



GD6000 User Guide



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Identification GD6000

Copyright Notice

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The following United States Patent Numbers apply to any unit which incorporates a DVD drive - 5,434,678; 5,589,945; 5,913,013; 6,151,444; and 6,208,805.

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Compliance Statements

FEDERAL COMMUNICATION COMMISSION INTERFERENCE STATEMENT

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee 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 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.

FCC CAUTION

To assure continued compliance, (example - use only shielded interface cables when connecting to computer or peripheral devices) any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

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

IMPORTANT NOTE

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Local Restriction of 802.11a/b/g/n Radio Usage

CAUTION Due to the fact that the frequencies used by 802.11a/b/g/n wireless LAN devices may not yet be harmonized in all countries, 802.11a/b/g/n products are designed for use only in specific countries, and are not allowed to be operated in countries 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 for which they were intended and for verifying that they are configured with the correct selection of frequency and channel for the country of use. Any deviation from permissible settings and restrictions in the country of use could be an infringement of national law and may be punished as such.

FCC RADIO FREQUENCY INTERFERENCE REQUIREMENTS

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range. FCC requires this product to be used indoors for the frequency range 5.15 to 5.25 GHz to reduce the potential for harmful interference to co-channel Mobile Satellite systems. High power radars are allocated as primary users of the 5.25 to 5.35 GHz and 5.65 to 5.85 GHz bands. These radar stations can cause interference with and/or damage this device.

REN

The GD6000 computer complies with Part 68 of the FCC Rules. On the bottom of this equipment is a label that contains, among other information, the FCC registration number and ringer equivalence number (REN) for this equipment. If requested, this information must be provided to the telephone company.

The REN is used to determine the quantity of devices which may be connected to the telephone line. Excessive RENs on the telephone line may result in the devices not ringing in response to an incoming call. In most, but not all areas, the sum of the RENs should not exceed five (5.0). To be certain of the number of devices that may be connected to the line, as determined by the total RENs, contact the telephone company to determine the maximum REN for the calling area.

The GD6000 computer may be connected to the telephone network using the RJ-11 jack provided.

If this equipment causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. If advance notice isn't practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.

The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the equipment. If this happens, the telephone company will provide advance notice in order for you to make the necessary modifications in order to maintain uninterrupted service.

If trouble is experienced with this equipment, please contact the equipment manufacturer for repair and/or warranty information. Do not attempt repairs of this equipment yourself without obtaining manufacturer authorized parts and documentation. If the trouble is causing harm to the telephone network, the telephone company may request you remove the equipment from the network until the problem is resolved.

COMPLIANCE STATEMENT FOR CANADA

NOTICE The Industry Canada label identifies certified equipment. This certification means that the equipment meets certain telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The Department does not guarantee the equipment will operate to the user's satisfaction.

Before installing this equipment, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The equipment must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.

Repairs to certified equipment should be made by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.

Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines, and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.

CAUTION! Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.

The Ringer Equivalence Numbers (REN) are:

GD6000 non-radio: 0.5B

GD6000 Cingular: 0.5B

NOTICE The Ringer Equivalence Number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the Ringer Equivalence Numbers of all the devices does not exceed 5.

The GD6000 computer may be connected to the telephone network using the RJ-11 jack provided.

FAX BRANDING

The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or other electronic device to send any message via a telephone fax machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission, the date and time it is sent and an identification of the business or other entity, or other individual sending the message and the telephone number of the sending machine or

such business, other entity, or individual.

In order to program this information into your fax machine, you should complete the following:

This information is entered through the FAX application software you have installed. Consult your FAX software documentation for instructions about entering this information.

Warnings and Cautions

WARNING It is important that only authorized General Dynamics Itronix personnel attempt repairs on General Dynamics Itronix equipment as this might void any maintenance contract with your company. Unauthorized service personnel might be subject to shock hazard on some General Dynamics Itronix equipment if removal of protective covers is attempted.

The product you have purchased is powered by a rechargeable battery. The battery is recyclable and, under various state and local laws, it may be illegal to dispose of this battery into the municipal waste stream. Do not crush the battery or place it in a fire. Check with your local solid-waste officials for details on recycling options or proper disposal.

CAUTION Internal components of the GD6000 computer will be damaged if exposed to contaminants. When dust covers, the PC card door, or the bottom access panel are open on the computer, shield the unit from all contaminants such as liquids, rain, snow, and dust.

Internal radio(s) may have an individual FCC Identifier which are not applicable to this configuration. Only the FCC ID shown on the label located on the bottom of the GD6000 Laptop PC is applicable. The GD6000 computer must not be co-located or operating in conjunction with any other antenna or transmitter than specified in the filing .

This device may contain a WLAN radio transmitter , a WAN radio transmitter and a PAN radio transmitter. To comply with FCC RF exposure requirements when using the WAN radio transmitter, a minimum separation distance of 20 cm must be maintained between the between the center of the display screen and all users/bystanders. When using the WLAN transmitter, a minimum separation distance of 20 cm must be maintained between the upper right and left edges of the display screen and all users/bystanders. The WAN radio and WLAN/PAN transmitter should be turned off before carrying the Laptop PC order to comply with FCC RF exposure requirements.

“The equipment has been approved to [Commission Decision “CTR21”] for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between individual PSTNs provided in different countries the approval does not, of itself, give an unconditional assurance of successful operation on every PSTN network termination point.

In the event of problems, you should contact your equipment supplier in the first instance.

This product is intended to be supplied by a Listed Power Unit and output rated 19 V dc, 3.42 A.

CAUTION Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment.

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

Safety Information

Enclosed with each GD6000 Laptop computer is the radio specific safety information. Do not proceed without reviewing the information provided in that document.

Do not proceed beyond a WARNING or CAUTION until the indicated conditions are fully understood and met.

Congratulations on your purchase of the GD6000 computer! Your new GD6000 features the most innovative advances in portable computing technology. It combines state-of-the-art ergonomics with sophisticated architecture to provide you with a personal computer that is compact, powerful, and easy to use.

Designed for a wide range of general, business, and personal productivity applications, the vehicle-rugged, wireless ready GD6000 is an ideal choice wherever you need a computer - in the office, at home, or on the road.

Your GD6000 is both expandable and portable, supporting the features you expect in a desktop computer but with the mobility of a laptop.

Where to Look For Information

About Windows XP

For more extensive information and help about Windows XP, go to **Start**, then click on **Help and Support**. Under **Pick a Help Topic**, click on **Windows Basics** to open **The Windows XP Help and Support Center**, an online orientation of the Windows XP Operating System.

About Windows Vista

For more extensive information and help about Windows Vista, go to **Start**, then click on **Welcome Center**. Under **Get Started with Windows**, click the link **Show all 13 items**.

From here, you can choose **Windows Basics** for an online orientation of the Windows Vista Operating System. You can also click on **What's new in Windows Vista** to see the features of Windows Vista.

About Windows 7

For information and help with Windows 7, select **Start, Help and Support, How to get started with your computer**. You can also browse or search help topics to learn more about using the Windows 7 Operating System.

Standard Parts

- Vehicle-rugged GD6000
- **Battery**
- AC adapter with power cord

You may have additional components or peripherals if you ordered these items separately. Check your packing slip for a complete list of items included in your package.

Standard Features

- XGA Transmissive HiBright **Display**
- Shock-mounted Hard Disk Drive (HDD)
- Includes a heater to protect the HDD during operation at low temperatures.

- Combo DVD-RW/CD-RW Drive
- Vehicle-rugged magnesium case
- Fully optimized, vehicle-ready and designed to handle most situations an 'on-the-go' mobile user might encounter.
- **12 Function Keys**
- Internal 56K V.92 Fax/Modem
- **Lid Switch**: By default, the lid switch suspends the computer when the display lid is closed. It resumes the computer when the lid is opened, if the computer is in a suspended state.
- **Application launch button**: User programmable button
- Radio ON/OFF (**FN+CAPS LOCK**)
- Internal Gigabyte Ethernet LAN
- Li-Ion Battery
- Two USB 2.0 Ports
- OneType II **PC Card Slot**
- **Audio** Jacks for external speakers and microphone
- Internal Speakers and Microphone
- Microsoft Windows XP Professional, Microsoft Windows Vista or Microsoft Windows 7
- 3-year limited warranty

Optional Features

Your computer delivers superior power and performance. However, some users and the applications they use may demand more. This computer allows you to upgrade key components when you need increased performance. Below is a list of some of the optional features supported by your computer.

NOTE Contact your authorized dealer if you decide to perform a key component upgrade.

- **XGA Transmissive HiBright Dynavue® Touch Screen Display**
- **Fingerprint Scanner**
- **Smart Card or EXPRESS Card/54 slot**
- Front or back handles
- **CRMA Express** radio technology: Flexible, field replaceable radio module designed to make new WWAN technology integration easy and cost effective.
- **WLAN**: Intel Centrino 802.11a/b/g/n Wireless LAN with Mini-PCI express WLAN wireless card support.
- **Bluetooth**
- **GPS**
- **Hard Disk Drive (HDD)**: Upgradeable to larger capacity removable hard disk drive.
- **Solid State Drive (SSD)**
- **Memory**: One user-accessible slot for memory upgrades supporting a 1024 or 2048 GB card.

Optional Parts and Accessories

Your computer has several equipment and accessory options to further enhance your mobile computing experience. Click [here](#) for a complete list of optional peripherals and accessories.

The First Time . . .

Begin Using the Computer

1. Open the display to a comfortable viewing angle.
2. Press the power switch to turn on the power. The POST (power-on self-test) routine executes and Windows begins loading.

NOTE When using a battery pack for the first time, it is recommended that you calibrate the battery so the gas gauge accurately displays battery capacity.

Turning off Your Computer

Turning off the computer properly is important to maintaining your computer. Select **Start, Shut Down** and follow the instructions on the screen.

If you are going to be away from the computer for a short period, there are ways to conserve power without shutting down the system. See [Managing Power](#) and [Battery Tips](#) for details.

NOTE If you are unable to shut down your computer normally, follow the instructions in [Troubleshooting](#).

NOTE If you are using an office or vehicle dock, please refer to undocking the GD6000 in the [Optional Equipment and Accessories](#) section.

CAUTION Shutting off the computer improperly may result in data loss.

Safety

Read these instructions carefully and save them. Following these guidelines will help prevent damage to your computer and help protect your personal safety.

- Follow all warnings and instructions marked on the product and noted in this documentation, including the [Notices and Compliance](#) section
- Follow all warnings and instructions noted in [Windows Help and Support](#), found on the **Start** Menu
- The first time you use your computer, we recommend that you carefully read the section on [Managing Power](#) to familiarize yourself with basic battery information and ensure optimum performance
- **WARNING!** There is danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries

according to the manufacturer's instructions

- **WARNING!** Batteries may explode if not handled properly. Do not disassemble or dispose of them in fire. Keep them away from children and dispose of used batteries promptly
- Unplug the computer from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use aerosols, solvents, or strong detergents
- **CAUTION** The computer may be damaged if exposed to contaminants. Shield the unit from all contaminants such as liquids, rain, snow, and dust
- Slots and openings in the computer case are for ventilation purposes. Do not block or cover these openings or the system could overheat
- Do not place the product on a soft surface such as a bed, sofa, or rug where the ventilation slots and openings may be blocked
- Do not place this product near or over a radiator or heat register
- Do not place this product in a built-in installation unless proper ventilation is provided
- Do not operate the computer at temperatures above 140°F (60°C) or below -4°F (-20°C)
- Do not store the computer at temperatures above 167°F (75°C) or below -67°F (-55°C)
- Do not step on or place anything on the power cord
- If you use the computer with an extension cord, ensure that the total ampere ratings of all the devices sharing the extension do not exceed the rating of the extension cord or the rating of the wall outlet
- Do not push foreign objects into the computer through any of the slots or openings. Dangerous voltages are present, which could cause electric shock, fire, or damage sensitive components
- The computer's keyboard is designed to withstand spills. If a spill occurs, power off the computer and wipe it down before continuing to use the computer
- For best results, use a power strip with a built-in surge protector. Do not use inferior extension cords as this may result in damage to your computer
- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks. Refer all servicing to qualified service personnel
- Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed
 - If liquid has been spilled into the product
 - If the product has been exposed to rain or water
 - If the product does not operate normally when the operating instructions are followed. Adjust only those controls that are covered by the operating instructions since improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to normal condition
 - If the product has been dropped or the cabinet has been damaged
 - If the product exhibits a distinct change in performance, indicating a need for service

- Do not upgrade or service this computer without prior authorization from the manufacturer. Damage caused by servicing that is not authorized may void your warranty
- Before performing any manufacturer authorized service or upgrade, first follow these instructions:
- Prevent damage from static electricity by following ESD precautions
- Place the computer on a clean, flat surface
- Turn off the computer and disconnect the power supply
- Undock the computer if it is in a docking device (such as an office dock or vehicle dock)
- Disconnect any attached peripherals
- Disconnect any attached network, telephone or telecommunication line
- Remove any PC Cards, EXPRESS Cards, Smart Cards, CDs, DVDs or any other media in your computer's slots or bays
- Remove the battery (See **Battery Removal**)
- Remove the hard drive (See **Hard Disk Drive Removal**)

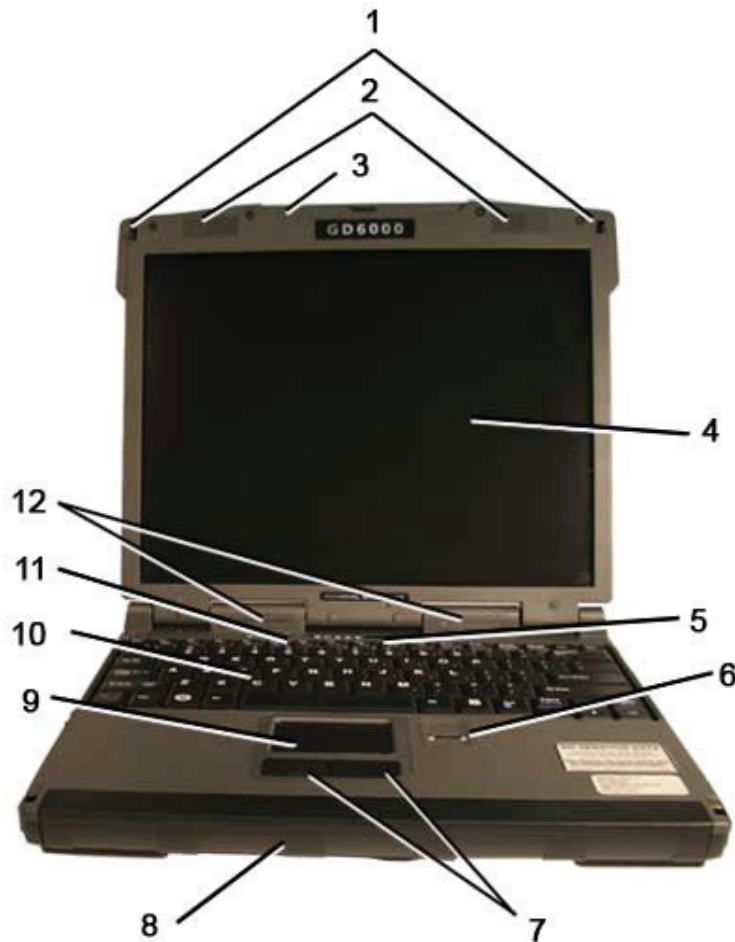
Tips for New Owners

- Take responsibility for backup
- Back up files often. Users who need to manage large amounts of data may wish to use backup devices
- Don't leave passwords anywhere on your notebook or carrying case
- Be careful when placing your notebook on an airport security conveyor belt
- In most airports, security conveyor belts are safe for computers. If you are not sure, ask the security staff. You should keep a close eye on your computer
- Tape your business card to the notebook and accessories
- In the workplace, notebooks and accessories may often look exactly alike, leading to equipment mix-ups. Prevent such mix-ups by placing your name on your equipment
- Install antivirus software
- Consider using a lock: For added security, consider purchasing a Kensington lock to put into the **Security Slot** on the left side of your computer. Use the Kensington lock to secure the computer to a desk or table
- Develop ergonomic work habits: The science of ergonomics studies the relationship between health and a suitable work environment. For more information on ergonomics, contact your nearest computer bookstore, or local library. The Internet also has information on this and other related subjects

NOTE Using a computer for extended periods of time with a poor workstation setup and incorrect work habits can cause health problems.

Before you begin using your GD6000, read this section to familiarize yourself with its main features and components.

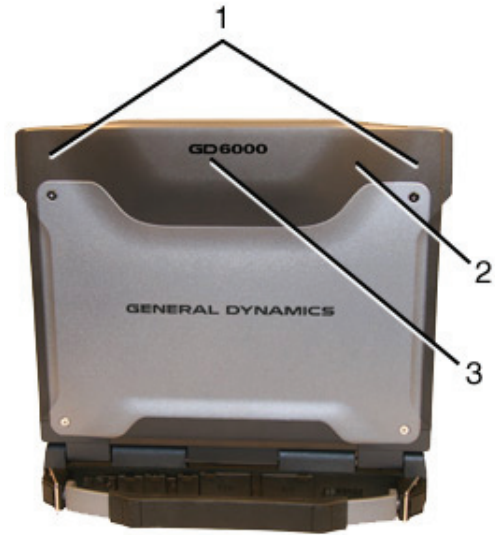
Front View



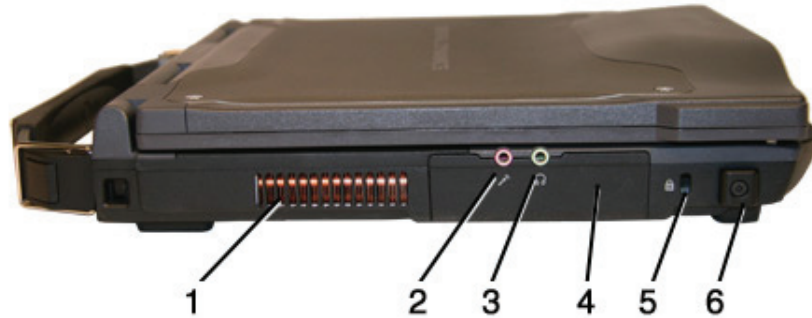
#	Feature	Description
1	Display Latches	Two display latches hold the display when closed.
2	Speakers	Integrated Stereo speakers for audio output.
3	Pen / Stylus Slot	A custom touch screen pen (stylus) is supplied for the optional touch screen.
4	Display	13.3-inch XGA, outdoor-viewable, color display with optional integrated Dynavue® touch screen.
5	Application Launch Button	Programmable button.
6	Fingerprint Scanner	The optional swipe style fingerprint scanner can be used for all standard security.
7	Touchpad Buttons	Use like the buttons on a mouse.
8	Battery	Removable Lithium-Ion battery.
9	Touchpad	Use for navigation.
10	Keyboard	Standard keyboard with embedded numeric keypad.
11	Power Button	Turns computer on or off.
12	Keyboard Task Lights	Two task lights located in the display hinges directly below the display to illuminate the keyboard to permit typing in a dimly lit or darkened environment.

Top View

#	Feature	Description
1	WLAN Antennas	Antenna for WLAN Communications.
2	GPS Antenna	Antenna for GPS Receiver.
3	CRMA Express Antenna	Antenna for WAN Communications



Left Side View



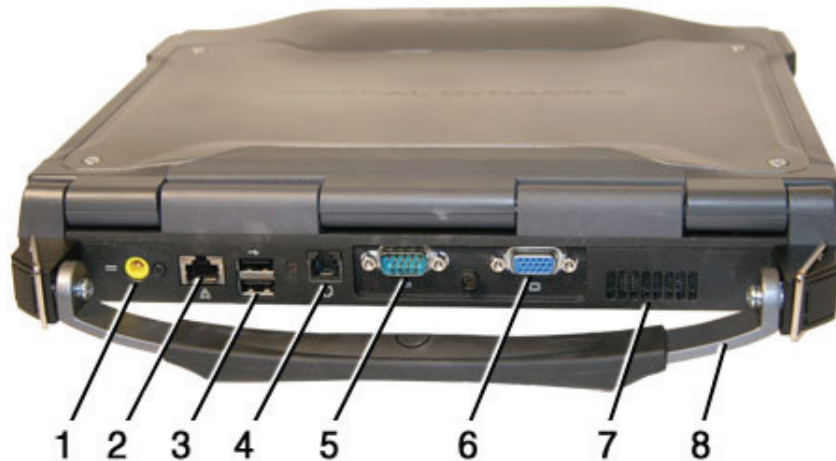
#	Feature	Description
1	Cooling Fan Exhaust	Cooling Fan exhaust area. Do Not Block. This area may become hot as air vents from the computer.
2	Microphone Jack	Connect a microphone to this jack to record audio.
3	Audio Out Jack	Connect external speakers or a stereo headset to this jack to listen to audio.
4	Removable Hard Disk	The removable Hard Disk Drive is located on the left side of the unit. The latch that secures the Hard Disk Drive is located on the bottom of the unit. NOTE make sure the unit is powered off before removing the Hard Disk Drive to prevent data corruption.
5	Security Slot	The Security Slot can be used with a standard laptop locking device, such as a Kensington Lock. You can connect the GD6000 to a large object with the lock to prevent theft of your computer. See the documentation that comes with your lock for more information.
6	Front Handle Mount	The front soft handle mount, located on both sides of the unit, is used with the optional soft handle.

Right Side View



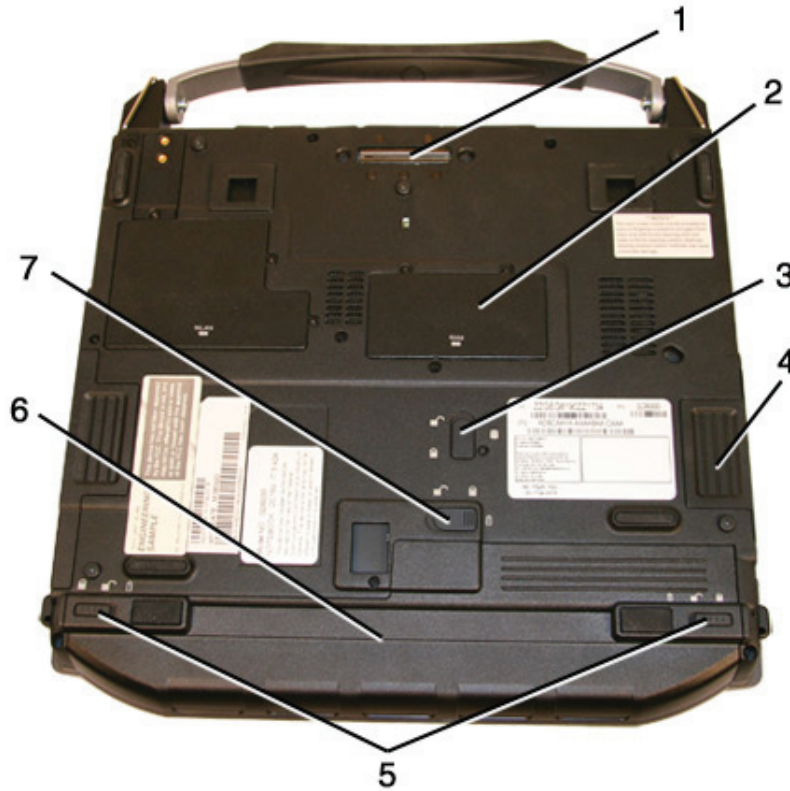
#	Feature	Description
1	Front Handle Mount	The front soft handle mount, located on both sides of the unit, is used with the optional soft handle.
2	CRMA Express	CRMA Express Radio bay.
3	Optical Disk Drive	DVD-RW/CD-RW combo drive.
4	Smart Card Reader or EXPRESS Card Slot	Smart Card Reader or EXPRESS Card.
5	PC Card Slot	Use this slot for PC Card devices.

Back Edge View



#	Feature	Description
1	DC-in Jack	Connects to an external power supply.
2	Network Jack (RJ45/LAN)	Connects to an Ethernet-based network. Connection speed is 10/100/1000 Mbps.
3	Two 2.0 USB Ports	Connects to USB devices (e.g., USB digital camera).
4	Modem Jack (RJ11)	Connects a phone line to the internal fax/data modem. It can transmit data using the 56 Kbps V.90 or V.92 protocol, and send and receive faxes at 14.4 Kbps. NOTE In some countries, local regulations may not permit the use of the fax/modem designed for this system. In this case, you may use a PCMCIA modem.
5	Serial Port	Connects your computer to serial devices such a fax/modem or a serial mouse. This port is identified as COM1 and is UART 16550A compatible.
6	External Monitor Port	Connects to a display monitor (up to 2048x1536 resolution).
7	Cooling Fan Intake	Air intake for fan. Do NOT block this area.
8	Hard Handle (optional)	Carrying handle.

Bottom View



#	Feature	Description
1	Docking Connector	84-pin cradle connector that mates with the Vehicle Dock and Office Dock .
2	Memory compartment	User expandable memory slot.
3	Hard Disk Lock	Slide this to lock or unlock the hard disk drive.
4	Hard Disk Drive	Removable hard disk drive for data storage.
5	Battery Locks	Slide these locks toward the outer edges of the computer to lock the battery.
6	Battery	Lithium-Ion Smart Battery.
7	Battery Release Latch	Slide this latch to the left to remove the battery. NOTE You must first unlock the battery.

Keyboard Basics


The GD6000 features:

- Full size keys on a 85-key keyboard
- Twelve **function keys**
- **Application launch button** (programmable button)
- Embedded **numeric keypad**
- USB port that enables you to **connect an external keyboard**

Keyboard ergonomics

Located below the keyboard, the wide palm rest is ergonomically designed to provide you with a very comfortable place to rest your hands while you type.

Primary Keys

Key	Description
Alt	The ALT (alternate) key is used with other keys to perform special tasks. On some operating systems pressing CTRL+ALT+DEL twice soft reboots the computer.
Backspace	The BACKSPACE key, sometimes represented on the keyboard as a left arrow, moves the cursor one position to the left. The character to the left of the cursor is erased.
Caps Lock	Pressing the CAPS LOCK key one time locks keys A through Z in the UPPER CASE position. Pressing the CAPS LOCK key again returns the letters to lower case. While in the upper case mode, pressing the SHIFT key results in lowercase characters when entered. You still have to use the SHIFT key to display characters located on the upper portion of the keyboard. For example, press SHIFT+8 to type an asterisk (*), even when the CAPS LOCK key is activated. The Caps Lock LED  lights when the keyboard is in Caps Lock mode.
Ctrl	The CTRL (control) key works with other keys to perform a variety of functions.
Enter	The ENTER key signals the computer that you have completed your entry. This is your way of telling the computer to process the information that you have entered.
Esc	The ESC (escape) key allows you to exit a pop-up window or message box.
Prtsc	In Windows, pressing the PRTSC (print screen) key or ALT+PRTSC key copies the current screen or window to the clipboard so you can paste it into documents.
Shift	The SHIFT key changes the keys A through Z to the UPPER CASE position. When you press an alphabetic key, the character appears as a capital letter. When you press SHIFT with other keys, the characters on the upper part of the keys appear. For example, pressing SHIFT+7 displays an ampersand (&).
Fn	Some special FN (function) keys have been established to perform important tasks when pressed and held with the FN key. These keys are described later in this document. The FN key legend is color keyed to other special keys on the keyboard.
spacebar	Use the SPACEBAR to enter a space and move the cursor one character to the right.
Tab	The TAB key moves the cursor to the next tab stop or field. Tab stops are defined by your operating system or application program. Press the TAB key to move from one field or text box to another.

Arrow Keys

The arrow keys are defined by the software application.

UP ARROW: usually moves the cursor up one line. In some cases, you can use the up arrow to make selections from menus and scrollable list boxes.

DOWN ARROW: usually moves the cursor down one line. In Windows, you can use the down arrow to make selections from menus and scrollable list boxes.














RIGHT ARROW: usually moves the cursor one character position to the right.

LEFT ARROW: usually moves the cursor one character position to the left.



Function Keys and Key Combinations

When using function keys, press and hold the **FN** key before pressing the other key in the key combination.

Function Key	Icon	Function	Description
FN+F1		Screen blank	Turns off the display screen backlight. Press any key to turn it back on.
FN+F2		Display toggle	Switches the display output between the display screen, external monitor (if connected) and both the display screen and external monitor NOTE When a DVD or VCD is playing, this hotkey is disabled.
FN+F3		Standby	Puts the computer in standby mode.
FN+F4		Keyboard Backlight Brightness Down	Decreases the keyboard backlight brightness if you have the optional EL keyboard.
FN+F5		Keyboard Backlight Brightness Up	Increases the keyboard backlight brightness if you have the optional EL keyboard.
FN+F6		Display Brightness Down	Decreases the screen brightness
FN+F7		Display Brightness Up	Increases the screen brightness
FN+F8		Audio Volume Down	Decreases the audio volume
FN+F9		Audio Volume Up	Increases the audio volume
FN+F10		Speaker on/off	Turns the speakers on and off; mutes the sound
FN+F11	Num Lk	Num Lock	Enters Numlock mode. Use the embedded numeric keypad for quick number entry. Other keys function as normal.
FN+F12	Scr Lk	Scroll Lock	Scroll Lock
FN+PGUP	Home	Home	Functions as the 'Home' key.
FN+PGDN	End	End	Functions as the 'End' key.
FN+RIGHT CTRL		Touchpad on/off	Toggles the touchpad on and off
FN+ LEFT SHIFT		Keyboard backlight	Toggles the keyboard backlight (option) on and off
FN+CAPS LOCK		Wireless Radio On/Off Switch	Also known as "Airplane Mode". Toggles the power on and off to all radio devices. The radio devices include GPS, Bluetooth, WLAN, and WWAN radios. NOTE If radio wakeup is enabled, radio power will turn back on before the system suspends.

Numeric Keypad




The embedded numeric keypad consists of sixteen keys that make number intensive input more convenient. It is indicated by small characters located on the lower right corner of the key. Press **FN+NUMLK** to enable or disable the numeric keypad.



Standard Key	Key with Numlock On
7	7
8	8
9	9
0	*
U	4
I	5
O	6
P	-
J	1
K	2
L	3
;	+
M	0
.	.
/	/
Enter	Carriage Return








Lock Keys

The keyboard has three lock keys you can toggle on and off.

Lock Key	Description
Caps Lock	<p>Pressing the CAPS LOCK key one time locks keys A through Z in the UPPER CASE position. Pressing the CAPS LOCK key again returns the letters to lower case. While in the upper case mode, pressing the SHIFT key results in lowercase characters when entered. You still have to use the SHIFT key to display characters located on the upper portion of the keyboard. For example, press SHIFT+8 to type an asterisk (*), even when the CAPS LOCK key is activated.</p> <p>The Caps Lock LED  lights when the keyboard is in Caps Lock mode.</p>
Num Lock	<p>When Num Lock is on, the embedded keypad is in numeric mode. The keys function as a calculator (complete with the arithmetic operators +, -, *, and /). Use this mode when you need to do a lot of numeric data entry.</p> <p>Alternately, connect an external keypad. See External keyboard.</p> <p>The Num Lock LED  lights when the keyboard is in Num Lock mode.</p>
Scroll Lock	<p>Enters Scroll Lock mode. Scroll Lock varies between applications. It does not work with some applications.</p> <p>The Scroll Lock LED  lights when the keyboard is in Scroll Lock mode.</p>

Windows Keys

The keyboard has two keys that perform Windows-specific functions.

Key	Icon	Description
Windows Logo Key		Start button. Combinations with this key perform special functions. Below are a few examples: <ul style="list-style-type: none">  + TAB (Activates next Taskbar button)  + E (Opens My Computer in Windows Explorer)  + M (Minimizes all Windows) SHIFT +  + M (Restores Minimized Windows)  + R (Displays Run dialog box) Refer to Keyboard Shortcuts in Windows Help and Support for a complete list of Windows key combinations.
Application Key		Opens the application's context menu (same as right-click)

Application Launch Button

The **APPLICATION LAUNCH BUTTON** is the right button above the keyboard. Use an application manager to program this button's function.



Keyboard Task Lights

Your GD6000 is equipped with two task lights located in the display hinges directly below the display. They are designed to illuminate the keyboard to permit typing in a dimly lit or darkened environment.

To Use the Task Lights

1. Press **FN+SHIFT** to toggle the lights on or off.

NOTE If the light does not come on, press **FN+F5** to increase brightness.

2. Press **FN+F4** to dim the task lights.
3. Press **FN+F5** to brighten the task lights.



LED Status Indicators



Thirteen easy-to-read LEDs (Light Emitting Diodes) under the display screen indicate activity status for common functions.

NOTE Some of the features associated with these LEDs are options and may not be included in your computer’s configuration.



#	Icon	Function	LED	Description
1		Power	Steady Green	Computer is on and operating.
			Blinking Green	Computer has suspended to RAM.
2		External Power	Steady Green	Power is on and external power is supplied from the AC Adapter connected to a wall outlet, a vehicle-mounted dock, a vehicle power adapter, or an office dock.
3		Battery Power	Steady Green	Battery is charging.
			Blinking Green	Battery is low. NOTES If the computer is not plugged into external power within a few minutes, it will go into a Suspend Power Mode. If the computer is radio-equipped and is in the middle of communication, it will suspend power to the radio when the battery is low. The computer must then be plugged into external power to continue radio communication.
			No Light	The battery is fully charged or a main battery pack is not fully inserted.
4		Touchpad	Steady Green	Touchpad is activated.
			No Light	Touchpad is disabled.
5		Hard Disk Drive	Blinking Green	Computer is reading from, or writing to the built-in hard disk.
6		Optical Disk Drive	Green	DVD/CD drive is installed.
7		Num Lock	Steady Green	Keyboard is in Num Lock mode.
8		Caps Lock	Steady Green	Keyboard is in Caps Lock mode.
9		Scroll Lock	Steady Green	Keyboard is in Scroll Lock mode.
10		WLAN Communication	Steady Green	Wireless LAN radio is on.
11		Bluetooth Communication	Steady Green	Bluetooth radio is on.
12		GPS Communication	Steady Green	GPS radio is on.
13		WWAN Communication	Steady Green	WWAN radio is on.

Under some conditions LEDs may flash sequentially or in combination as described in the table below.

Icons	Function	LEDs	Description
	Power and Battery	On for 5 seconds	Hard Disk Drive is out of thermal range.
	Power and Battery	Flash	Battery is low and unit is suspending.

Touchpad

The built-in touchpad is a pointing device that senses movement on its surface. This means the cursor responds as you move your finger over of the touchpad. It also provides all the features of a two-button mouse.

How to Use the Touchpad

1. First, place your fingers on the keyboard in the normal typing position. The touchpad is easily accessible by moving either your left or right thumb off the space bar and onto the touchpad.
2. Gently move your thumb across the pressure-sensitive touchpad in the direction you want the cursor to move. The pad detects the change in pressure and moves the cursor in the corresponding direction.
3. You can also make selections by double-tapping. This function corresponds to double-clicking with a mouse. Once the cursor has been moved to the object you want to select, lightly double-tap the pressure sensitive touchpad. This double-tapping on the touchpad selects the desired item and prompts the software to perform the related operation.

Adjusting the Touchpad Settings

For Windows XP:

Begin by clicking on **Start, Settings, Control Panel, Mouse, Buttons**.

For Windows Vista:


1. Click on **Start, Control Panel, Hardware and Sound, Mouse**. This will bring you to the **Mouse Properties** window.
2. Click on the last tab, **Device Settings**, then on the **Synaptics Touchpad V6.2** and choose settings to configure the properties for the touchpad. These settings allow you to change the orientation from right-handed to left-handed, fine-tune the pointer movement, and configure the timing of double-clicking.

For Windows 7:

1. Select **Start, Control Panel, Hardware and Sound**.
2. Under **Devices and Printers** select **Mouse**. This will bring you to the **Mouse Properties** window.



3. On the **Buttons** tab use the **Devices** drop-down menu to select **Synaptics TouchPad V6.2 on PS/2 Port**. Now you can choose touchpad settings for the way you work.

The Synaptics Touchpad V6.2 can also be accessed via the  icon in system tray.

Touchpad Precautions

The touchpad is a pressure-sensitive device. If not properly cared for, it can be easily damaged. Please take note of the following precautions:

- Make sure the touchpad does not come into contact with dirt, liquids or grease
- Do not touch the touchpad if your fingers are dirty
- Do not rest heavy objects on the touchpad or the touchpad buttons
- Keep your fingers dry and clean when using the touchpad and keep the touchpad dry and clean
- The touchpad is sensitive to finger movements. It responds best to light touches. Tapping too hard will not increase the touchpad's responsiveness

Touchpad Buttons

The buttons located directly below the touchpad are the same in function as those on a two-buttoned mouse. Pressing these buttons makes selections, drags objects, or performs a variety of other functions depending on the software.

To Select an Object

1. First move the pointer over the object you want to select
2. Press the left button one time. The functions of these buttons are software specific.

Double-Clicking

Double-clicking is a common technique for selecting objects or launching programs from icons. Once you have moved the pointer over the object you wish to select, rapidly press the left button two times. This action is commonly referred to as “double-clicking” an object.

Display

The GD6000 features a 13.3-inch, XGA, outdoor-viewable, color display with an optional integrated touch screen. The Dynavue® Transmissive display technology uses a built-in backlight for easy reading in most ambient light conditions. The backlight remains on whenever the display is on. The transmissive display enhancement provides improved outdoor visibility and even works well in sunlight.

Calibrating the (optional) Touch Screen

1. Remove the stylus pen from its slot on the top of the display.
2. Select **Start, All Programs, Touchkit, Configure Utility**.
3. Select **4 pts Cal**.
4. Touch and hold the tip of the pen to the center of each blinking symbol as they appear on the screen until calibration is complete.
5. Select **OK** to save and exit.

NOTE Under **Calibration**, you can change the orientation of your display and calibrate your display using the **Tablet PC Pen** to improve accuracy of targeting items on the screen.

Adjusting Display Brightness

Function keys can increase or decrease the display brightness.

- Press **FN + F6** to decrease display brightness
- Press **FN + F7** to increase display brightness

Adjusting Display Resolution

Windows XP:

1. Right click on the desktop.
2. Select **Properties** and then select the **Settings** tab. The dialog box indicates the monitor screen resolution.
3. Use the slide bar to adjust the resolution. Normally, you should use the resolution suggested for the display or monitor.

Dragging

- Move the pointer to the desired location then press down the left button. While still holding down the left button, move the pointer to the desired location. Release the button
- Move the pointer to the desired location. Tap the touchpad twice quickly as if you were double-clicking; however, do not remove your finger after the second tap. Move the cursor to the desired location. Lift your finger to finish dragging



Windows Vista and Windows 7:

1. Click on the **Start** button and then on Control Panel.
2. Under Appearance and Personalization, click on **Adjust screen Resolution**.
3. Use the slide bar to adjust the resolution.

NOTE Using a lower resolution than the screen was designed for will reduce the area of the display. You can stretch low resolution displays to full screen size by enabling Screen Expansion on the Main Menu of the **BIOS Setup Utility**. However, the stretching may cause distortion, especially to fonts.

Higher resolution modes may be used, as long as the monitor supports them.

Auto Dim Feature

To save the battery power, the computer display automatically dims when the computer is not attached to external power.

NOTE You may still use the display brightness function keys (**FN+F6** and **FN+F7**) to adjust display brightness.

See **Managing Power** for more information on power management features.

Simultaneous Display

The computer's crisp display and multimedia capabilities are great for viewing movies or giving presentations. If you prefer, you can also connect an external monitor or LCD projector. This computer supports simultaneous LCD and external display output via the external monitor port located on the **back edge** of the computer. See **Attaching an External Monitor or Video Device** for more information.

FEATURE When using an external monitor you can extend your desktop. This allows you to open and view one program on the external monitor while viewing a different program on your laptop's display.

Windows XP and Vista:

4. Right click on the desktop.
5. Select **Properties** to open the **Display Properties** dialogue box.
6. Select the **Settings** tab.
7. Click on the "2" in the Monitors section.
8. Check "**Extend my Windows desktop onto this monitor**".
9. Select **Apply** and **OK** to save and exit. Now you can drag the programs you want to view onto the external monitor.

Windows 7:

1. Select **Start, Control Panel, Appearance and Personalization**.
2. Under **Display** select **Connect to an external display**.
3. Select the drop-down menu next to **Multiple Displays** and click **Extend these displays**. Then click **OK**.

Opening and Closing the Display

To open the display lid, slide the display lid latch to the right and lift up the lid, then tilt it to a comfortable viewing position.

To close the display lid, fold it down gently until the display lid latch clicks into place.

CAUTION To avoid damaging the display, do not slam it when you close it. Also, do not place any object on top of the computer when the display is closed.

Lid Switch

Your computer has a lid switch that automatically suspends your computer when you close the display and resumes it when you open the display.

To change the power management settings for the lid switch, perform the following:

1. On the System Tray area of the Taskbar, right-click the **Power Saver** icon (🔋 or 🌙).
2. From the menu, select **Configure Power Settings**.
3. Select the **Advanced** button.
4. Select what you want to happen when you close the display lid:
 - Do nothing
 - Sleep
 - Hibernate
5. Check the **Wakeup** box if you want the computer to resume when you open the display lid.

Cursor Visibility

To improve the visibility of the mouse cursor, you should:

- Enable the "PointerTrails" feature to add trailing cursors
- Use a slow or medium speed/sensitivity level

You can combine a higher level of acceleration with a slow or medium speed/sensitivity level. This allows you to move the mouse cursor quickly by increasing your finger pressure, while still providing a finer degree of control when you apply minimum pressure.

NOTE You can change the speed of the mouse.

Windows XP: Select **Start, Control Panel, Printers and Other Hardware**, and then choose **Mouse**. On the **Mouse Properties** window, select the **Pointer Options** tab to make cursor visibility adjustments.

Windows Vista and Windows 7: Select **Start, Control Panel, Hardware and Sound**, and then choose **Mouse**. On the **Mouse Properties** window, select the **Pointer Options** tab to make cursor visibility adjustments.

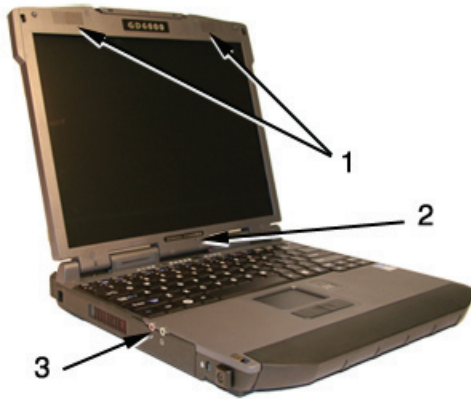
Memory

The GD6000's memory capacity is 1024 to 4096MB with one user accessible memory socket supporting a 1024MB or 2048MB memory module. Please consult your dealer if you need to add more memory.

Refer to the **Memory Upgrade** section for information about replacing the memory module.

Audio

Your computer includes 16-bit high-fidelity stereo audio output and an integrated microphone. The speakers are located above the display. The microphone is under the display.



#	Feature	Description
1	Speakers	Integrated stereo speakers for audio output.
2	Microphone	Integrated microphone for audio input.
3	Audio in/out jacks	Attach an external microphone or speakers using the jacks on the left side of the computer.

Adjusting the Volume

- To increase volume, press **FN+F9**
- To decrease volume, press **FN+F8**

You can also adjust the volume with the Windows volume control applet located on the taskbar. However, the volume control function keys override the Windows volume control applet. If your volume is too low or too high after setting the volume in the applet, adjust the volume with the function keys.

The PC Card Slot

The computer has a built-in CardBus PC Card slot on the **right side** of the computer that can accommodate one Type II PC Card. It accepts credit-card sized cards that enhance the usability and expandability of the computer. The PC Card slot can be used as an interface between your computer and a variety of communications devices, such as network adapters, SCSI adapters, or fax/modems. They can also be used to provide additional data storage capacity. Please consult your dealer for PC Card options available that you can purchase for your computer.

NOTE Refer to your card's instructions on how to install and use the card and its functions.



Inserting a Card

1. The top side of a PC Card is usually identified with a label. Insert the card into the slot with the top up and the edge with pinhole contacts going in first. You will feel some resistance as the card slides into the back of the slot.
2. PC Cards require drivers, or a program that allows the operating system a set of programs that manage the overall operation of the computer. to use a specific device. Many drivers are included with Windows, but if not, you will be prompted to install the driver included with your card.
3. The computer will beep twice to indicate successful installation. A single beep means that there was a problem recognizing the card.



NOTE Please read the instructions included with individual PC Cards. Some cards may be inserted with power on, while others require that the computer be turned off.

Ejecting a Card

1. First, exit the application using the card.
2. Left-click on the **Safely Remove Hardware** icon  or  on the taskbar and stop the card operation.
3. Press the slot eject button once to pop it out; then press it again to eject the PC Card.



The Hard Disk Drive

Your GD6000 features a removable hard disk to provide high-capacity storage and fast access. Windows and most programs are stored here. Your GD6000 identifies the hard disk drive as drive C.

See the **BIOS Setup Utility** to password protect your removable hard disk drive.

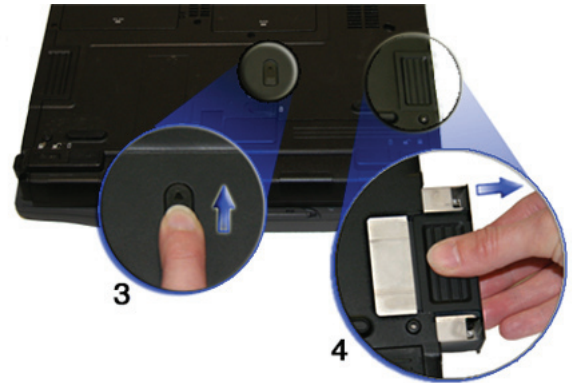
Removing the Hard Disk Drive

You should print these instructions before continuing. They will not be available after you shut down the computer in step two.

1. Turn off the computer and turn it over so you are looking at the bottom.
2. Using a Phillips head screwdriver, remove the screw next to the hard disk drive lock.

NOTE If you prefer quick hard disk drive removal, do not reinstall this screw. It is an additional locking feature.

3. Slide and hold the hard disk drive lock toward the back of the computer to unlock the drive.
4. Gently pull the drive out of the computer.



The Optical Disk Drive (option)

Your computer comes with a pre-installed DVD-RW/CD-RW combo drive. This drive allows you to read data from DVDs and CDs, including audio or video CDs and burn your data onto a recordable disc. Please refer to the recording software online help for more information.

Your notebook identifies the drive with the letter following the hard drive letter. If your hard drive is C, then the optical disk drive will be D.

Inserting a Disk

1. Press the button on the front of the drive to open the disk tray and pull the tray open.
2. Place the disk on the tray, label side up.
3. Place the disk on the central spindle and press gently until the disk clicks into place.
4. Slide back the tray until it clicks shut.



Removing a DVD or CD

1. Make sure the computer is not accessing the DVD drive.
2. Press the eject button and pull the tray all the way out.
3. Pick up the disk by the edges and remove it from the tray. Push the tray into the computer until it closes fully.

CAUTIONS

- When the computer is reading from a DVD or CD, the LED on the Optical Disk Drive will flash. Do not attempt to remove a disk while this light is active.
- Do not insert any foreign objects into the disk tray. Do not force the tray to open or close manually. When not in use, keep the tray closed to prevent dust or dirt from entering the drive unit.

- If you experience difficulty when removing a disk, stretch a paper clip and insert it into the emergency eject hole located on the front panel. The disk tray should eject immediately. This procedure can also be used to remove a disk from the drive when the notebook is powered off.



Precautions for Handling DVDs and CDs

- Always hold the disk by the edges; avoid touching the surface of the disk.
- Use a clean, dry, cloth to remove dust, smudges, or fingerprints. Wipe from the center outward. Do not use benzene, thinners, or cleaners with detergent. Only use cleaning kits designed for DVDs or CDs.
- Extremes in temperature may damage disks. Store disks in a cool dry place.
- Do not bend or drop the disks. Do not place objects on top of disks.

Smart Card or EXPRESS Card Slot (option)

Your computer comes with a Smart Card Reader or EXPRESS Card slot (option). This slot is located directly above the PC Card Slot on the **right side** of the computer.

To insert a card

Insert a card with the label side up into the slot until it clicks into place. The card will appear as a removable storage device that you can copy files to and from.

To remove a card

1. Make sure no operation (such as file copying or deletion) is using the card.
2. Press the card further into the slot to release the card. You will hear a click.
3. Remove the card.

Computer Security

Your computer includes several different security features to help prevent theft and protect data. These include a security slot, multiple levels of password protection, an optional fingerprint scanner, an optional Smart Card slot and stealth mode.

Security Slot

A security slot located on the **left side** of the computer lets you connect a Kensington compatible computer security lock. You can connect the computer to an immovable object to prevent theft. Insert the lock into the notch and turn the key to secure the lock. Some keyless models are also available. See the documentation that comes with your lock for more information.

Passwords

Passwords protect your computer from unauthorized access. When set, no one can access the computer without entering the correct password.

There are three types of passwords you can set:

- **SUPERVISOR PASSWORD** secures your computer against unauthorized entry to critical parameters in the BIOS Utility
- **USER PASSWORD** secures your computer against unauthorized use, and allows limited access to the BIOS Utility
- **HARD DISK PASSWORD** protects your data by preventing unauthorized access to your hard disk, even if the hard disk is physically removed from the computer and installed in another computer

NOTE Do not forget your Setup and Hard Disk password! If you forget your password, please get in touch with your dealer or an authorized service center.

Fingerprint Scanner (Option)

The optional swipe style fingerprint scanner can be used for all standard security uses. It provides a greater level of security and convenience for your computer and your private data. Use the fingerprint scanner instead of passwords for the following:

- To login into the computer
- To login at secure websites
- To open password protected applications
- To open individual files with encryption security

Fingerprint Scanner Software

Before using the fingerprint scanner, you must first install compatible software. There are various software packages available

CAUTION Before installing any third party software, ensure it is approved for use with this computer.

NOTE When accessing some secure websites, you may need to specify you are using the scanner instead of a password. Refer to the fingerprint scanner software documentation for setup information.

Stealth Mode

Your computer has a stealth mode feature for users who may need to use it where light or sound could be dangerous or disruptive, such as a military user. Enabling stealth mode allows you to disable sound and light features such as system beeps, the fan, and the display backlight. Refer to the **BIOS Setup Utility** section for information about how to configure the stealth mode feature.

Smart Card Reader (Option)

If your computer has the Smart Card Reader option, you can use smart card technology for added security.

Trusted Platform Module (TPM)

Enable or disable TPM in the System BIOS. TPM provides a platform root of trust which uniquely identifies a particular platform and provides various crypto capabilities including hardware-protected storage.

ENERGY STAR®

General Dynamics Itronix is committed to designing mobile computers with the environment in mind. Not only do we design computers that withstand the environment – with rugged features that enable you to use them in extreme operating conditions, we design computers that use less energy, reducing environmental pollution.

That's why our ENERGY STAR compliant mobile computers meet or exceed the stringent ENERGY STAR standards set by the Environmental Protection Agency (EPA). According to the EPA, ENERGY STAR qualified products use as much as 60% less energy than standard equipment. By lowering energy consumption, our computers help customers save money while reducing greenhouse gas emissions.



For more information about ENERGY STAR (in English), go to www.energystar.gov.

To help you conserve energy on both AC and battery power, by default this computer:

- turns off the display after 15 minutes of inactivity
- enters standby, a low power mode, after 15 minutes of inactivity, compared to 30 minutes required for ENERGY STAR compliance

Press any key to wake the computer or turn the display back on after a period of inactivity.

This computer was also designed with other power saving features that go beyond ENERGY STAR requirements. See the **Managing Power** section to make the most efficient use of those features.

Ports and Connectors

Ports and Connectors	Connection	Location
RJ-11	Phone line/modem (internet and fax)	Back Edge
RJ-45	Ethernet	Back Edge
DC-in	AC Adapter (power)	Back Edge
2 USB 2.0	USB Peripherals such as a mouse, printer or optical disk drive	Back Edge
External Monitor	External Monitor	Back Edge
Serial Port	Connects your computer to serial devices such a fax/modem or a serial mouse. This port is identified as COM1 and is UART 16550A compatible	Back Edge
Audio In	Microphone	Left Side
Audio Out	Speakers or headphones	Left Side
PC Card Slot	Type II PC Cards	Right Side
Smart Card Reader or EXPRESS Card Slot	Smart Cards or EXPRESS Cards	Right Side
Security Slot	Computer lock such as a Kensington lock	Left Side

Your computer is equipped with a full array of ports, connectors and bays, offering advanced communications technology. This section describes how to connect peripherals and hardware options that help you maximize your computer's features. Before connecting peripherals, first read the manual included with the peripheral for connection and operation instructions. You can purchase most of these and other options directly from authorized dealers.

If you are a mobile worker, you may want to purchase one of the GD6000's docking solutions such as the **Vehicle Dock** or **Office Dock**. These docks provide drop-in convenience, port expansion, and automatic battery recharging, enabling you to leverage your computer's features without having to attach and reattach cables and connectors when you move your computer.

Attaching Power

Your GD6000 can be powered by battery, by attaching an AC Adapter or Vehicle Adapter to the DC power port, or by connecting the computer to a powered **Vehicle Dock** or **Office Dock**. This page explains how to attach power to the DC power port.

NOTE When external power is properly applied, the External Power LED lights.

Using the AC Adapter

1. Connect the AC adapter power cord to the AC adapter.
2. Connect the AC adapter to the DC-in jack on the back of your computer.
3. Connect the AC adapter power cord to a properly grounded AC outlet.

NOTE It is recommended you use a quality **surge protector**.



Using the Vehicle Adapter (optional)

1. Insert the vehicle adapter's power cord into the DC-in jack on the back of the computer.
2. Insert the cigarette lighter adapter into the vehicle's cigarette lighter socket, turning it slightly to make a good connection.

CAUTION The vehicle adapter is not intended to be used continuously. It is intended to provide a convenient, temporary power source for powering and charging this computer while in transit in a vehicle. For permanent installations, it is recommended that the (fused) vehicle charger adapter be wired directly to the vehicle power supply. For additional information with regard to permanent installation of the Vehicle Adapter, contact your sales representative.

The power light illuminates to indicate that current is reaching the vehicle adapter. When you connect the vehicle adapter, it automatically begins charging the computer's battery. At moderate temperatures, around 21°C (70°F), the battery should charge from empty to 90% in less than three hours if the unit is suspended or off. It should take less than four hours if the unit is in use. However, under extremely cold or hot temperatures, it will take longer to charge the battery (up to 16 hours).

CAUTION Avoid exposing batteries to extremely hot or cold temperatures for long periods. To prevent possible damage to the battery, the GD6000 does not allow the battery to charge if the internal temperature of the battery gets too low (< 5°C or < 41°F) or too high (> 50°C or > 122°F).

Attaching USB Devices

Your computer comes with two Universal Serial Bus (USB) 2.0 ports on the back of the computer. This enables you to attach various devices such as a keyboard, mouse, scanners, or printer. USB devices can be chained together on a single cable.

External keyboard or pointing device

This computer has a keyboard with full-sized keys and an embedded numeric keypad. If you feel more comfortable using a desktop keyboard, you can connect a USB external keyboard to one of the USB ports. You can also connect a USB mouse or other pointing device to one of the USB ports.



Attaching an External Monitor or Video Device

The notebook has a VGA monitor port to connect your computer to an external monitor. You may use an external monitor simultaneously with your notebook's display, instead of your notebook's display, or as an extension of your notebook's display. To attach an external monitor, perform the following:

1. Locate the external monitor port on the back of your notebook.
2. Connect the video signal cable from the external monitor (or the VGA adapter) to this port.
3. Connect the power cable from the external monitor to a power outlet and turn on the monitor.
4. Read the monitor manual for additional instructions.



Using Simultaneous Display

Your computer takes advantage of Windows dual-display capability, allowing you to use your computer for presentation purposes. To use simultaneous display, connect an external display device to the external monitor port. You can then toggle the display output location by pressing **FN+F2**. It will output to your computer's display, the attached external display, or both displays simultaneously. Keep pressing **FN+F2** until you have the output option you want.

Using Extended Display

When using an external monitor you can extend your desktop. This allows you to open and view one program on the external monitor while viewing a different program on your laptop's display.

Windows XP and Vista:

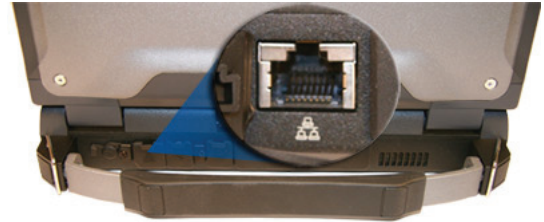
1. Right click on the desktop.
2. Select **Properties** to open the **Display Properties** dialogue box.
3. Select the **Settings** tab.
4. Click on the "2" in the Monitors section.
5. Check "**Extend my Windows desktop onto this monitor**".
6. Select **Apply** and **OK** to save and exit. Now you can drag the programs you want to view onto the external monitor.

Windows 7:

1. Select **Start, Control Panel, Appearance and Personalization**.
2. Under **Display** select **Connect to an external display**.
3. Select the drop-down menu next to **Multiple Displays** and click **Extend these displays**. Then click **OK**.

Ethernet (LAN)

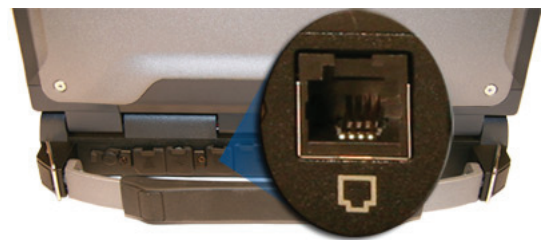
With the built-in Ethernet LAN, you can make LAN connections with 10/100/1000 Mbps connection speed. To use the network feature, connect an Ethernet cable from the network jack on the rear of the computer to a network jack or hub on your network.



Fax/data Modem

You can use the fax/modem to connect to the Internet to send and receive data using the 56 Kbps V.90 protocol. When used with fax software, it can be used as a fax at 14.4 Kbps. In some countries, local regulations may not permit the use of the fax/modem designed for this system. In this case, you may use a PC Card modem. To use the fax/data modem port, connect a phone cable from the modem port to a telephone jack.

CAUTION Plug your modem into an analog telephone jack only. Most homes use analog lines. Do not use digital lines, such as the PBX and ISDN systems found in many offices. Digital lines may damage your modem.



Attaching Audio Devices

Audio devices are easy to connect with the audio ports accessible from the left side of the computer. You can plug an external microphone (or an audio line-in device) into the line-in jack. Amplified speakers or headphones connect to the line-out jack.



Your GD6000 supports up to four integrated radios for superior wireless communication (One radio per category listed below).

- Wireless Local Area Network (WLAN)
- Wireless Wide Area Network (WWAN) with CRMA Express
- Global Positioning System (GPS)
- Wireless Personal Area Network (WPAN) Bluetooth

Since each customer's radio configuration is unique, please read the radio help installed on your desktop and refer to the manufacturer documentation to setup and use your radio(s).

Press **FN+CAPS LOCK** to toggle the power on and off to all radio devices.

CAUTION FAA regulations require that all transmit/receive devices be turned off during flight. If you have radios in your computer (including GPS) please press **FN+CAPS LOCK** to turn your radios off during flight.

NOTE The radios do NOT function in suspend mode.

WLAN

Your computer comes with integrated Wireless Local Area Network (WLAN) capability. See the radio help file on your desktop for more information.

About WLAN

WLAN provides all the features and benefits of traditional LAN technologies, such as Ethernet, without the limitations of wires or cables. It enables mobility and flexibility without compromising connectivity for today's mobile user.

CRMA Express WWAN (option)

If you ordered the Common Radio Modular Architecture (CRMA) Express module option, your computer will support one of these Wireless Wide Area Network (WWAN) radios:

- HSDPA - EDGE/GPRS/GSM
- EV-DO Rev A - EV-DO Rev 0/1xRTT/CDMA

CRMA Express is upgradeable and when WWAN radio technology changes, you can change with it. You can upgrade your radio to the various supported CRMA Express modules through General Dynamics Itronix service centers, giving you greater wireless access when you need it. After initialization the first time the unit is booted, refer to the radio help found on your desktop for information about setting up and using your radio.

NOTE All WWAN radios are capable of backward compatibility to support slower technologies when necessary to provide the greatest possible coverage to the user.

HSDPA

High-Speed Downlink Packet Access (HSDPA) is a 3G GSM Mobile protocol in the HSPA family, which provides a roadmap for UMTS-based networks to increase their data transfer speeds and capacity. HSDPA deployments/cards/modules can support 1.8 Mbps, 3.6 Mbps, 7.2 Mbps and 14.4 Mbps in downlink.

EDGE/GPRS/GSM Network

The Enhanced Data Rates for Global Evolution (EDGE) network allows users to transfer data with download speeds up to 200Kbps (70-130 Kbps typical). It is more than three times the speed of GPRS. The EDGE network can help you perform at higher levels of productivity by providing real-time wireless access to critical business systems and applications.

UMTS/GPRS/GSM Network

Universal Mobile Telecommunications System (UMTS) - also referred to as wideband code division multiple access (W-CDMA), is one of the most significant advances in the evolution of telecommunications into 3G networks.

UMTS is a worldwide standard for wide-area wireless data communication based on Global Systems for Mobile communications (GSM™). UMTS provides broadband mobile access to business systems and applications that can help improve mobile users' productivity.

UMTS provides broadband speeds with download speeds up to 2Mbps (220-320 Kbps typical). It delivers four-to-six times the speed of dial-up Internet access and eight times the speed of GPRS wireless data service. UMTS allows mobile users to respond to urgent email and access the Internet.

EVDO Rev. A

EVDO Revision A (1x Evolution-Data Optimized) is a wireless radio broadband data standard that offers download speeds up to 3.1 Mbps (500 to 800 Kbps typical). Revision A integrates faster data technology and improves latency. These enhancements allow features such as VoIP and video calling.

EV-DO/1xEV-DO/CDMA Network

EV-DO Rev 0

Evolution Data Only or Evolution Data Optimized (EV-DO) is a 3G wireless technology with average user download speeds up to 2.4 Mbps (400-700 kbps typical). When you spend a lot of time away from your desk, the faster speeds from EV-DO can lead to greater productivity. It's more than just fast email retrieval. Get fast and secure access to your information and applications with EV-DO.

1XRTT - Single Carrier (1x) Radio Transmission Technology

1xRTT is a pre-3G wireless technology based on the CDMA platform. It has the capability to provide ISDN like speeds that offer up to 144 Kbps (50-70 Kbps typical). 1xRTT is also referred to as CDMA2000.

GPS (option)

The Global Positioning System (GPS) is a worldwide radio-navigation system formed from a constellation of satellites and their ground stations. GPS uses these satellites as reference points to calculate positions accurate within five meters.

Bluetooth® (option)

Bluetooth is a short range, wireless technology. Bluetooth systems create a Wireless personal-area network (WPAN). When Bluetooth-capable devices come within range of one another, an electronic conversation automatically takes place to determine whether they have Bluetooth Services to share and whether one needs to control the other. Then the devices hop frequencies in unison so they stay in touch with one another and avoid interference with other devices.

Bluetooth devices send out weak signals of 1 milliwatt. Your computer is a Class II Bluetooth device with a range of about ten meters. Even with the low power, the walls in your house won't stop a Bluetooth signal. This makes the standard useful for controlling several devices in different rooms (audio, printer, keyboard, mouse). However, obstructions such as walls do degrade the signal and reduce its range.

Antennas

The GD6000 has several embedded antenna options to support wireless communications. They require no user action.



#	Antenna
1	CRMA Express Antenna
2	GPS Antenna
3	WLAN Antennas
4	Bluetooth / Diversity Antenna

CAUTIONS Use only the supplied or approved antennas. Use of unauthorized antennas, modifications, or attachments may void your warranty and could impair call quality, damage the radio, or result in violation of FCC regulations.

The GD6000 may contain the radio transmitters listed below. The following statements are relevant when using these radios:

Each internal radio may or may not have an individual FCC Identifier label. That FCC Identifier label is not applicable to this configuration. Only the external FCC ID is applicable. Only the antenna with which an intentional radiator is authorized may be used with the intentional radiator.

The WLAN embedded dual antennas are not to be modified. This device contains a WLAN radio transmitter and a WAN radio transmitter. To comply with FCC RF exposure requirements when using the WAN radio transmitter, a minimum separation distance of 20 cm must be maintained between the external dipole antenna and all users/bystanders. When using the WLAN transmitter, a minimum separation distance of 20 cm must be maintained between the upper right and left edges of the display screen and all users/bystanders. The WAN radio and WLAN transmitter should be turned off before carrying the notebook PC in order to comply with FCC RF exposure requirements.

Since each customer's radio configuration is unique, please read the radio help installed on your desktop and refer to the manufacturer documentation to setup and use your radio(s).

Improving Radio Coverage

Wireless connectivity between your GD6000 and wireless network access points is essential. Maintaining this wireless connectivity over a wide area is fundamental to the usefulness of the network. This makes the scope and reliability of radio coverage a primary concern. Therefore, one of the most important features of the wireless network is the degree of radio coverage provided. Coverage can be influenced by terrain, buildings or even a crowded room. Here are some tips to help you improve radio coverage, depending on your location.

In any Location

1. Performance can vary significantly at different times of the day.
2. Weather can affect performance.

On the Street

1. Try all sides of a building to see which side provides the strongest radio signal.
2. Move from under trees. Pine needles absorb radio signals more than leaves.
3. Move away from overhead electrical wires.
4. Radio signals reflect off other buildings. Even in the signal shadow, the signal could be reflected back by another building.
5. Try not to hold the unit. If possible, place it in vehicle, on a cabinet or desk.
6. If holding the unit, turn the unit in 90-degree increments to avoid shielding it with your body.
7. The signal is 1-2 feet across; therefore, moving several feet in any direction may give different results.

Inside a Building

1. Move toward windows.
2. Signals do not penetrate ground; therefore, there will probably be no signal in basements.
3. Reflective coatings on windows reflect radio signals. Try the side of the building that is least likely to have coated windows.
4. Closed metal blinds can reflect radio signals.
5. Dropped ceilings sometimes hide an accumulation of electrical cable.

Electromagnetic Interference (EMI)

1. Electromagnetic Interference (EMI) is generated by switching circuitry closets or Un-interruptable Power Source (UPS) systems found near computer rooms and can block the radio signal.
2. Look for significant sources of electromagnetic radiation. The problem may emanate from a source between location and the radio base station.

The computer operates on AC or battery power. This section contains the information you need to know to operate the computer on battery power. It also includes information on how your computer manages and saves power.

Battery pack

The battery pack has the following characteristics:

- Employs current battery technology standards. The computer uses a “smart” Lithium-Ion battery to consistently provide the long battery life best suited for mobile users
- A temperature sensor and memory device that stores information about the battery, such as how much charge is left and how many times it has been recharged
- Battery-low warning: When the battery charge level becomes low, the battery alarm beeps or displays a warning on your screen. This tells you that the battery power is critically low (and you should save your work). You can correct this situation by recharging the battery pack.

Whenever possible, use the AC adapter. The battery will come in handy when you travel or do not have access to AC power. It is advisable to have an extra fully-charged battery pack available as backup.

Using a battery pack for the first time

Before using a battery pack for the first time:

1. Connect the AC adapter to the computer, then to a power source.
2. Calibrate the battery to set the gas gauge to accurately reflect battery capacity. You only need to do this once with a new battery or with a battery that’s been stored without being used for a long time. If the computer is to be stored for more than two weeks, we recommend you remove the battery pack.

Battery and Temperature

The battery is most efficient at room temperature. It operates in a wide temperature range but the battery capacity is affected by higher or lower temperatures.

Temperature	Approximate Capacity
0°C	80%
20°C	100%
45°C	100%

WARNING Do not expose battery packs to temperatures below 0°C (32°F) or above 46°C (115°F). This may adversely affect the battery pack.

To install a battery pack

1. Line up the battery connectors.
2. Press gently on the battery until it clicks into place.



3. Slide the battery locks toward the outside of the computer to lock the battery and ensure they latch completely .



To remove the battery pack

CAUTION Before removing the battery pack, make sure that you have an AC adapter connected to the computer; otherwise, turn off the computer.

1. Plug in AC power and turn off the computer.
2. Slide the battery locks toward the inside of the computer to unlock the battery.



3. Slide and hold the battery release latch.



4. While holding the battery release latch, gently slide the battery out of the computer.



Battery Calibration

Over time, as the battery is repeatedly drained and recharged, battery performance will decrease. The first time you use the battery, you should calibrate it. Occasionally, the battery needs to be recalibrated for maximum performance. The calibration process empties and charges the battery. This allows the Windows battery gauge to accurately monitor battery status.

It is recommended you calibrate your battery:

- The first time you use your computer
- After it has been stored for awhile
- If the gas gauge has become inaccurate.
- Every three months for optimum performance

Windows XP Battery Calibration

To run the **Battery Calibration** program select **Start, All Programs, and Mobile Computer Tools**. Next, select **Battery Calibration**. After starting calibration, the **Battery Calibration** application requires no further input from the user. The calibration consists of four steps:

1. **PARTIAL DISCHARGE** - the battery is drained to a level below 90 %.
2. **CHARGE** - the battery is fully charged to 100 %.
3. **DISCHARGE AND CALIBRATE** - First, the battery is discharged all the way down to zero. Now the battery is 'calibrated' but not charged. You may stop the process after this point and let the battery charge outside of the Battery Calibration application.
4. **CHARGE** - if the Battery Calibration continues running, the battery will fully charge to 100%.

Battery Calibration will take from 5 to 10 hours, depending on how much power the battery may already contain.

NOTE The unit will not go into suspend mode while Battery Calibration is running.

CAUTION Do not disconnect AC power while Battery Calibration is running. If AC remains disconnected for more than two minutes, the application will terminate.

CAUTION Do not remove the battery while Battery Calibration is running. Doing so will cause the application to terminate immediately.

Windows Vista Battery Calibration

1. Select **Start, Control Panel, Mobile PC**.
2. Click **Power Options** and select **DynaPower Battery Calibration** from the menu on the left side of the screen. The **Calibration Window** will pop up asking if you'd like to start the calibration process.

NOTE The battery calibration process may take up to 8 hours to complete.

3. Select **Start** to begin calibrating or **Cancel** to Exit.

Windows 7 Battery Calibration

1. To run the **Battery Calibration** program select **Start, All Programs, and Mobile Computer Tools**.
2. Next, select **DynaPower Battery Calibration**. If you get a pop-up window asking if you want to allow the program to make changes to the computer, select **Yes**.
3. Select **Start** to begin calibrating or **Cancel** to exit.

NOTE The battery calibration process may take up to 8 hours to complete.

Battery Charging

To charge the battery, install the battery pack and plug the AC adapter into the computer and an electrical outlet. You can use your computer while charging the battery. However, this will increase the charging time.

NOTE We suggest that you charge the battery pack before retiring for the day and let it charge overnight before traveling. This ensures a fully charged battery for use the next day.

While the battery is charging, the Battery Power LED will be active after 6-12 seconds and will stay lit until the battery is fully charged. When the battery is fully charged, the Battery Power LED will turn off.

If your computer is turned off, a fully discharged battery will take about 3 hours to recharge. If your computer is turned on and is not in suspend mode, it will take about 3-6 hours to recharge the battery. Refer to the following table:

	Charging	Discharging
System On	3-6 hours depending on temperature and processes running	3.5 hours
System Off	3 hours	
Suspend to RAM		72 hours
Suspend to Disk		7 days

NOTE A fully charged Li-Ion battery can run the Notebook for approximately 3.5 hours of normal use. (According to an industry standard bench marking tool). Use of external devices, the optical disk drive and wireless radio causes increased battery consumption. Refer to the **Battery Tips** section for ideas to conserve battery power.

When to Replace the Battery

Over time, the battery's capacity gradually decreases. We recommend that you replace your battery when you notice that it begins to store significantly less charge. See **Battery Installation and Removal** for more information.

Heat Considerations

The computer's processor has been specially designed to consume as little power as possible, and generates very little heat. However, working in a hot environment, or working for long periods may raise the temperature. The GD6000 takes the following steps to lower temperature:

1. The cooling fan turns on automatically. You may feel air coming from a vent at the left side of the computer when this happens.
2. If the temperature continues to rise, processor activity will be reduced. You may notice a slight loss of performance when this happens.

WARNING If the CPU temperature exceeds 95°C, the system will shutdown to prevent the heat from damaging the computer's infrastructure. The system will also shutdown if the Hard Disk Drive gets too hot. When the computer cools to a normal temperature you can restart the system. The higher the temperature, the longer the period the computer will need to cool down.

Monitoring Battery Power

Low Battery Alarms

CAUTION When battery power is low, the alarm beeps or displays a warning on your screen. Take immediate action, such as saving files or connecting to the AC adapter or data may be lost.

When the computer alerts you that the battery is low, immediately do one of the following:

- Connect the AC power adapter.
- Save your work and then select **Shut Down** from the **Start** menu.

Turn off the computer and replace the discharged battery with a charged battery (see **Battery Charging**).

NOTE Do not restart the computer until you have connected to an AC adapter or replaced the discharged battery with a charged battery.

Refer to **Battery Tips** for more information about how you can conserve battery power. Refer to **Managing Power** for information about how you can setup your computer to effectively manage power for your unique use patterns.

Managing Power

Your computer has power management capability so you can reduce the amount of energy used, especially during periods of inactivity. Effective use of power management options can greatly conserve and extend your battery life. The power management unit monitors system activity, such as hard drive, keyboard, mouse, or any devices attached to a port. If it does not detect activity for a period of time, the computer stops some or all of these devices in order to conserve energy.

Your computer employs a power management scheme that supports ACPI (Advanced Configuration and Power Interface), allowing for maximum power conservation and maximum performance at the same time. Windows handles all power-saving chores for your computer.

For more information search for **Power Options** in **Microsoft® Help and Support**.

Low-Power States

Your computer can enter three different low-power states to conserve power: **Standby/Sleep**, **Hibernate** and **Power Off**. These states can be entered manually, or after a period of inactivity.

Standby/Sleep

Most devices in the system are powered off, but the contents of system memory are retained. Standby/Sleep is sometimes referred to as Suspend to RAM. When the computer returns from standby mode, the desktop appears with the same files and programs open as when the computer was suspended. Resume time is very quick.

Hibernate

Hibernate, or Suspend to Disk, is similar to Standby, except that the current state of the computer is copied to the hard disk in a special file. After this occurs, all devices in the computer are turned off. When the computer returns from hibernation, the desktop appears with the same files and programs open as when the computer was suspended. Hibernation saves more power than Standby, but takes slightly longer to resume.

Power Off

All applications are closed and the system is shutdown.

Entering Low-Power States

From the **Start Menu**, select **Shut Down** to display a dialog that allows you to manually enter any of these low-power states.

Battery Tips

Tip 1. Avoid excessive heat and cold

- Your battery will last longer during the day if it is used, charged and stored between 50°F and 86°F (10°C and 30°C).
- Charge the battery nightly where the temperature will remain around 68°F (20°C). Your battery may not last as long through the day if you charge it at higher or lower temperatures.
- Allow unrestricted airflow while the computer is connected to external power. Make sure that the fan inlet and outlet are unobstructed.
- Avoid exposing batteries to hot or cold temperatures for long periods.

How your battery behaves in warm conditions

- To prevent possible damage to the battery, the system may not allow a charge if the battery temperature is above 122°F (50°C), such as in a closed, unattended vehicle during the summer. In this case, the Battery Power Indicator may indicate that the computer has stopped charging your battery; however, your battery may not be fully charged
- If possible, turn off or suspend your computer while the battery is charging in a warm environment to avoid over-heating
- In warmer temperatures, your battery may take much longer to fully charge

How your battery behaves in cold conditions

- When using a battery in cold conditions, the battery capacity may drain significantly faster
- To prevent possible damage to the battery, the system will not allow a charge if the battery temperature is below 41°F (5°C), such as in a closed, unattended vehicle during the winter. In this case, the Battery Power Indicator may indicate that the computer has stopped charging your battery; however, your battery may not be fully charged
- In cooler temperatures, your battery can take much longer to fully charge

Tip 2. Prevent wasted power

- Manually turn off or suspend your computer whenever you are not using it.
- Reduce the screen brightness. Decrease brightness by pressing **FN+F6**. Increase it by pressing **FN+F7**.
- Use the AC adapter or vehicle adapter whenever possible.
- Use the General Dynamics Itronix **Power Saver** utility (XP) or **DynaPower** utility (Vista/Windows 7). These utilities provide

several ways to configure your computer for optimal power savings, including the ability to turn off unused devices and set the **CPU Speed Limit** (XP) or **Maximum Processor State** (Vista/Windows 7).

- Remove PC Cards. Unplug peripherals when you are not using them. They may draw power from the system even when not in use.
- Avoid operating the fax/modem, or audio and video applications when using battery power. Operating a fax/modem, video, or audio equipment increases the computer's power requirements.
- Don't use screen savers as they draw excessive current, especially "3D" screen savers.
- Turn off the Wireless LAN when not using it. Turning on the Wireless LAN increases the computer's power requirements.
- Avoid or minimize using applications that keep the CPU busy a large percentage of the time. The following will help you determine if your system is running such applications:

Identifying power wasting programs

To determine if applications or processes are keeping the CPU busy:

1. Start the **Task Manager** utility. To open **Windows Task Manager**, right-click an empty space on the taskbar, and then select **Task Manager**.
2. Select the **Performance** tab to view running applications, and the Process tab to view running processes.
3. Watch the **CPU Usage**. It is okay if the processor usage is occasionally 100 %, but if it is 100% most of the time, this may indicate a problem.

What to do if applications are keeping the CPU busy

- If possible, close any applications that keep the CPU busy when you are not using them
- Turn off or suspend your computer whenever you are not using it. This will help to conserve power

Tip 3. Calibrate your battery

Over time, the accuracy of the Windows battery gas gauge may be affected by repeated charging and discharging of the battery. Calibrating the battery every three or four months helps to keep the gas gauge accurate. Refer to **Battery Calibration** for more information.

Tip 4. Get a good charge

- Your computer will charge more quickly if it is turned off or suspended.
- In warmer or cooler temperatures, your battery can take much longer to fully charge.

- If your battery is charged in a cold (less than 41°F/5°C) or very warm (greater than 122°F/50°C) environment, it is possible that the Battery Charge LED will indicate that the charge has stopped; however, this does not necessarily mean that your battery is fully charged.

Tip 5. Prevent data loss

Follow these guidelines to prevent data loss when removing your battery or storing your computer:

- You will lose data if you remove the battery while the computer is operating or suspended. To prevent this, shutdown your computer or put it into hibernate (suspend-to-disk) mode before removing your battery.
- If you plan to store your computer for more than a few days, shutdown your computer or put it into hibernate mode. Remove the battery before storing the computer.

Tip 6. Clean terminals

Dirty terminals can be a cause of charging problems. Clean battery terminals with a cotton swab dipped in isopropyl alcohol. Make sure that the alcohol has evaporated before reinstalling the battery.

Tip 7. Storing batteries

- Store the battery within the recommended temperature range: 10°C to 30°C (50°F to 86°F).
- Unused or stored batteries can lose power over time. When you install a battery that has not been used for awhile, connect external power to the computer and fully charge your battery.
- Battery calibration may increase the capacity of a battery stored for a period of time. For information on calibrating the battery, refer to **Battery Calibration**.
- It is recommended that the battery is recharged every six months while in storage.

This section explains how to use the BIOS Setup Utility to modify the BIOS settings. The Setup Utility displays and allows modification of the computer's components and allows you to configure devices that are connected to it. This information is used to test and initialize components during boot up and to make sure everything runs properly when the system is operating.

Your computer is already properly configured and optimized with a set of default values so you do not need to run this utility. In certain circumstances, the system may generate an error message that asks you to make changes to the BIOS settings using the Setup Utility. This happens if the system finds an error during the POST (Power On Self Test) that it carries out at start-up. Please first refer to **Troubleshooting** if a problem arises.

IF YOU ARE NOT SURE HOW TO CONFIGURE THE BIOS SETTINGS we suggest that you select "**Load Optimal Defaults**" on the **Exit Menu** screen, then exit saving changes. This loads optimized default settings for normal use.

NOTE If needed, please print this section before rebooting and entering the Setup Utility as it will not be accessible from there.

Using the Setup Utility

The Setup Utility allows you to configure your computer's basic settings. When you turn your computer on, the system reads this information to initialize the hardware so that it can operate correctly. You can use the Setup Utility to change your computer's start-up configuration. For example, you can change your system's security settings.

Starting the Setup Utility

You can only start the Setup Utility after the computer has been turned on or rebooted. To execute a controlled reboot, select **Start, Restart**. Shortly after the computer restarts, you will see the following text at the bottom of the screen: "**Press F2 to enter Setup.**"

Press the **F2** key when you see this prompt.

NOTES The BIOS password settings affect this option. If a user or supervisor password has been previously entered, you will be asked for a password.

The touch screen is not active in the Setup Utility.

The Menu Bar

The Setup Utility has six menu options in the Menu Bar (1) at the top of the window. Press the left or right arrow keys to cycle through these menu screens.

INFORMATION: Displays a summary of the computer's hardware information

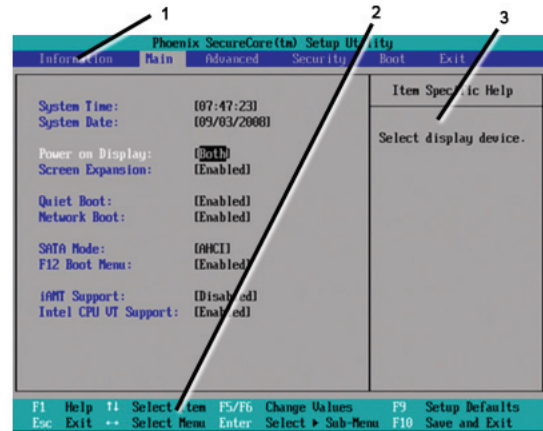
MAIN: Contains basic settings about your computer such as date, time, and other general options

ADVANCED: Allows you to view and configure your drives, and I/O (input/ output) ports, and stealth mode settings

SECURITY: Lets you set passwords for protecting your computer

BOOT: Allows you to set the order in which the system boots.

EXIT: Includes options to save or discard your changes, and to exit the BIOS Utility



Viewing or Changing Field Settings

The Navigation Help instructions (2) on the bottom of each menu display the keys used to move through and change the Settings and Information fields on the left side of the menu.

- Press the up and down arrow keys to cycle through fields on each menu
- Press **ESC** to exit any sub-menu
- Press **ENTER** to make a selection or go into a sub-menu

NOTE You can change the value of a field if it is enclosed in [brackets]. Navigation keys for a menu are shown at the bottom of the screen. Please refer to the help information that displays in the **Field Help Window** as you select a field.

CAUTION Certain fields are highly technical. Do not make changes to a field if you do not understand its function. For optimum settings, press **F9** to load setup defaults; then press **F10** to save the changes and exit the Setup Utility.

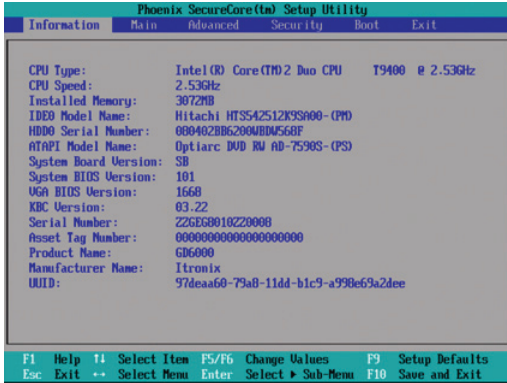
NOTE Don't forget your password. If you forget your password, you may have to return your notebook computer to your dealer to reset it.

The Field Help Window

The Field Help Window (3) is on the right side of each menu. It displays the help text for the currently selected field. This text updates as you move the cursor from field to field.

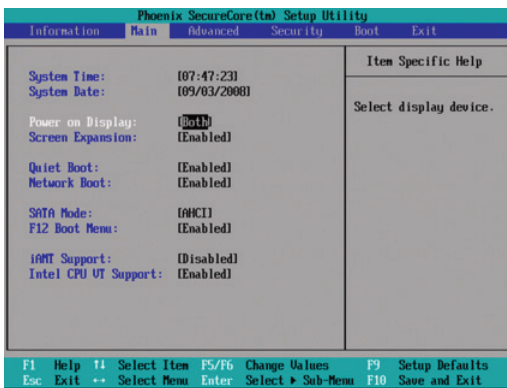
The Information Menu

This page displays information about your computer from what kind of CPU and how much memory the computer has, to pertinent numbers such as the product number and serial number:



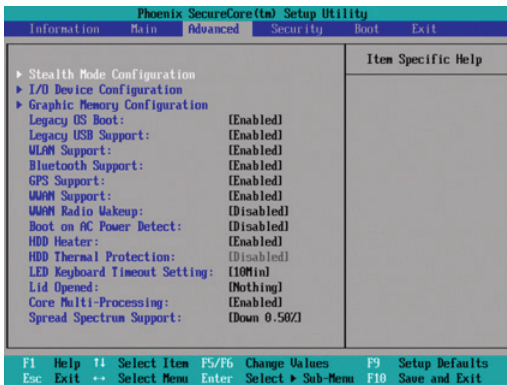
Field	Description
CPU Type	Displays the CPU type
CPU Speed	Displays the CPU speed
Installed Memory	Displays the size of installed memory
IDE0 Model Name	Displays the IDE0 Model Name
HDD0 Serial Number	Displays the IDE0 Serial Number
ATAPI Model Name	Displays the ATAPI Model Name
System Board Version	Displays the current system board version
System BIOS Version	Displays the current system BIOS version
VGA Bios Version	Displays the current VGA BIOS version
KBC Version	Displays the KBC Version
Serial Number	Displays the System Serial Number (30 characters)
Asset Tag Number	Displays the Asset Tag Number (32 characters)
Product Name	Displays the Product Name (up to 15 characters). This is "GD6000"
Manufacturer Name	Displays the Manufacturer Name (up to 15 characters).
UUID	Display the UUID (16 Byte Hex-Digital)

The Main Menu



Field	Setting	Function
System Time	HH:MM:SS	Sets the system time in 24 hour format. The value takes effect immediately.
System Date	MM/DD/YYYY	Sets the system date. The date can be set from January 1, 2000 to December 31, 2099. The value takes effect immediately.
Power on Display	BOTH Auto	Selects the display device.
Screen Expansion	ENABLED Disabled	When enabled, expands the display screen upon boot.
Quiet Boot	ENABLED Disabled	Display the logo screen during boot.
Network Boot	ENABLED Disabled	When enabled, the system can boot from the network. This setting requires a reboot to take effect. NOTE The LAN must be selected as the first boot item on the Boot Menu for the computer to boot directly from the network during power on.
SATA Mode	IDE AHCI RAID	Controls the mode in which the SATA controller should operate.
F12 Boot Menu	ENABLED Disabled	When enabled, the message "F12 to enter Multi Boot Menu" displays during POST.
iAMT Support	Enabled DISABLED	Enables/Disables the Intel Active Management Technology BIOS Extension.
Intel CPU VT Support	ENABLED Disabled	When enabled, a Virtual Machine Monitor (VMM) can utilize the additional hardware virtualization capabilities provided by this technology.

The Advanced Menu



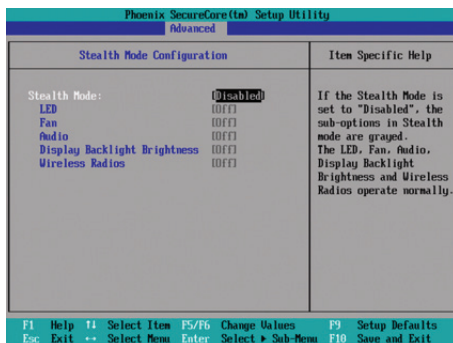
Field	Setting	Function
Stealth Mode Configuration	sub-menu	This menu controls stealth mode configuration.
I/O Device Configuration	sub-menu	This menu controls I/O device configuration.
Graphic Memory Configuration	sub-menu	This menu controls graphic memory configuration.
Legacy OS Boot	ENABLED Disabled	If enabled, attempts legacy OS boot first. If disabled, attempts EFI boot first and legacy OS boot second.
Legacy USB Support	ENABLED Disabled	If enabled, provides legacy USB support.
WLAN Support	ENABLED Disabled	If enabled, the WLAN device is powered on when the system reboots.
Bluetooth Support	ENABLED Disabled	If enabled, the bluetooth device is powered on when the system reboots.
GPS Support	ENABLED Disabled	If enabled, the GPS device is powered on when the system reboots.
WWAN Support	ENABLED Disabled	If enabled, the WWAN device powers on when the system reboots.
WWAN Radio Wakeup	Enabled DISABLED	If enabled, power to the radio will turn on before the system entering standby (S3).
Boot on AC Power Detect	Enabled DISABLED	If enabled, the system will boot up or resume automatically when AC power is applied and detected.
HDD Heater	ENABLED Disabled	If enabled, the HDD heater will power on when the temperature is too low.
HDD Thermal Protection	Enabled DISABLED	If enabled, the system can not boot up when the hard disk drive (HDD) temperature is 0°C or below, regardless HDD Heater installation. If disabled, the field setting can be changed by the user. The system will boot when the hard disk drive temperature is between -20°C and 0°C. CAUTION The HDD may be damaged without the HDD Heater.

Field	Setting	Function
LED Keyboard Timeout Setting	5Min 10Min 15Min 20Min 30Min 40Min 50Min 60Min 80Min 100Min 120Min 240Min	Reset the timeout counter for PS2 key and /or mouse activity
Lid Opened	NOTHING Resume	If Resume, the system will resume from a suspended state when the computer lid (display) is opened from a closed position.
Core Multi-Processing	ENABLED Disabled	Enables/Disables the 2nd core
Spread Spectrum Support	Off Down 0.50% Down 1.00% Down 1.50% Cntr 0.25% Cntr 0.50%	Determines the system Spread Spectrum range.

Stealth Mode Configuration

Stealth mode is a feature that allows the computer to be used in an environment where sound and light could be dangerous or disruptive. If stealth mode is disabled, the LEDs, fan, system beeps, audio, and display brightness operate normally.

NOTE An off setting indicates stealth mode is in effect for that option. For example, if stealth mode is enabled and the LED option is set to “off”, the LEDs will NOT illuminate to indicate activity.

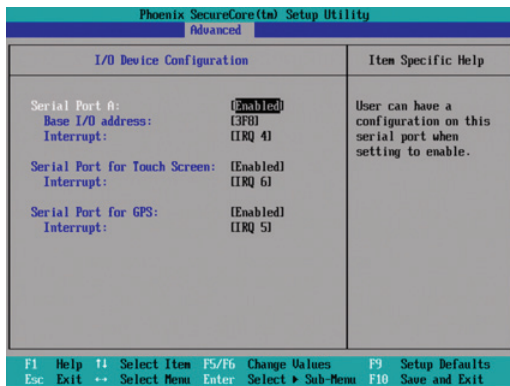


Field	Setting	Function
Stealth Mode	DISABLED Enabled	Enable or disable stealth mode. If disabled, the computer functions normally and the options listed below are not accessible.
LED	OFF	LEDs are disabled.
	On	LEDs function normally.

Field	Setting	Function
Fan	Off	The fan is disabled. Heat management is then controlled solely through throttling.
	On	The fan functions normally.
Audio	OFF	Volume is set to 0 across suspend/resume and boot. Use the existing audio function keys to restore volume.
	On	Audio is preserved across suspend/resume and boot. The default volume level is set to mid-range.
Back-light Brightness	OFF	Brightness is set to 0 across suspend, resume and boot. Fn+F1 restores brightness to the value it was set to before suspend. Additionally, Fn+F7 increases display brightness gradually. Fn+F6 decreases brightness gradually.
	On	Display brightness is preserved across suspend/resume and boot. It is restored to default when the brightness level is set at 0. The default level is mid-range.
Wireless Radios	OFF	All wireless devices are set to off during a suspend/resume or boot. The radio on/off button can be used to manually turn the radios on or off.
	On	The radio on/off button functions normally and radio device power states are held though suspend/resume and boot.

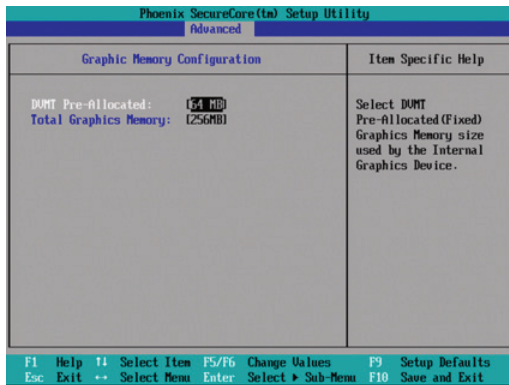
I/O Device Configuration

This configuration option allows you to assign Serial and Parallel port settings.



Field	Setting	Function
Serial Port A	ENABLED Disabled	If enabled, user can configure serial port A.
Base I/O address:	3F8 2F8 3E8 2E8	Sets the base I/O address for this serial port.
Interrupt:	IRQ3 IRQ4	Sets the interrupt request of this serial port.
Serial Port for Touch Screen	ENABLED Disabled	If enabled, user can configure serial port C.
Interrupt:	IRQ6	Sets the interrupt request of this serial port.
Serial Port for GPS	ENABLED Disabled	If enabled, user can configure serial port A.
Interrupt	IRQ5 IRQ7	Sets the interrupt request of this serial port.

Graphic Memory Configuration

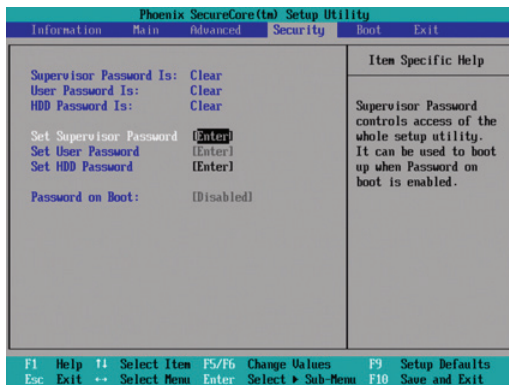


Field	Setting	Function
DVMT Pre-Allocated	32 MB 64 MB 128 MB	Select the DVMT pre-allocated graphics memory size to be used by the internal graphics device.
Total Graphics Memory	128 MB 256 MB MaxDVMT	Select the amount of total graphics memory to be used by the internal graphics device.

The Security Menu

You can set, change or remove passwords in the Security menu.

NOTE This is the Security screen as seen when both Supervisor and User passwords are installed.

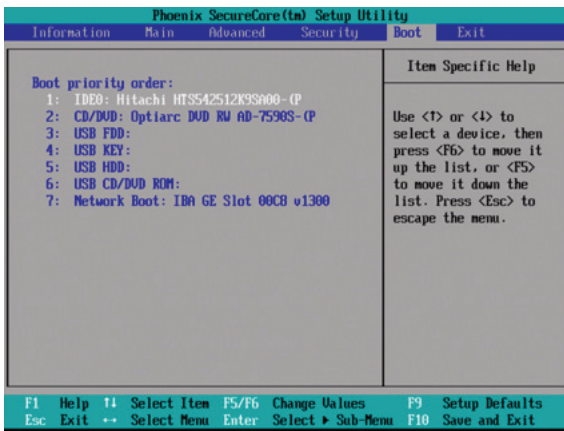


Field	Setting	Function
Supervisor Password Is	Clear	Shows if a password has been set.
User Password Is	Clear	Shows if a password has been set.
HDD Password Is	Clear	Shows if a password has been set.
Set Supervisor Password	Enter New Password	Supervisor Password controls access to the Setup Utility
Set User Password	Enter New Password	User Password controls access to the system
Set HDD Password	Enter New Password	HDD Password controls access to the removable hard disk drive.
Password on Boot	Enabled DISABLED	If enabled, system will ask for password on post time. If disabled, system will ask for password when entering setup utility.

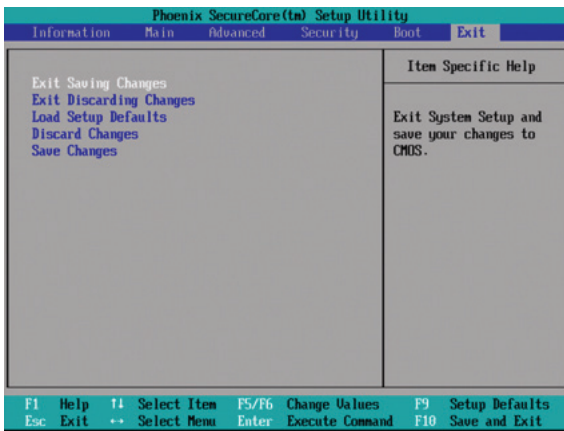
The Boot Menu

Use this menu to set the order of priority for devices from which the system will boot. Your computer automatically detects the available devices. When you select a device, it is disabled in the other boot device fields.

To change the priority order, use the up and down arrow keys to highlight a device. Then press **F5** or **F6** to move the device higher or lower on the priority list.



The Exit Menu



Field	Function
Exit Saving Changes	Exit the Setup Utility and save the changes to CMOS.
Exit Discarding Changes	Exit the Setup Utility without saving Setup data to CMOS.
Load Setup Defaults	Load Optimal " factory" default values for all Setup options.
Discard Changes	Load the previously set values from CMOS for all Setup options.
Save Changes	Save any changes made and exit Setup.

Your computer delivers superior power and performance. However, some users and the applications they use may demand more. This computer allows you to upgrade key components when you need increased performance.

NOTE Contact your authorized dealer if you decide to perform a key component upgrade.

Additionally, the GD6000 has several equipment and accessory options to further enhance your mobile computing experience. This section highlights some of the most popular accessories used with the GD6000. Click [here](#) for a complete list of optional peripherals and accessories.

CAUTION When purchasing any additional accessories, purchase only those accessories that are approved for use with your computer. If you use items that are not approved for use with this computer, you may cause your computer to malfunction, or to emit or receive electromagnetic radiation in excess of local regulations. For non-proprietary accessories such as PC Cards or printers, ensure that the accessory functions properly with your computer before making the purchase.

Office Dock

The GD6000's Office Dock enables you to use it as a desktop computer. Once setup, the dock provides drop-in convenience with no cables to attach or detach from your GD6000.

Simply place the computer in the dock and turn it on. The Office Dock's wizard will guide you through the various steps to properly install the Office Dock.

The Office Dock allows you to continue to access all your computer's ports and bays. Additionally, it includes the following ports typical of a business-class desktop computer:

- Four USB 2.0 ports
- IEEE 1394 port (FireWire™)
- RJ-45 10/100/1000 Ethernet port
- 9-pin legacy serial port
- 25-pin parallel port
- 15-pin external monitor/ CRT port
- Two PS/2 ports so you can attach a mouse and a keyboard
- DC-in power port
- Mono microphone interface
- Stereo speaker interface



Once in the dock, the computer's battery is recharged and conditioned automatically whether the computer is active, suspended or even powered off.

Undocking the GD6000

The GD6000 must be undocked prior to removing it from the Office or Vehicle Dock. To undock your GD6000:

Windows XP

1. Click on **Start** to display the Start Menu. (At the bottom of the Start Menu next to the **Log Off** and **Shutdown** commands will be the **Undock Computer** command.)
2. Click on **Undock Computer**
3. Wait for the system to display "**Windows has finished undocking the computer. If you need to remove the computer from the Docking Station, please do so now!**"
4. Open the **Start** Menu once more and make sure the **Undock Computer** menu item is no longer displayed before pressing the release button on the Docking Station.

Windows Vista

1. Click on the **Start** Button.
2. Point to the arrow next to the padlock icon to bring up the **Shut Down** sub-menu. Click on **Undock**. You will see a popup message from the system tray that the **Undock is Complete**.
3. Undock your computer by pressing the release button.

Windows 7

1. Select **Start**.
2. Select the arrow next to the **Shut down** menu and click on **Undock**. You will see a popup message from the system tray when the undock is complete.
3. Undock your computer by pressing the release button.

Vehicle Dock

The optional vehicle dock enables you to use and recharge your GD6000 quickly and efficiently in your vehicle. Once setup, it provides drop-in convenience with no cables to attach or detach to your GD6000 when you enter or leave your vehicle. Simply place the computer in the dock and turn it on. Once attached to the Vehicle Dock, the computer's battery is recharged and conditioned automatically whether the computer is active, suspended or even powered off.

Vehicle Dock features:

- Compliance with extensive vehicle environment requirements (including crash test)
- Key lock to help prevent theft
- Four USB 2.0 ports (two in front and two in back)
- IEEE 1394 port (FireWire™)
- Two 9-pin legacy serial ports
- 25-pin parallel port
- 15-pin external monitor/CRT port
- Two PS/2 ports
- DC-in power port
- Ethernet (LAN) port
- Remote power switch feature that is identical in function to the main power button
- Mono microphone interface
- Stereo speaker interface
- Two external antenna SMA connectors for WWAN and WLAN



NOTE Be sure to follow the undocking procedures at the end of the Office Dock section.

Surge Protection

A large number of computer and high technology equipment damage is directly related to AC power and telephone line problems. These problems can include surges, spikes, noise, interference, and weather-related problems, which in turn can cause glitches, hang-ups, crashes, performance slow downs, and down time with computer equipment. The market is flooded with hundreds of AC power line surge suppressors advertising high performance surge protection; only a few of them actually provide adequate protection.

This section provides guidelines for selecting a quality surge suppressor to be used with your GD6000, and it helps identify a few sources for products with acceptable performance.

Selecting the Right Surge Protection

Consider the level of quality you need when selecting a surge suppressor. This depends on factors such as surge environment, the type of equipment to be protected, and the quality of the electrical wiring and service.

Surge Environment

Surge environment refers to the damage potential from electrical surges in a particular geographical area. A high quality surge suppressor should be used if there is frequent lightning activity in the area and the location service is fed by overhead utility poles.

Type of Equipment to be Protected

If the computer is equipped with a modem, the modem should also be surge protected. Protecting the power line without protecting the modem line provides only partial protection.

Quality of Electrical Wiring and Service

Wiring should be up to current local standards and have verified good AC grounds. It is important that your computer system be plugged into a grounded AC outlet when charging and that all peripherals connected to your system reference the same AC ground.

Selecting the Right Equipment

There are a number of companies that sell quality surge suppressors. When looking for a surge suppressor, consider these things.

- Expect to pay more for a good quality surge suppressor
- The surge suppressor should be a UL 1449, 497, and 1283 listed for surge suppression, modem surge protection, and RFI/EMI noise filtering respectively
- The surge suppressor should have diagnostic LEDs that verify good AC ground, proper wiring, and proper surge operation. On/off switches that light are not recommended since they can produce electrical noise
- The Joule ratings should be a minimum of 480 Joules for the AC surge circuit
- The Joule ratings should be a minimum of 240 Joules for the modem
- The modem surge circuit should present low capacitance to the modem line or it will slow the transmission rate. Capacitance should be specified at less than 50 picofarads
- Quality surge suppressor manufacturers generally offer a life-time warranty
- Consider obtaining a protected equipment coverage policy which insures the equipment in the event of surge damage
- The devices that will be attached to the computer also need to be surge protected

Memory Upgrade

Adding memory allows the computer to operate faster, handle more tasks simultaneously, and work more smoothly with large files. Users who increase memory demands - by adding additional programs, for example - may notice a slowdown in operating speed, and wish to increase memory. The GD6000 comes with one user accessible memory socket supporting a 1024MB or 2048MB memory module for memory upgrades. Please consult your dealer if you need to add more memory.

CAUTION First read and follow the guidelines in the Safety section.

Replacing a Memory Card

CAUTION Memory modules can be easily damaged by static electricity. Leave the module inside its static-proof bag until it is ready for installation and make sure you are grounded before attempting this procedure.

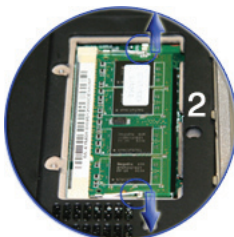
Removing a Memory Card

1. Turn off the computer and disconnect the AC adapter.
2. Turn the computer upside down and lay it on a flat surface.
3. Remove the battery (see **Battery Removal**).
4. Carefully remove the two RAM compartment cover screws and remove the RAM compartment cover (1).

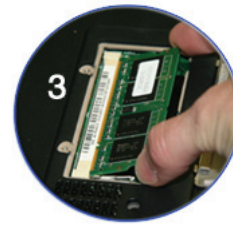


5. If a memory card is inserted, use your finger to gently pull the tabbed latches in the direction of the arrows (2). The card will pop up slightly.

CAUTION Do not use tools to pull the memory card latches. Tools may cause damage.



6. Pull upwards on the card and then slide the card out (3).



Inserting a Memory Card

CAUTION Only use memory cards approved for use in your computer. Failure to do so may void your warranty.

1. Hold the memory card by its edges with the edge-connector side towards the slot.
CAUTION Do not touch the memory card anywhere except the edges.
2. Hold the card at a shallow angle (about 25 degrees) and insert the edge connector into the connector slot. The "gold teeth" of the edge connector should no longer be visible when the card is fully inserted. (See image 3 above).
3. Press the card downwards so that it is flat inside the compartment. You may hear an audible click as the latches of the connector lock the card in place.
4. Replace the RAM compartment cover and secure it with the two screws.

CAUTION If the cover does not close easily, do not force it. The memory card may not be properly installed. Carefully remove and reinstall the card following the steps above.

Your notebook computer will automatically detect the change in RAM capacity when it restarts. You can verify RAM capacity has changed in the Setup Utility or in Windows:

SETUP: Press **F2** during boot-up when you see the "**Press F2 to enter Setup**" prompt. The information menu shows the base memory and the extended memory.

WINDOWS XP: Right click on **My Computer** and select **Properties** to open **System Properties**. The **General** tab lists the memory detected by Windows.

WINDOWS VISTA: Right click on **Computer** and select **Properties** to open the **System Screen**. This will show the memory detected by Windows.

WINDOWS 7: Select **Start, Control Panel, System and Security**. Under **System** select **View amount of RAM and processor speed**. In the **System** section, next to **Installed memory (RAM)**: you can see how much memory your computer has.

Miscellaneous options

Battery Pack

It is a good practice to have a spare battery around, especially when you travel. The Li-ion battery, coupled with the power management features of your computer, supplies you with more power on-the-go. You may also purchase a secondary 9 cell battery pack for longer run time.

AC Adapter

The compact AC adapter charges your battery pack and supplies power to your computer. You can order a spare AC adapter so you do not need to carry it from the office to your home or destination.

Vehicle Adapter

The vehicle adapter supplies power from the vehicle battery to your computer. It attaches to your computer's DC power port and typically plugs into the cigarette lighter socket in your vehicle.

Other Options and Accessories

Click [here](#) for a complete list of optional peripherals and accessories.

Follow the guidelines in this section to care for your computer.

Computer Maintenance and Storage

You can use your computer under a wide range of environmental conditions. However, to ensure long use and continued high performance, consider the following factors when using your computer:

Taking Care of Your Computer

- Follow all warnings and instructions noted in this documentation and in the Windows Help program.
- The first time you use your computer, we recommend that you carefully read the **Making Connections** section and initialize the battery to ensure optimum battery performance.
- Unplug the computer from the power outlet before cleaning. Use a damp cloth for cleaning. Do not use aerosols, solvents, or strong detergents.
- Slots and openings in the unit's case are for ventilation purposes. Do not block or cover these openings or the system could overheat. Do not use or store the computer near a source of heat or dust.
- If you use the computer with an extension cord, ensure that the total ampere ratings of all the devices sharing the extension do not exceed the rating of the extension cord or the rating of the wall outlet.
- Never push foreign objects into the computer through any of the slots or openings. Dangerous voltages are present, which could cause electric shock or fire, or damage sensitive components.
- For best results, use a power strip with a built-in **surge protector**. Do not use inferior extension cords as this may result in damage to your computer.
- Set the computer on a flat, stable surface. To prevent damage to the computer's hard disk drive, avoid using the computer where it will be exposed to strong vibration.
- Do not place it near sources of heat, such as a radiator.
- Do not expose the computer to temperatures below -20°C (-4°F) or above 60°C (140°F).
- Do not subject the computer to magnetic fields.
- Do not expose the computer to rain or moisture.
- Do not spill liquid on the computer.
- Do not subject the computer to heavy shock and vibration.
- Do not expose the computer to dust and dirt.
- Do not place objects on top of the computer.
- Do not place the computer on uneven surfaces.
- Periodically inspect the computer and accessories for wear, damage, loose or missing parts. Identifying and correcting potential problems early can help reduce the need to return the unit for service.

Taking care of your AC adapter

- Do not connect the adapter to any other device.
- Do not step on the power cord or place anything on top of it. Carefully route the power cord and any cables away from all potential traffic.
- When unplugging the power cord, do not pull on the cord itself but pull on the plug.
- The total ampere ratings of the equipment plugged in should not exceed the ampere rating of the cord if you are using an extension cord. Also, the total current rating of all equipment plugged into a single wall outlet should not exceed the fuse rating.

Servicing

Contact your dealer or see your service technician if any of the following occurs:

- The computer has been dropped or the body has been damaged.
- Liquid has been spilled into the product.
- The computer does not operate normally.

See the **Service and Support** section for more information.

Battery Maintenance and Storage

Taking care of your battery pack

- Use only batteries of the same kind as replacements. Turn the power off before removing or replacing batteries
- Do not tamper with batteries. Keep them away from children
- Dispose of used batteries according to local regulations. Recycle if at all possible

Maintaining Batteries

Follow these guidelines to maintain performance of Lithium-Ion (Li-on) batteries.

- Avoid exposing batteries to extremely hot or cold temperatures for long periods. To prevent possible damage to the battery, the GD6000 does not allow the battery to charge if the internal temperature of the battery gets too low (< 5°C or < 41°F) or too high (> 50°C or > 122°F).
- Charge the battery nightly where the temperature will remain around 20°C (68°F).
- Re-calibrate your battery every three months or when your battery performance degrades.

Storing Batteries

- Before storing, discharge the battery to 50%.
- Store the battery as close to close to 10°C (50°F) as possible.

- It is recommended that you cycle a stored battery once every three months.
- Unused or stored batteries can lose power over time. When you install a battery that has not been used for awhile, connect external power to the computer and charge the battery.
- After storage, **battery calibration** may increase its capacity.

Cleaning Your Computer

OUTSIDE CASE: Like all tools, the outside of the computer will get dirty with use. To clean the outside case, follow the procedure below.

- Disconnect external power and turn off the computer.
- Add a small amount of water to a soft cloth and clean the computer case. Do not use paper products because they can scratch the surface.
- Wipe off any excess liquid with a soft cloth.

DISPLAY: Periodically inspect the display to make sure the brightness function is operating properly and that all pixels are operational. To clean the display assembly, use a soft, dry cloth. In some cases, you can use a small amount of water to remove streaks or smears. Do not use paper products because they can scratch the screen.

EXTERNAL POWER CONNECTOR: The external power connector may sometimes be exposed to moisture and/or contamination causing an unreliable connection to the external power source.

Clean the connector with a cotton swab dipped in isopropyl alcohol.

RJ-11/ RJ-45 / USB CONNECTORS: If the connector pins get dirty, clean the connector with a cotton swab dipped in isopropyl alcohol.

Backup and Recovery

Data Backup

There are several methods to backup your data. It is best to regularly use all the methods below to ensure the greatest data integrity, provide the fastest recovery options, and minimize downtime.

After you have installed all your applications and have your computer configured as desired, create a backup of drive C: using the **Hard Disk Backup and Recovery Utility**. Then, use the **Windows Backup Utility** on a frequent basis to backup your daily data. It is recommended that you schedule the **Windows Backup Utility** to run automatically.

Save Important System Information

By default, your computer is set up to automatically save certain critical information, such as the registry, on a regular basis. This information is saved as a **Restore Point**. You can also create Restore Points manually by using the **System Restore** utility. Select **Start, All Programs, Accessories, System Tools, System Restore**. Then, follow the instructions in the Wizard.

Backup your Files

You can backup files if they are accidentally erased or corrupted.

FOR WINDOWS XP: Select **Start, All Programs, Accessories, System Tools, Backup**. You can schedule backups to run automatically on a regular basis. To set this up, talk to your help desk or IT department.

FOR WINDOWS VISTA: Click the **Start** button, open the **Control Panel**, and select **Backup Your Computer** under **System and Maintenance**.

FOR WINDOWS 7: Select **Start, Control Panel**. Under **System and Security** select **Back up your computer**. From here you can set up backup, create a system image or create a system repair disc.

Backup Drive C:

You can make an exact copy of drive C: and save the backup image on the **Recovery Partition** of your hard disk (usually drive D:). In the future, you can restore drive C: to its previous state should it become corrupted. To make a backup copy of drive C:, use the **Hard Disk Backup and Recovery Utility**. Select **Start, All Programs, Mobile Computer Tools, Hard Disk Backup and Recovery**. You will be prompted for additional information.

NOTE The **Hard Disk Backup and Recovery Utility** is only available on computers configured with a **Recovery Partition**.

Data Recovery

There are several methods to restore your data. It is best to start with the least destructive and fastest recovery options.

Try this first: Restore System Information

If you are having problems with your system, restore system information to an earlier state, or **Restore Point**. To restore to an earlier state, select **Start, All Programs, Accessories, System Tools, System Restore**. Then, follow the instructions in the Wizard.

Try this next: Restore a Backup

You can restore files and folders that you have backed up using the **Windows Backup Utility**. See instructions below:

WINDOWS XP: Select **Start, All Programs, Accessories, System Tools, Backup**.

WINDOWS VISTA: Click the **Start** button, open the **Control Panel**, and select **Backup Your Computer** under **System and Maintenance**. This will bring you to the **Backup and Restore Center** where you can restore files and folders.

WINDOWS 7: Select **Start, Control Panel, System and Security**. Under **Backup and Restore** select **Restore files from backup**. From here you can select a backup file to restore.

Try this last: Restore Entire Contents of Drive C:

If none of the above steps restore your disk image to a stable state, you may need to restore your disk to its original factory image or an image you saved using the **Hard Disk Backup and Recovery Utility**. Restoring a previously saved disk image overwrites the entire contents of drive C:. Before running this process, save your data to another location, such as a USB flash drive.

WINDOWS XP: Select **Start, All Programs, Mobile Computer Tools, Hard Disk Backup and Recovery**. You will be prompted for additional information.

WINDOWS VISTA: Click the **Start** button, open the **Control Panel**, and select **Backup Your Computer** under **System and Maintenance**. This will bring you to the **Backup and Restore Center**. From here, you can restore your entire computer from a **Windows Complete PC Backup and Restore Image**. Click on **Restore Computer** to begin the process.

WINDOWS 7: Select **Start, Control Panel, System and Security**. Under **Backup and Restore** select **Restore files from backup** then select **Recover system settings or your computer**.

NOTE The **Hard Disk Backup and Recovery Utility** is only available on computers configured with a **Recovery Partition**. If it is not available, you will either need to contact your company's help desk about obtaining a Recovery CD or return your unit for service.

We are committed to providing you world class support services that ensure the lowest total cost of ownership for your hardware investment. The icareServices program will help you maximize end user productivity and decrease overall system operating cost.

Client Care Center (CCC)

General Dynamics Itronix Client Care Center – The CCC is an internal central point for telephone warranty support for all General Dynamics Itronix products. Our Technical Service Representatives know your product and provide input and support for problem resolution.

One call to the convenient Client Care Center number at (1-800-638-9270, Opt 2) allows a single entry point of access to meet all your needs.

You may also use the web portal at www.gd-itronix.com/CCC. The CCC receives calls from 5am-5pm Pacific Daylight Time, Monday through Friday (except on holidays). Sorry, 1-800 numbers ARE NOT accessible from Mexico.

Technical Service Representatives provide the following support services:

- Product troubleshooting
- RMA origination for service return
- RMA status check on product service
- Check status Warranty/Service Kit orders
- Coordinate requests for product upgrades
- Wireless Radio registration
- icareServeNet registration and training

General Dynamics Itronix offers service uplift programs for clients who wish to expand their support coverage beyond the basic warranty. Coverage and details of these programs are available online at www.gd-itronix.com

Product Support - Downloads

It is easy to get the software updates you need to keep your configuration current and get the most from your product. Click [here](#) to get current downloads.

NOTE Downloads are listed by product number (GD6000).

This section is designed to help you determine and fix problems you might encounter while operating the GD6000. Try the following things in order:

1. First look through the categories in this section for a solution.
2. If you are having a problem with a computer application, use the Help that comes with the application to find a solution.
3. If you still cannot resolve your problem, refer to **Service and Support**.

WARNING Do not attempt to open and service the computer by yourself. Contact your dealer or an authorized service center for assistance.

Application Troubleshooting

My application locks up, acts strangely, or produces a General Protection Fault (GPF) error or blue screen

- Press **CTRL+ALT+DEL** to start the **Logon Protector**, then select the **Task Manager**. Click the **Applications** tab on the **Task Manager** and look for the application that is having problems. If the application is hung, the Status column will say "Not Responding" after the task name. Click on the unresponsive task/application, then click the **End Task** button.
- If you have tried to resolve the problem and your application still does not respond, you may need to restart your computer.

To restart your computer:

USING WINDOWS XP: Select **Start, Shut Down, Restart**.

USING WINDOWS VISTA: Click on the **Start** Button, point your mouse past the icon and click on the arrow. This will bring up the **Shut Down/Log Off** menu. Click **Restart** to reboot the computer.

USING WINDOWS 7: Select **Start** and click on the arrow next to the **Shut down** menu. Then select **Restart**.

If the computer does not restart, the keyboard may be locked up. Hold the **POWER BUTTON** for ten seconds.

CAUTION This will result in a loss of all unsaved data.

- The data on the hard disk could be corrupted. Run **CHKDSK**.
- Windows may be out of memory or resources. You can try to close some open programs to free up some memory or exit Windows and restart Windows by selecting **Start, Shut Down, Restart**.

Battery Troubleshooting

The battery does not charge

- To prevent possible damage to the battery, the system will not allow a charge if the battery temperature is extremely hot or cold (such as in a closed, unattended vehicle). If possible, charge the battery in a location with a moderate temperature of around 20°C (68°F).
- If possible, turn off the computer while the battery is charging.
- If the battery is new or has been stored for a week or more, follow this procedure:
 1. Make sure the computer is turned off.
 2. Remove the battery (see **Battery Installation and Removal**).
 3. Connect the AC adapter to the computer and an AC wall outlet, and then turn on the computer by pressing the **POWER BUTTON**.
 4. Reinstall the battery.
 5. Allow the system to remain idle for one hour with the AC adapter connected to the computer. The Battery Power LED is lit while the battery charges. It turns off when the battery is fully charged.
 6. If the battery still fails to charge after an hour, remove the battery, wait several seconds, and then install it again. If the battery does not begin charging within several minutes, contact **Service and Support**.

The batteries take much longer than seven hours to charge

Under moderate temperatures, about 21°C (70°F), the computer's battery takes approximately three hours to completely charge if the unit is off and up to six hours if it is running. Under extremely cold or hot temperatures, however, the battery can take up to 16 hours to fully charge.

The batteries do not last very long

- As your battery ages, the maximum capacity that it can hold naturally decreases, and even the best maintained batteries eventually need to be retired. Consider replacing the battery if you are not getting the usage you need from it.
- Refer to the **Battery Tips** section for information on conserving battery power.
- To meet ENERGY STAR® requirements, **Wake-on-LAN** is enabled by default. If running on battery power this may decrease battery run-time. To change **Wake-on-LAN** settings, go to the **Device Manager, Network Adapters** and select the LAN device. Open the device **Properties** and select **Power Management**. Then disable the Wake-on-LAN setting.

The gas gauge is not full after charging the battery

- This may indicate that the charging process terminated prematurely
- **Calibrate** the battery

The gas gauge reads "full," but the indicator light is still blinking

- If you charge your battery daily, rely on the gas gauge reading to determine battery capacity. The charging process may continue even if the gas gauge reads full. External power can be removed because the battery is fully charged.
- The indicator only blinks when the battery is very low. It is on steady when charging.
- (It's possible that the unit is "almost" charged but the gas gauge says it is fully charged. Leaving the GD6000 on external power will re-align the Gas gauge full indicator .)

My battery seems to have less and less capacity

As your battery ages, the maximum capacity that it can hold naturally decreases, and even the best maintained batteries eventually need to be retired. Consider replacing the battery if you are not getting the usage you need from it.

Display Troubleshooting

The display performance is slow

The temperature may be too cold. Move the computer to a warmer operating environment.

I can't read the display

- Increase the display brightness by pressing **FN+F7** .
- The automatic power-saving mode may have shut off (suspended) the computer. Press any key to resume from the standby state. Press the **POWER BUTTON** keys to resume from the hibernate state.
- The **Power Saver** Application may be setting the display brightness too low.

The underlined, inverse, and hypertext characters are difficult to read on the screen

FOR WINDOWS XP: Change the color scheme. From the **Start** Menu select **Settings, Control Panel**, choose **Display**, and then select the **Appearance** tab to make changes to the color scheme.

FOR WINDOWS VISTA AND WINDOWS 7: Right click on your Desktop, select **Personalize**, then **Window Color and Appearance** to change your color and style of your Windows.

I changed my display resolution, but I see no difference on the screen

FOR WINDOWS XP: Try restarting your computer for the changes to take effect. Select **Start, Shutdown, Restart** to restart your computer.

FOR WINDOWS VISTA: Try restarting your computer for the changes to take effect. Click on the **Start** Button, and point your mouse past the icon then click on the arrow, then, click **Restart** to reboot the computer.

FOR WINDOWS 7: Select **Start** and click on the arrow next to the **Shut down** menu. Then select **Restart**.

My screen seems to time out too quickly.

I have to constantly hit a key or move the mouse in order to bring it back. How can I adjust the screen time-out?

Check your power management settings.

Hard Disk Troubleshooting

The hard disk will not spin up so the computer can't boot up

This occurs if the unit is exposed to extreme low temperatures. This is not a hardware failure associated with the hard disk. Allow the computer to warm to room temperature.

Keyboard and Mouse Troubleshooting

Something unexpected happens when I press a key

You may have pressed a key combination that performs a Windows function. Make sure you are pressing the correct keys for the application you are running.

Incorrect characters appear on the screen when I press certain keys

You may be in Num Lock mode. Press **FN+F11** to toggle Num Lock mode off.

I have difficulty double-clicking the mouse fast enough

FOR WINDOWS XP: From the **Start** Menu, select **Settings, Control Panel**, and then choose **Mouse**. The **Buttons** tab contains the setting for the double-click speed.

FOR WINDOWS VISTA: Click the **Start** Button, click on **Control Panel**, locate **Hardware and Sound**, then click on **Mouse** to configure speed and other options.

FOR WINDOWS 7:

1. Select **Start, Control Panel, Hardware and Sound**.
2. Under **Devices and Printers** select **Mouse**. This will bring you to the **Mouse Properties** window.
3. On the **Buttons** tab use the **Devices** drop-down menu to select your mouse. Then you can set double-click speed.

Modem Troubleshooting*The modem doesn't work*

- When you first try to use **HyperTerminal** or similar application, the system responds with a message asking if you want to install the modem. Answer "Yes" to this question and follow the instructions on the screen to install it.

NOTE **HyperTerminal** is not available with Windows Vista or Windows 7.

- Make sure the communication settings are correct in your application. Refer to the online help for your application.

The modem doesn't dial a number

- Make sure the cables are attached correctly
- Make sure your communications parameters are correct in your application. Refer to the online Help for your application

The modem dials and receives an answer but does not establish a connection

- You may have incorrect parameters selected for your application to talk with the remote modem. Refer to the online Help for your application.
- You may need to adjust your modem's baud rate or protocol selection.

Miscellaneous Troubleshooting*The computer shuts off unexpectedly*

- The computer has entered suspend mode. Press any key to resume from the standby state.
- The computer has entered hibernate mode. Press the **POWER BUTTON** to resume from the hibernate state.
- The battery capacity may be low. Connect external power to charge the battery, or replace the battery with a fully charged one.

The speaker volume is too high or too low

Decrease the volume by pressing **FN+F8**. Increase the volume by pressing **FN+F9**.

The computer won't turn on

- The battery may not be installed properly, or it may not be fully charged. Make sure a fully charged battery is **properly installed**.
- Connect external power to charge the battery.
- If you are using the AC adapter, check the electrical outlet you are using to make sure it is actively working.
- If the GD6000 computer does not turn on, restart the computer by holding down the **POWER BUTTON** for at least 10 seconds, then release it.

The computer will not come on when the power button is pressed but the power, external power and battery indicators flash in sequence.

The unit is too cold to boot safely. Allow the unit to warm up and it will boot normally. Being connected to external power is recommended.

*The computer won't turn off***FOR WINDOWS XP:**

1. Select **Start, Shutdown, Shut down**.
2. If that does not work, press **CTRL+ALT+DEL** and then select **Task Manager**.
3. If any programs are open, use your arrow keys to highlight each one and select **End Task**. Repeat this until all programs are closed.
4. Select **Start, Shutdown, Shut down** again.
5. If that still does not work, press **CTRL+ALT+DEL** and select **Shut Down**.
6. If that still does not work, press and hold the **Power Button** for approximately ten seconds and then release it.

FOR WINDOWS VISTA:

1. Click on the **Start** Button, point your mouse past the icon and click on the arrow. This will bring up the **shut down/log off** menu. Click **Restart** to reboot the computer.
2. If that does not work, press **CTRL+ALT+DEL** and then select **Task Manager**.
3. If any programs are open, use your arrow keys to highlight each one and select **End Task**. Repeat this until all programs are closed.
4. If that still does not work, press and hold the **Power Button** for approximately ten seconds and then release it.

FOR WINDOWS 7:

1. Select **Start** and click on the arrow next to the **Shut down** menu. Then select **Restart** to reboot the computer.
2. If that does not work, press **CTRL+ALT+DEL** and then select **Task Manager**.

- If any programs are open, use your arrow keys to highlight each one and select **End Task**. Repeat this until all programs are closed.
- If that still does not work, press and hold the **Power Button** for approximately ten seconds and then release it.

The computer enters suspend mode too quickly

When there is no activity for a period of time, the computer turns off or enters suspend mode.

FOR WINDOWS XP: Use the **Power Management** program to extend this time (**Start, Settings, Control Panel, Power Management**) and increase the non-activity time to enter suspend.

FOR WINDOWS VISTA: Click on the **Start** Button and then on **Control Panel**. Locate **Mobile PC** within the **Control Panel**, then choose **Change Battery Settings**. From here, you will be in the **Power Options** program. For each plan displayed, select **Change Plan Settings** and modify the **Put Computer to Sleep** option.

FOR WINDOWS 7: Select **Start, Control Panel, System and Security**. Under **Power Options** select **Change when the computer sleeps**. Modify the **Put the computer to sleep** option.

The computer doesn't automatically suspend

- Exit any application that uses COM ports
- Make sure external power is not connected. Depending on power settings, some systems will not suspend automatically when they are connected to external power

The system date and time are incorrect

FOR WINDOWS XP: Reset the correct date and time by choosing the **Date/Time** icon from the **Control Panel** and making the appropriate changes.

FOR WINDOWS VISTA AND WINDOWS 7: Click on the **Start** Button, then go to the **Control Panel**. From here, locate the **Clock, Language and Region** setting. Under **Date and Time**, make the appropriate changes.

I receive an "out of memory" error message

- Too many applications may be running at the same time. Close applications you don't need.
- Make sure you have enough space on your hard disk (at least 15% free).
- Restart the computer.

PC Card Troubleshooting

I can't remove the PC card

- Press the ejector button located next to the PC Card Slot on the **right side** of the computer. The button will pop out. Press the ejector button again to eject the PC card. Slide the card out.
- If the ejector button malfunctions when you press it, release the button and then press it again.

Diskette Read Error

- Any card in the PC Card slot except for a properly formatted memory card will cause this error since it is trying to read the PC Card.
- The system does not recognize the PC Card CD-ROM when it is inserted into the PC Card socket
- There is a delay of 10 to 15 seconds before the CD-ROM drive is recognized.
- Drivers may not be installed.

The computer locks up when I remove the PC card

Before you remove the card, select the PC card icon in the system "tray" area of the screen (near the clock in the lower right corner), and choose "**Stop [card name] card.**"

FAQs

I've heard that cleaning up and rearranging files on the hard drive will improve the startup speed of my programs. How do I do this?

Hard disk maintenance can improve the startup speed of programs. This maintenance includes deleting unnecessary files and defragmenting to rearrange data into more efficient groupings. Windows includes utilities for performing these maintenance tasks.

How do I adjust the volume?

There are two methods to adjust the volume:

METHOD 1: Double-click the Volume Control icon on the Windows task bar. Adjusting the slide bar will adjust the volume.

METHOD 2: Press **FN+F8** or **FN+F9** to decrease or increase volume.

You may also press **FN+F10** to mute the computer.

How do I change the battery?

See the section on **Battery Installation and Removal**.

How long will the battery last?

The main Li-Ion battery lasts approximately 2.5 to 3.5 hours with normal use, depending on your configuration.

How do I change the display brightness?

- Press **FN+F6** to decrease display brightness
- Press **FN+F7** to increase display brightness

How do I clean the display?

To clean the display assembly, use a soft, dry cloth. In some cases, you can use a small amount of water to remove streaks or smears. Do not use paper products because they can scratch the screen.

How do I calibrate the touch screen?

1. Select **Start, All Programs, Touchkit, Configure Utility**.
2. Select **4 pts Cal**
3. Touch the tip of the pen to the center of each blinking symbol as they appear on the screen until calibration is complete.
4. Select **OK** to save and exit.