. Getac understands the institutional customers will likely be recycling multiple items at once and as such. Getac wants to make the recycling process for these larger shipments as streamlined as possible. Getac works with recycling vendors with the highest standards for protecting our environment, ensuring worker safety, and complying with global environmental laws. Our commitment to recycling our old equipment grows out of our work to protect the environment in many ways.

Please see the product type below for information on Getac product, battery and packaging recycling in USA.

- **For Product Recycling:**

Your portable Getac products contain hazardous materials. While they pose no risk to you during normal use, they should never be disposed with other wastes. Getac provides a free take-back service for recycling your Getac products. Our electronics recycler will provide competitive bids for recycling non-Getac products as well.

- **For Battery Recycling:**

The batteries used to power your portable Getac products contain hazardous materials. While they pose no risk to you during normal use, they should never be disposed with other wastes. Getac provides a free take-back service for recycling your batteries from Getac products.

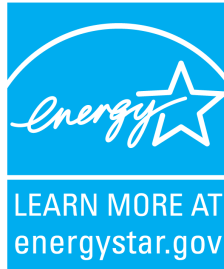
- **For Packaging Recycling:**

Getac has chosen the packaging materials used to transport our products carefully, to balance the requirements of shipping the product to you safely while minimizing the amount of material used. The materials used in our packaging are designed to be recycled locally.

If you have the above for recycling, please visit our website

<https://us.getac.com/aboutgetac/environment.html>

ENERGY STAR 7.0



ENERGY STAR® is a government program that offers businesses and consumers energy-efficient solutions, making it easy to save money while protecting the environment for future generations.

Please reference ENERGY STAR® related information from <http://www.energystar.gov>.

As an ENERGY STAR® Partner, Getac Technology Corporation has determined that this product meets the ENERGY STAR® guidelines for energy efficiency.

An ENERGY STAR® qualified computer uses 70 % less electricity than computers without enabled power management features.

Earning the ENERGY STAR®

- When every home office is powered by equipment that has earned the ENERGY STAR®, the change will keep over 289 billion pounds of greenhouse gases out of the air.
- If left inactive, ENERGY STAR® qualified computers enter a low-power mode and may use 15 watts or less. New chip technologies make power management features more reliable, dependable, and user-friendly than even just a few years ago.
- Spending a large portion of time in low-power mode not only saves energy, but helps equipment run cooler and last longer.

- Businesses that use ENERGY STAR® enabled office equipment may realize additional savings on air conditioning and maintenance.
- Over its lifetime, ENERGY STAR® qualified equipment in a single home office (e.g., computer, monitor, printer, and fax) can save enough electricity to light an entire home for more than 4 years.
- Power management (“sleep settings”) on computers and monitors can result in much savings annually.

Remember, saving energy prevents pollution

Because most computer equipment is left on 24 hours a day, power management features are important for saving energy and are an easy way to reduce air pollution. By using less energy, these products help lower consumers’ utility bills, and prevent greenhouse gas emissions.

Getac Product Compliance

All Getac products with ENERGY STAR® logo comply with the ENERGY STAR® standard, and the power management feature is enabled by default. As recommended by the ENERGY STAR® program for optimal energy savings, the computer is automatically set to sleep after 15 minutes (in battery mode) and 30 minutes (in AC mode) of user inactivity. To wake up the computer, press the power button.

If you want to configure power management settings such as inactivity time and ways to initiate/end Sleep mode, go to **Power Options** by right-clicking the battery icon on the Windows taskbar and then selecting **Power Options** in the pop-up menu.

Please visit <http://www.energystar.gov/powermanagement> for detail information on power management and its benefits to the environment.

Battery Recycling

For the U.S. and Canada only:

To recycle the battery, please go to the RBRC Call2Recycle website or use the Call2Recycle Helpline at 800-822-8837.

Call2Recycle® is a product stewardship program providing no-cost battery and cellphone recycling solutions across the U.S. and Canada. Operated by Call2Recycle, Inc., a 501(c)4 nonprofit public service organization, the program is funded by battery and product manufacturers committed to responsible recycling. See more at: <http://www.call2recycle.org>

