The cover features a white central area with a dark blue gradient at the top and bottom. The title 'GD2000 User Guide' is centered in a bold, dark blue font.

GD2000 User Guide

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Identification: GD2000

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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 between the radiator and your body.

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.

WARNINGS AND CAUTIONS

WARNING It is important that only authorized General Dynamics Itronix personnel attempt repairs on General

Notices, Compliance and Safety

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 GD2000 computer will be damaged if exposed to contaminants. When dust covers, 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 computer is applicable. The 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 must be maintained between the center of the display screen and all users/bystanders. When using the WLAN transmitter, a minimum separation distance 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 computer to comply with FCC RF exposure requirements.

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 12V DC input voltage, 4.16A.

CAUTION Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Sous la réglementation d'Industrie Canada, ce transmetteur radio ne peut fonctionner en utilisant une antenne d'un type et un maximum (ou moins) gain approuvées pour l'émetteur par Industrie Canada. Pour réduire le risque d'interférence aux autres utilisateurs, le type d'antenne et son gain doivent être choisis de manière que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas ce qui est nécessaire pour une communication réussie.

- This device complies with Industry Canada license-exempt

RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

- Cet appareil est conforme avec Industrie Canada exempts de licence standard RSS (s). Le fonctionnement est soumis aux deux conditions suivantes: (1) cet appareil ne peut pas provoquer d'interférences et (2) cet appareil doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

-

Industry Canada - Class B

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the interference-causing equipment standard entitled

“Digital Apparatus,” ICES-003 of Industry Canada.

Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: “Appareils Numériques,” NMB-003 édictée par l’Industrie. (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.”

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Sous la réglementation d’Industrie Canada, ce transmetteur radio ne peut fonctionner en utilisant une antenne d’un type et un maximum (ou moins) gain approuvées pour l’émetteur par Industrie Canada. Pour réduire le risque d’interférence aux autres utilisateurs, le type d’antenne et son gain doivent être choisis de manière que la puissance isotrope rayonnée équivalente (PIRE) ne dépasse pas ce qui est nécessaire pour une communication réussie.

L’équipement est conforme aux limites d’exposition aux RF établies pour un environnement non contrôlé. L’antenne (s) utilisée pour ce transmetteur ne doit pas être co-localisée ou fonctionnant en conjonction avec une autre antenne ou transmetteur.

RF exposure warning:

The equipment complies with RF exposure limits set forth for an uncontrolled environment.

The antenna(s) used for this transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

This device is restricted to indoor use due to its operation in the 5.15 to 5.25 GHz frequency range.

IC 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.

Ce dispositif est limité à une utilisation en intérieur à cause de son fonctionnement dans la gamme 5.15 à 5.25 GHz. IC exige que ce produit soit utilisé à l’intérieur de la gamme de fréquence 5,15 à 5,25 GHz pour réduire les risques d’interférence nuisible à la co-canal systèmes mobiles par satellite. Radars à haute puissance sont désignés comme utilisateurs principaux de l’5,25 à 5,35 GHz et 5,65 à 5,85 GHz. Ces stations radar peut provoquer des interférences avec et / ou endommager l’appareil.

Safety Information

- Do not proceed beyond a WARNING or CAUTION until the indicated conditions are fully understood and met.
- Read these instructions carefully. Following these guidelines will help prevent damage to your computer and help protect your personal safety.
- Read and follow all warnings and instructions marked on the product and noted in this documentation.
- The first time you use your computer, we recommend that you carefully read the section on Power Management to familiarize yourself with basic battery information and ensure optimum performance
- **Caution** This notebook computer is designed (only) to be used with the Manufacturer provided dedicated AC Adapter or Vehicle Adapter.
 - Unplug the computer from the power outlet before cleaning. Use a damp cloth for cleaning. Aerosols, solvents, or strong detergents are not recommended cleaning solutions and may void your warranty. For system decontamination recommendations please contact your service technician.
 - 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 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.
 - Do not slam the display lid when you close it.
 - Do not place any object on top of the computer when the display is closed.
 - 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.

Notices, Compliance and Safety

- The computer 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.
- FAA regulations require that all transmit/receive devices be turned off during flight. If you have radios in your computer (including GPS) and your computer is equipped with a radio on/off switch, please use it to turn your radios off during flight. If you have radios and you do not have a switch to turn the radios off, either leave your computer off during flight or contact your help desk for assistance.

Service and Upgrade Safety and Precautions

- Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage points or other risks and may void your warranty. Refer all servicing to qualified service personnel.
- Unplug this product from the wall outlet and refer servicing to authorized service personnel under the following conditions:
 - When the power cord or plug is damaged or frayed .
 - 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 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 media in your computer's slots or bays.
 - Remove the battery (See **Battery Removal**).
 - Remove the hard drive (See **Hard Disk Drive Removal**).

Battery Pack Safety and Precautions

- **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 promptly and according to the manufacturer's instructions.
- **WARNING!** Batteries may explode if not handled properly. Do not disassemble, open, puncture or dispose of battery packs in a fire. The battery pack could burst or explode releasing hazardous chemicals.

- **WARNING!** Keep battery packs away from children.
- Observe the safety instructions printed on the battery.
- Only use approved Lithium-Ion (extended -- 56.24Whr) battery packs with your computer and replace the battery pack only with the approved part.
- Do not abuse, deliberately pierce, or subject the battery pack to excessive impact.
- Immediately discontinue use of the battery if it appears damaged or abnormal in any way, consult your local provider for advice.
- Do not immerse the battery pack in liquid.
- Do not short together the battery connections. Do not store the battery pack with metallic objects due to the risk of short circuit.
- Battery chemical leakage is harmful. In the unlikely event of battery leakage; DO NOT TOUCH. In case of accidental contact with the eyes or skin, immediately wash with running water and seek medical advice. In the case of accidental ingestion, seek immediate medical attention.
- Dispose of used batteries according to local regulations. Recycle if at all possible.
- Avoid exposing batteries to extremely hot or cold temperatures for long periods. To prevent possible damage to the battery, the GD2000 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).
- Follow **Battery Tips** for use and storage.

Standard Parts

- GD2000 Fully-Rugged, Ultra-Mobile Notebook
- Lithium-Ion Battery (7.4V, 7.6A) (56.24 WHr) Pack
- AC Adapter and Power Cord
- Display Wipe
- GD2000 Quick Start Guide

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

- Intel® Celeron M ULV 722, 1.2 GHZ, 800 MHZ FSB Processor
- 5.61" Toshiba LTD056ETIS LED Backlit Touchscreen Display, Wide SVGA (1024 x 600)
- 1.8" Removable 64/128 GB **Solid State Disk** (SSD)
- Rugged Magnesium Case
- Backlit Full QWERTY Thumb type **keyboard** with **function keys** and **special purpose keys**
- Memory: 2 GB (support extend 4 GB)
- Hazloc: Compliance with UL1604 Class I, Division 2, Group A, B, C & D for Hazardous Locations
- **Lid Switch**: By default the display turns off when the lid is closed and turns on when the lid is opened.
- **4 Application launch buttons**: User programmable buttons
- **Micro Joystick**
- **Touchpad** and **Mouse Buttons**
- **1 USB 2.0 Port**
- **Audio Jack** 3.5mm mic/stereo headphone jack
- **Internal Speaker and Microphone**
- Microsoft® Windows® 7 Professional
- Three-year Limited Product Warranty

Optional Parts and Accessories

See the **Optional Equipment** section for the most common options or click [here](#) for a complete list of optional accessories you can purchase.

Optional Features

You can upgrade key components for 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.

- **Radio ON/OFF Hot Key**
- Integrated **Wireless LAN** (WLAN) Communications: 802.11a/b/g/n WLAN with Mini-PCI Wireless Card Support

- **Bluetooth®**
- **GPS**

Operating System Information

For information and help with Windows® XP, select **Start, Help and Support**. Under **Pick a Help Topic**, select **Windows® Basics** to open **The Windows® XP Help and Support Center**, an online orientation of the Windows® XP Operating System.

For information and help with Windows® Vista, select **Start, Welcome Center**. Under **Get Started with Windows®**, select **Show all 13 items**.

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.

Turning Off the Computer

To turn off your computer:

Windows® XP, Vista and Windows® 7: Select **Start, Turn Off Computer, Turn Off** and follow the instructions on the screen, or press the **POWER BUTTON** briefly.

WARNING Do not press and hold the **POWER BUTTON** to shut the notebook off as this may cause damage to system components.

NOTES If you are going to be away from the computer for a short time you can conserve power without shutting down. See **Power Management** and **Battery Tips** for details.

If you are unable to shut down your computer normally, follow the instructions in **Troubleshooting**.

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

Front View



#	Feature	Description
1	Display	5.61" backlit touchscreen, wide SVGA display (1024 x 600), Disable 180 degree.
2	Internal Microphone	Integrated, weatherized microphone for audio input
3	Touchpad	Use for navigation
4	Speaker	Integrated speaker for audio output
5	Micro Joystick	Thumb operated joystick for cursor control. Use for navigation like the touchpad or external mouse.
6	Insert / Del Key	Press for delete function. Press with FN key for insert function.
7	Keyboard	Standard keyboard
8	Special Keys	A number of keys designed for control of zoom function, audio, application launch, and display and keyboard brightness.
9	Unit Status LEDs	LEDs below keyboard: Unit on, AC power present, battery charging, SSD activity
10	Power On/Off	Press to power on or start shutdown. Press and hold to power off.
11	Direction Pad	Use in the same manner as arrow keys on conventional keyboard.
12	Mouse Buttons	Use in th same manner as left and right mouse buttons on a conventional
13	Radio and Wireless Status LEDs	Radio and Wireless LED Status Indicators: 802.11a/b/g/n, Bluetooth®, GPS, WLAN

Right Side View

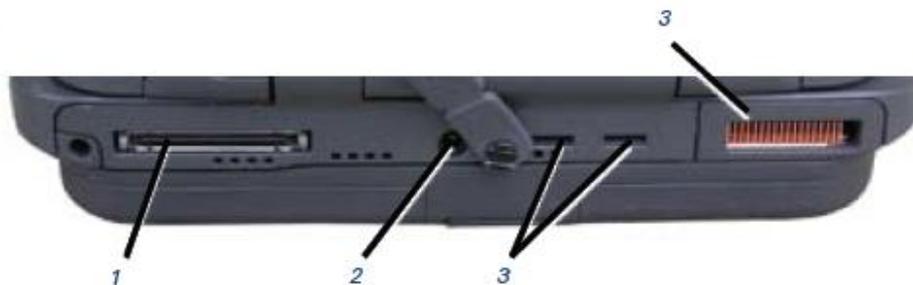


NOTE The Office Dock allows for separate audio input/output jacks.

Bottom View



Back Edge View



#	Feature	Description
1	Multi I/O Docking Connector	Connection for approved, optional Office and Vehicle Docks so you can add additional ports to the GD2000.
2	DC-In Port	Power connection for the included AC power cord. Attach the power cord here and to a 120 volt wall socket to power the unit and recharge the battery.
3	Dock Insert Tab Slots	Tab slots help hold the office dock in position.
4	Cooling Fan Outlet	Air outlet for fan. NOTE Make sure your fingers do not wrap around the back of the unit and cover the fan outlet as the unit may over-heat.

Keyboard Basics

The GD2000 keyboard includes:

- 70-key Keyboard
- **Mouse buttons**
- **Touchpad** and **Micro Joystick**
- **Direction Pad** (D-Pad)
- Dedicated **Ctrl+Alt+Del** key
- Twelve **Function Keys**
- Four **Application Launch Buttons**
- **Radio ON/OFF Hot Key** (option)
- **Multiple Special keys** for functions including display brightness, keyboard backlight, **zoom** and **audio** controls.



Keyboard Operation

Use one thumb to press the **POWER BUTTON**  at the top center of the keyboard. Once the unit is on, use your left thumb to operate the controls on the left side (such as the mouse buttons, direction pad, **ESCAPE**, **TAB**, **WINDOWS** and **ZOOM** keys). Use your right thumb to operate the controls on the right side (such as the **MICRO JOYSTICK**, **TOUCHPAD**, **BACKSPACE**, and **ENTER** keys).

For function key combinations, hold down a **FN** key with one thumb and press the second key with your other thumb. For example, to control the volume, press and hold the **FN** key with your right thumb, then press the  or  keys with your left thumb.

If you need a **CTRL+ALT+(KEY)** combination, use one thumb to press and hold the **CTRL** and **ALT** keys and the opposite thumb to press the third key. For example, when using the zoom function, press the **ZOOM** key , then press and hold the left **CTRL** and **ALT** keys with your left thumb while using your right thumb to press **M** or **N** to zoom in and out.

NOTE Press the dedicated **CTRL+ALT+DEL** special key just below the **POWER BUTTON** to activate the standard Ctrl+Alt+Delete key combination typical to desktop keyboards.

Move the cursor around the display with the **Micro Joystick** or **Touchpad**. The Micro Joystick is best for larger movements. The touchpad is best for fine control. Use the left mouse button or double-tap the **TOUCHPAD** to select objects. Use the right mouse button to open pop-up menus.

You can also move the cursor within a print document or form with the **Direction Pad**, which acts like arrow keys. Use it in combination with the **FN** keys to move across and between pages.

TIP For environments with exposure to contaminants such as dirt or grease, it is recommended you use an optional keyboard overlay. Contact your support representative to order.

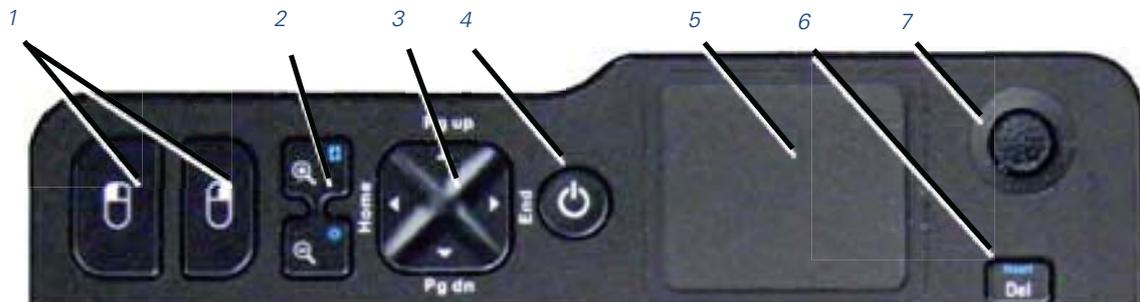
Primary Keys

Key	Description
ALT	The ALT (alternate) key is used with other keys to perform special tasks.
Bksp 	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.
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.

Key	Description
SHIFT	<p>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 (&).</p> <p>Pressing the FN+SHIFT key locks keys A through Z in the UPPER CASE position. Pressing the FN+SHIFT 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>
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.

Navigation Tools

The navigation tools above the keyboard provides several ways you can move the cursor and make screen selections.



#	Control	Description
1	Mouse Buttons	Use these buttons with the TOUCHPAD or MICRO JOYSTICK just like you would use the left and right buttons on a desktop mouse.
2	Zoom Keys	Press to increase or decrease magnification.
3	Direction Pad	<p>The direction pad provides the same functions as the left, right, up and down arrows on a standard keyboard. The direction pad arrows are defined by the software application, but generally:</p> <ul style="list-style-type: none"> ■ The UP ARROW key moves the cursor up one line. ■ The DOWN ARROW key moves the cursor down one line. ■ The RIGHT ARROW key moves the cursor to the right one character. ■ The LEFT ARROW key moves the cursor to the left one character. ■ The FN+UP ARROW key moves the cursor up one page. ■ The FN+DOWN ARROW key moves the cursor down one page. ■ The FN+RIGHT ARROW key moves the cursor to the home position. ■ The FN+LEFT ARROW key moves the cursor to the end of line position.

#	Control	Description
4	Power Button	Use this button to place the computer in standby mode or toggle it off and on. <ul style="list-style-type: none"> Press once to start the computer or put the computer into standby mode. Press and hold 5 seconds to shut the computer off. See the Power Management section for information on POWER BUTTON settings.
5	Touchpad	Move your finger across the TOUCHPAD to move the cursor. Tap on the TOUCHPAD to make selections.
6	Insert/Del Key	Press this key to delete selected words or items. Press it with the function key (FN+DEL/INSERT) to insert words or items.
7	Micro Joystick	Place your thumb or finger on the joystick and move it in the direction you want the cursor to go.

Touchpad

The built-in capacitive touchpad is a pointing device that senses movement on its surface. The cursor responds as you move your thumb or finger over the touchpad.

The buttons located on the upper left of the keyboard have the same function as a two-buttoned mouse. Press these buttons to make selections, drag objects, or perform application dependent functions.



Tap on the **TOUCHPAD** to make a selection. Move a thumb or finger up and down on the right side of touchpad or back and forth across the bottom of the touchpad to scroll.

Using the Touchpad

- Hold the GD2000 in both hands with your thumbs on the keyboard. The touchpad is easily accessible by moving right thumb over the touchpad, though you can use any finger.
- Gently move your thumb or finger across the touchpad in the direction you want the cursor to move.
- You can use the touchpad to scroll by sliding a finger up and down on the right edge of the pad or left to right on the bottom edge of the pad.

Selecting Objects

- Use the touchpad to position the cursor over the object you want to select.
- Tap the touchpad once or press the left mouse button .

Dragging

- Place the pointer over the desired object.
- Press and hold the left mouse button or tap the touchpad two times as if you were double-clicking but do not remove your

finger after the second tap.

- Move the pointer to the desired location.
- Release the button or lift your finger to finish dragging.

Adjusting the TouchPad Settings

These settings allow you to change the orientation from right-handed to left-handed, and fine-tune the pointer movement and timing of clicks.

Windows® XP:

Select **Start, Settings, Control Panel, Mouse, and Buttons**.

Windows® Vista and 7:

- Select **Start, Control Panel, Hardware and Sound**.
- Under **Devices and Printers** select **Mouse**. This will bring you to the **Mouse Properties** window.
- On the **Buttons** tab use the **Devices** drop-down menu to select **Synaptics TouchPad V7.2 on PS/2 Port 1**. Now you can choose TouchPad settings for the way you work.

The Synaptics TouchPad can also be accessed via the  icon in **System Tray**.

Touchpad Precautions

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

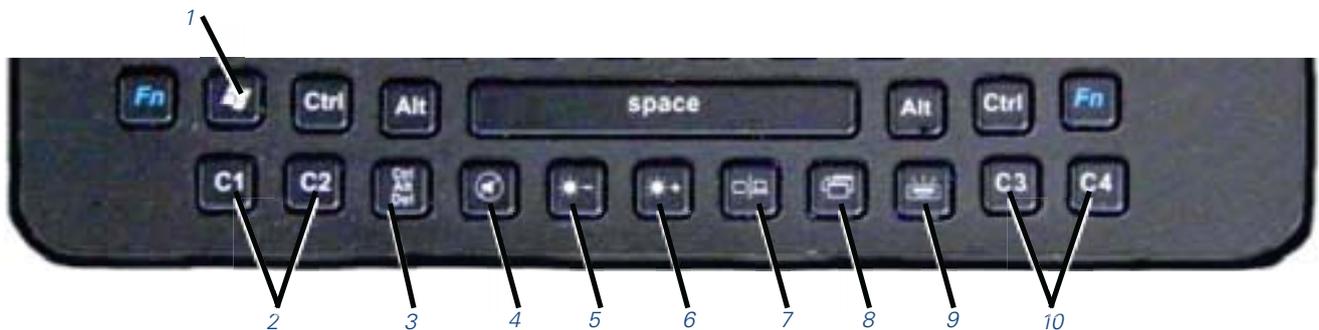
- Avoid contact with dirt, liquids or grease.
- Do not rest heavy objects on the touchpad or the touchpad buttons.
- Keep your fingers dry and clean when using the touchpad and keep the touchpad dry and clean.
- The touchpad is sensitive to finger movements. It responds best to light touches. Tapping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

Function Keys and Key Combinations

When using function keys, press and hold one of the **FN** keys, then press the other key in the key combination.



Function Key	Function	Description
FN+F1	Help	Opens the Microsoft Help and Support Center .
FN+F2 to F12	Application Specific Functions	Selects functions within software applications. Refer to application help for information about function key combinations.
FN+BKSP	Break	Use FN+BKSP as you would use the BREAK key on any PC.
FN+P	Print Screen	Prints the current screen.
FN+P+ALT	Print Window	Prints the current active window.
FN+ESC	Pause	Pauses and resumes an application. Press once to pause. Press again to resume.
FN+ Q	Audio Volume Up	Increases the audio volume
FN+ A	Audio Volume Down	Decreases the audio volume
FN+R	Radio on/off	Turns all wireless functions on/off (option with any radios).
FN+SHIFT	Caps Lock	Locks/unlocks keys A through Z in the UPPER CASE position. Press once to lock. Press again to return the letters to lower case. While in the upper case mode, press the SHIFT key for lowercase characters. 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 activate. The Caps Lock LED  lights when the keyboard is in Caps Lock mode.
FN+INSERT/DEL	Insert	Inserts text in documents and applications.



Special Keys

The keyboard has several keys that perform special functions, providing ease of use with the GD2000’s compact keyboard.

#	Key	Icon	Description
1	Windows® Logo Key		START button. Combinations with this key perform special functions, including the following: Ⓜ + 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.
2	C1 & C2	C1 C2	Application Launch Buttons. Automatically opens a pre-defined application.
3	Ctrl+Alt+Del		Special Key used instead of standard CTRL+ALT+DEL on desktop keyboard. For Windows® Vista: Press to activate sequences of Locking the computer, Switching User, Log Off, Change a Password, or Start, Task Manager. For Windows® XP, press to activate the same choices but in a dialogue window.
4	Audio on/off		Turns the audio speaker off/on.
5	Display Brightness Up		Increases of the display brightness.
6	Display Brightness Down		Decreases display brightness.
7	Display / Monitor Switch		Switches between the GD2000 LCD display and an external monitor. An external monitor may be added using the Office Dock.
9	Window Focus		Moves foreground window back and places focus on next active window.
8	Keyboard Backlight on/off		Turns the keyboard backlight off and on.
10	C3 & C4	C3 C4	Application Launch Buttons. Automatically opens a pre-defined application.

Radio ON/OFF Hot Key (option)

CAUTION FAA regulations require that all transmit/receive devices be turned off during flight.

The wireless **RADIO ON/OFF HOT KEY R**  toggles the power on and off to all radio devices (including GPS, Bluetooth®, WLAN, and WWAN radios).

If you have one or more radios (including GPS) in your computer, use the **RADIO ON/OFF HOT KEY** to turn your radios off during flight. If you have radios and you do not have a switch to turn the radios off, leave your computer off during flight.

To Turn all Radios on or off

1. Press **FN+R**  to power off all radio devices (airplane mode).
2. Press **FN+R**  again to turn radio power on.

Application Launch Buttons

Once programmed, press each application launch button to start the associated application. The application launch buttons are marked **C1, C2, C3,** and **C4** below the keyboard.

To program the Application Launch Buttons

1. Select **Start, All Programs, Mobile Computer Tools, Configure On-Screen Display, C1, C2, C3, and C4 Settings**
2. Select the **C1, C2, C3, or C4** tab on the **OSD Configuration** screen.
3. Use the drop-down menu to select an application to associate with the launch button.
4. Click **Test** to test if the application will run; then click **OK** to accept the application.

NOTE If the application you want to run is not in the drop-down menu: click the **Add** button next to the **Current Selection** field to display the “**CustomExePrompt**” screen.
5. Click the **Browse** button to display the **Open file** screen.
6. Find the application you wish to call with the **APPLICATION LAUNCH BUTTON** and select it.
7. Click the **Open** button and enter a name for the application you selected. Then press **OK**.

Zoom Keys

Zoom is an application that enlarges items on the display for better viewing. The **ZOOM KEYS** are above the keyboard between the mouse buttons and the direction pad. Press the **ZOOM KEYS** to increase or decrease magnification. When Zoom is active, use the following **CTRL+ALT+{KEY}** combinations to access **Zoom** commands:



Key Combination	Function	Description
CTR+ALT+M	Increase magnification	Press and hold the CTRL+ALT+M key combination to increase the magnification (the magnifier multiplier displays in the lower right corner of the window or screen).
CTR+ALT+N	Decrease magnification	Press and hold the CTRL+ALT+N key combination to decrease the magnification (the magnifier multiplier displays in the lower right corner of the window or screen).
CTRL+ALT+F	Switch between full screen and cursor mode	Switches between magnification of the full screen and cursor mode (a small, but expandable window area).
CTRL+ALT+Q	Toggles the magnifier on/off	Press CTRL+ALT+Q to launch or close the magnifier.
CTRL+ALT+U	Launch custom setting user interface	Press CTRL+ALT+U to launch the user interface to set the startup properties of the magnifier.

Display

Active Lid Switch

The active lid switch automatically places the computer in stand-by when you close the display lid. It resumes when you open the display. The active lid switch is a magnet that holds the unit together when closed.

To close the display lid, fold it down gently until you hear a click.

Lid Switch Power Management Settings

For Windows® XP:

1. On the **System Tray** area of the **Taskbar**, right-click the **Power Saver** icon ( or ).
2. From the menu, select **Adjust Power Properties**.
3. Select the **Advanced** button.
4. Select what you want to happen when you close the display lid:
 - **Do Nothing**
 - **Stand By** (default)
 - **Hibernate**
5. Check the **Wake up** box if you want the computer to resume when you open the display lid.
You can also click on the **Start** button, **Control Panel**, **Mobile PC**, **Power Options**. From the choices on the left-hand side of the screen, click on **Choose what closing the lid does**. Under **Power button and lid settings**, select **actions** from the drop-down menus.

For Windows® Vista:

By default the **Active Lid Switch** is set to **Sleep** when closing the lid. To change this settings do the following:

1. On the **System Tray** area of the **Taskbar**, right-click the **DynaPower** icon .
2. From the sub-menu that displays, click on **DynaPower Power Grid**. You will see the **Power Plan** selected for the battery and the AC adapter at the top of the grid. From the choices on the left-hand side of the screen, scroll down until you see **Power buttons and lid**.
3. From the drop-down menus you can specify the action to take when you open and close the lid, press the **POWER BUTTON**, press the **SLEEP BUTTON**, and click on the **Start** menu power button.

NOTE The color-coded legend at the bottom of the **Grid** shows power usage.

You can also click on the **Start** button, **Control Panel**, **Mobile PC**, **Power Options**. From the choices on the left-hand side of the screen, click on **Choose what closing the lid does**. Under **Power button and lid settings**, select **actions** from the drop-down menus.

For Windows® 7:

1. On the **System Tray** area of the **Taskbar**, right-click the **DynaPower** icon .
2. At the top of the grid, select the appropriate **Power** plan.
3. Select the desired action settings for both battery or AC power.
4. In the **Power buttons and lid** section, select the **Lid Open Action** and **Lid Close Action**.
5. Select **Save Changes** and repeat steps 2 through 4 until all power plan settings you wish to modify.

NOTE The **Lid Close Action** default is **Standby** for Windows® XP and **Sleep** for Windows® 7. The default **Lid Open Action** is **Do Nothing**.

Adjusting Display Brightness

Use the display brightness keys to adjust brightness.

Automatic Dim Feature

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

NOTE You may still manually adjust display brightness.

See **Managing Power** for more information.

To Enable or Disable Automatic Dim

1. Restart the computer by selecting **Start, Turn Off Computer, Restart**.
2. Press **ENTER** during boot up to open the **Setup Utility**.
3. Select **Launch System Setup** menu.
4. Use the **RIGHT ARROW KEY** to select the **Advanced** screen.
5. Use the **DOWN ARROW** to select **Auto Brightness Control** and press **ENTER**.
6. Use the **DOWN ARROW** to select **Auto DIMMING** and press **ENTER**.
7. Choose **Enabled** or **Disabled** and press **ENTER**.
8. Press **ESC** to save this setting and exit **BIOS Setup**.

Adjusting Display Resolution

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 **Screen Resolution** slide bar to adjust the resolution. Normally, you should use the resolution suggested for the display or monitor.

NOTE Using a lower resolution than the screen was designed for will reduce the area of the display. Higher resolution modes may be used, as long as the monitor supports them.

Touchscreen Calibration

With the outdoor viewable DynaVue®, you can start programs and input data on the touchscreen using the provided pen (stylus).

DynaVue® provides greater visibility in all outdoor lighting conditions without reducing battery performance. It also provides balance between display brightness and contrast ratio, increases contrast, provides rich color and improves visibility of fine details. It is less susceptible to heat damage and has the same optimal performance on or off dock while keeping the unit's overall weight to a minimum.

To Calibrate the Touchscreen

1. Use the pen (stylus) provided with the touchscreen display.
2. Select **Start, All Programs, Mobile Computer Tools, Touchscreen Calibration**.
3. Open **Touchscreen Calibration** link and following the onscreen instructions to calibrate the touchscreen.

Simultaneous or Extended Display

You can use the computer's multimedia capabilities in conjunction with an external monitor or video device. The optional **Office Dock** or **Expansion Module** allows this computer to support simultaneous LCD and external display output via the external monitor port. You can also connect other output display devices such as LCD projection panels for large-audience presentations. See **Attaching an External Monitor or Video Device** for more information.

Once the external display device is attached, simply press the Display/Monitor Switch  on the keyboard.

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 notebook's display. To set this up:

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

Display Tips

Always close the display lid when in a moving vehicle to decrease vibration effects. Vehicle vibration can be amplified up through the display when it is open, which can lead to accelerated hinge wear.

Screen Cleaning:

The computer display, with proper usage and cleaning, will last for the anticipated field life of the product (3 to 5 years) without significant degradation in view-ability or function.

- For mild cleaning tasks use the micro-fiber cleaning cloth provided with your unit. Tougher contaminants such as oily fingerprints may require light dampening with clean water. Try this method before trying stronger solutions.
- For tougher cleaning tasks, use the cleaning cloth with an equal (50/50) mixture of isopropyl alcohol and water (50/50).
- Never use paper products such as paper towels or wipes to clean the display surface. Paper products are abrasive and act much like fine sandpaper, causing irreversible damage to the screen surface and anti-glare hard coat.
- Replacement cleaning cloths and approved display cleaning solution are available as optional field kits. Contact your support representative to order.

Screen Overlay:

A screen overlay is recommended for environments with high contaminant potential. Remove contaminants from its surface following the display cleaning methods noted above. A screen overlay:

- provides protection from damage caused by foreign objects or surface contaminants and maximized the useful life of the screen surface.
- is replaceable if worn, scratched, or otherwise damaged.
- has minimal impact on display brightness and readability.
- is available as an optional field kit. Contact your support representative to order.

Touchscreen Stylus:

- If your computer has the optional, integrated touchscreen, use the included stylus.
- Never use foreign objects such as ball point pens or hand tools for touchscreen input; they will cause damage to the screen surface.
- You may use a clean finger tip for touchscreen input. However, fingertips may introduce contaminants to the touchscreen surface and increase periodic screen cleaning requirements.
- Contact your support representative to order stylus replacements.

NOTE You can order available field kits through by contacting the **Client Care Center** (CCC) at 800-638-9270, option 2. Access to the iCare Servenet Portal requires a Username and Password. Portal access will be setup upon request.

LED Status Indicators

The activity indicators, located above the keyboard and in the display hinge, light up when a particular function of the computer is active. Each indicator is marked with an icon.

Radio and Wireless Status LEDs

Display Hinge LEDs - visible at the bottom of the display indicate active installed radios: 802.11ABG, Bluetooth®, GPS, Wireless WAN.

#	Icon	Function	LED	Description
1		802.11 ABGN	Lit	One or more installed radios are ON
			LED off	All installed radios are OFF
2		Bluetooth®	Lit	Bluetooth® is ON
			LED off	Bluetooth® is off
3		GPS	Lit	GPS ON
			LED off	GPS is off
4		Wireless WAN	Lit	WAN ON
			LED off	WAN Off

Unit Status LEDs

The LED Status Indicators below keyboard.

#	Icon	Function	LED	Description
1		Power	Lit	Power is ON
			Flashing	Suspend to RAM
2		External Power	Lit	External power is connected to the unit
3		Battery	Lit	Battery charging (when external power is connected)
			Flashing	Low Battery (below 7% charge)
			Quick Flash	Indicates a problem with the battery such as: over discharged, or EC is using pre-charge
			LED off	When battery is not charging (include battery full, battery discharge, and no battery etc)
4		Disk Status (HW)	Lit	The hard disk drive is being accessed

Caps Lock LED on Keyboard

#	Icon	Function	LED	Description
1		Caps Lock	Lit	The keyboard is in Caps Lock mode

Audio

Your computer includes a single speaker audio output and an integrated microphone. The speakers are located above the display. The microphone is on the front left of the computer.

You can also attach external audio devices via the 2.5mm audio headset jack on the **right side** of the computer.

To Adjust the Volume

- To decrease volume, press Fn+
- To increase volume, press Fn+
- To mute the volume, press 

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.

Solid State Drive (SSD)

The hard drive in the GD2000 is a removable shock-mounted 1.8-inch SSD.

To remove the SSD

1. Save and backup any work, then shut down the computer.
2. Open the SSD release latch located on the right side of the computer.



3. Grasp the SSD release latch and gently pull the door open.



4. Slanting the unit, gently pull on the SSD bar.



5. Once the drive is projecting from the GD2000, grasp it gently and pull it straight out, away from the unit.



To insert a hard drive

1. Line up the hard drive and slide it into the SSD slot.

CAUTION Keep the drive straight and press gently to avoid damaging the exposed hard drive connector pins.



NOTE If an expansion module is included, its hard drive is also accessible (See [Optional Equipment and Accessories](#)).

Hard Drive Care

You can reduce the risk of damage to the hard drives and increase their reliability and data integrity by following these recommendations:

- Do not intentionally drop the computer. The unit is designed to withstand the day to day rigors of the mobile environment and provide years of reliable service. The useful life of the product can be enhanced by not intentionally abusing the unit.
- Before moving the computer it is recommended you turn it off and close the display lid.
- Maintain the debris protection of the computer by keeping all external access doors closed and latched.
- Periodically **backup** or archive important files and data.

Computer Security

Your computer includes several different security features to help prevent theft and protect data. These include multiple levels of password protection, an optional fingerprint scanner, **Stealth mode** and optional **Trusted Platform Module V1.2 (TPM)**.

BIOS Level Passwords

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

You can set two types of passwords:

- 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.

NOTE Do not forget to set your password. If you forget your password, please get in touch with your dealer or an authorized service center.

NOTE To prevent unauthorized access and protect your data, if someone enters an incorrect password three times in a row the computer will lock. To unlock it, authorized personnel must contact the Customer Service Department for instructions.

See the [BIOS Setup Utility](#) section for more information.

Stealth Mode

Your computer has a **stealth mode** feature for users who may need to use it where light, sound or radio transmissions could be dangerous or disruptive, such as a military or public safety user. Enabling stealth mode allows you to disable sound and lights (such as system beeps, the fan, and the display backlight) and wireless radio features. Refer to the [BIOS Setup Utility](#) section for configuration information.

Trusted Platform Module (TPM)

TPM is only available if you have the optional **Expansion Module** installed. 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.

Ports and Connectors

Ports and Connectors	Connection	Location
Slice Connector	Compatible with the USB slice	Button Side
USB 2.0 Port	USB peripherals such as a mouse, printer or optical disk drive	Right Side
Cooling Fan Outlet	None	Back Edge
Multi I/O Docking Connector	Compatible with the office or vehicle docks	Back Edge
DC-in	AC adapter (power)	Back Edge
Dock Insert Tab Slots	Tab slots help hold the office dock in position	Back Edge
Audio In/out	3.5mm audio in/out	Right Side

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 **Power Saving Settings** section to make the most efficient use of those features.

Your computer is equipped with a full array of ports and connectors, offering advanced communications technology. Before connecting any peripherals, read all related operation and safety instructions.

To add connectivity, you may purchase a **Vehicle Dock** or **Office Dock**, or an optional, factory installed **Expansion Module**.

Attaching Power

Your GD2000 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 (using your existing AC Adapter).

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

CAUTION Only use the provided dedicated AC Adapter or Vehicle Adapter to power this computer.

To Attach AC Power:

1. If the computer has a dust cover over the back edge connections, pull it back and rotate it to the side.
2. Connect the AC adapter power cord to the AC adapter.
3. Connect the AC adapter to the DC power port on the **side** of your computer.

NOTE Push the DC jack firmly into the computer until it "clicks."

4. Connect the AC adapter power cord to a properly grounded AC outlet.

NOTE It is recommended you plug the AC adapter into a quality **surge protector**.

Using the (optional) Office Dock

1. Attach the Office Dock to the back of the computer.
2. Attach the power supply to the DC-in jack on the right side of the dock. The power LED lights and the battery automatically begins charging when properly connected and powered.

NOTE At ambient temperature, around 20°C (68°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.



Using the (optional) Vehicle Adapter

1. Attach the vehicle adapter to the DC-in jack on the back of the computer.
2. Attach the 12V (cigarette lighter) adapter to the vehicle's 12V socket, turning it slightly to make a good connection.

CAUTION The vehicle adapter is not designed for continuous use. It is a convenient, temporary power source for. For extensive vehicle use and permanent installations, wire the (fused) vehicle charger adapter directly to the vehicle power supply. For additional information regarding permanent installation, contact your sales representative.

3. The power LED lights and the vehicle adapter automatically begins charging the computer's battery when properly connected. At moderate temperatures, around 20°C (68°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.

NOTE As the battery temperature approaches the ends of its temperature range (5°C/ 41°F to 50°C/122°F), it may take longer to charge the battery.

CAUTION Avoid exposing batteries to extremely hot or cold temperatures for long periods. To prevent possible damage to the battery, the GD2000 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 a universal serial bus (USB) 2.0 port on the **right side** of the computer. This enables you to attach various devices such as a keyboard, mouse, scanner, or printer. USB devices can be chained together on a single cable.

NOTE The office dock provides two additional USB 2.0 ports.

External keyboard or pointing device

You can connect an external USB keyboard, mouse or other pointing device to the USB port.

Attaching Audio Devices

Connect a stereo headset or microphone to the 3.5mm audio jack on the right side of the computer.



NOTE Separate audio input and output jacks are available with the Office Dock.

External Monitor or Video Device

The Office Dock has a VGA monitor port (Video Out) so you can connect 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

1. Connect the video signal cable or VGA adapter to the external monitor port on the back of your office dock.



2. Connect the power cable from the external monitor to a power outlet and turn on the monitor.
3. Read the monitor's manual for additional instructions.

Using Simultaneous Display

Your computer takes advantage of Windows® dual-display capability, allowing you to use your computer for presentations. To use simultaneous display, connect an external display device to the office dock's external monitor port. You can then toggle the display output location by pressing  . It will output to your computer's display, the attached external display, or both displays simultaneously. Keep pressing   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 notebook's display.

For Windows® XP

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

Port Covers and Doors

Inspect for broken, loose or missing parts and fasteners. Missing port covers or doors create contaminant entry points which may lead to system failure.

Replacement port covers are available as field kits. Contact your support representative to order.

Your GD2000 supports up to three integrated radios and GPS for superior wireless communication (One radio per category listed below).

- Wireless Local Area Network (WLAN)
- Wireless Wide Area Network (WWAN)
- Bluetooth®
- Global Positioning System (GPS)

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).

If you have the radio ON/OFF option, press **FN+**  to power off all radio devices (airplane mode).

CAUTION FAA regulations require that all transmit/receive devices be turned off during flight. If you have radios in your computer (including GPS) and your computer is equipped with a **RADIO ON/OFF** switch, please use it to turn your radios off during flight. If you have radios and you do not have a switch to turn the radios off, either leave your computer off during flight or contact your help desk for assistance.

WLAN radio (option)

Your computer may include 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.

Bluetooth® (option)

About Bluetooth®

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 GD2000 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 (ie: audio, printer, keyboard, mouse). However, obstructions such as

walls do degrade the signal and reduce its range.

NOTE Due to the compact nature of the GD2000, only two internal USB ports are currently available to accommodate different configuration options. The Bluetooth®, touchscreen and fingerprint scanners all use internal USB ports, so you can only pick two of these options in a single unit.

WWAN (option)

If you ordered the WWAN option, there will be an extension on the display lid as illustrated by #2 below. (This image also shows an optional GPS antenna - #1.)



NOTE All WWAN radios are backwards compatible to support slower technologies to provide the greatest possible coverage to the user.

HSPA

High-Speed Packet Access (HSPA) 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. HSPA deployments/cards/modules can support 1.8 Mbps, 3.6 Mbps, 7.2 Mbps and 14.4 Mbps in downlink mode and 2.0 Mbps and 5.7 Mbps in the uplink mode.

EDGE/GPRS/GSM Network

The Enhanced Data Rates for Global Evolution (EDGE) network allows users to transfer data with download speeds up to 237 Kbps (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 Rev. 0/1xRTT/CDMA

EV-DO RevA

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 Rev0

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)

About GPS

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. If your unit is equipped with GPS, there will be an extension on the display lid like the one below.



Improving Radio Coverage

Wireless connectivity between your computer 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

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

On the Street

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

Inside a Building

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

Electromagnetic Interference (EMI)

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.

Look for significant sources of electromagnetic radiation. Problems may emanate from a source between your location and the radio base station.

Antennas

The GD2000 has several embedded antenna options to support wireless communications. They require no user action.

CAUTION Use only the supplied or an approved antenna(s). 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 GD2000 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 located internally in the upper right and left edges of the display screen and are not to be modified. This device may contain 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 edge 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).

The computer operates on AC or battery power. This section explains how your computer manages and conserves power and details important information for the times you will use it on battery power.

Be sure to read the **Battery Safety and Precautions** section.

The Battery

- The computer uses a “smart” Lithium-Ion (standard - 59WHR) battery to provide long battery life.
- The battery’s temperature sensor and memory device store information, such as how much charge is left and how many times it has been recharged.
- The battery alarm beeps or displays a warning on your screen when battery power is critically low. Save your work and recharge the battery when this happens.
- To see how much battery power remains, move the cursor to the **Power Saver** icon ( or ) in the **System Tray** area of the **Taskbar**. The status will show in a pop-up when you hover your cursor over the icon.
- Whenever possible, use the AC adapter. It is also advisable to have an extra fully-charged battery available as backup.

Using a battery for the first time

Before using a battery 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. Remove the battery if the computer will be stored for more than two weeks.

Battery and Temperature

The battery is most efficient at room temperature, 20°C (68°F). While it operates in a wide temperature range, battery capacity is affected by higher or lower temperatures. However, storing Li-Polymer or Lithium-Ion batteries at low temperatures reduces aging effects.

Temperature	Approximate Available Capacity
0°C (32°F)	80%
20°C (68°F)	100%
45°C (113°F)	100%

NOTE While the battery may not provide 100% capacity at temperature extremes, its capacity returns to normal when its temperature normalizes around 20°C (68°F).

Battery Calibration

Over time, as the battery is repeatedly drained and recharged, battery runtime may decrease. Calibrate the battery the first time you use it and then periodically for maximum performance.

The calibration process empties and charges the battery. This allows the Windows® battery gauge to accurately monitor battery status. An accurate gas gauge enables the computer to warn you about a low battery before any data is lost during a low battery critical shutdown. It also allows you to detect when batteries have reached the end of their useful life.

Battery calibration will take up to 8 hours, depending on how much power the battery already contains.

When to calibrate the battery:

- The first time you use it
- After it has been in storage
- If the gas gauge has become inaccurate
- Every three months for optimum performance

Windows® XP Battery Calibration

1. Select **Start, All Programs, and Mobile Computer Tools**.
2. Select **Battery Calibration**.

Windows® Vista Battery Calibration

1. Right click on the **DynaPower** icon  in the **Taskbar**.
2. Select **DynaPower Battery Calibration** from the menu on the left side of the screen. The **Calibration window** will display, 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.

BIOS Level Battery Calibration Process

NOTE BIOS level calibration may not be available with all General Dynamics Itronix computers. Use the Windows® Battery Calibration utility for models not equipped with a BIOS calibration option.

1. Plug in the AC adapter and restart the computer.
2. When the initial startup screen appears, press either the **DEL**, **F2** or **ENTER** keys to enter the **CMOS Setup Menu**.
3. Select **Battery Calibration** and press **ENTER**.

NOTE The AC adapter and battery must be installed to continue.

4. Select the **Primary** or **Secondary battery** (if equipped), then press **ENTER**. This will start battery calibration.

NOTE Battery calibration takes from 10 to 16 hours, depending on charge level prior to start of the calibration. Beginning calibration with batteries at or near full charge will significantly shorten overall calibration time.

5. When the calibration process has completed a message will display asking you to reboot the computer. Please reboot the computer.
6. At the initial startup screen again press either the **DEL**, **F2** or **ENTER** keys to enter the **CMOS Setup Menu**.
7. Select **Battery Calibration** and press **ENTER**. Calibration results, including completion date and capacity, will display. If the capacity is less than 70% of the battery's rated capacity found on the label of the battery, order a replacement.

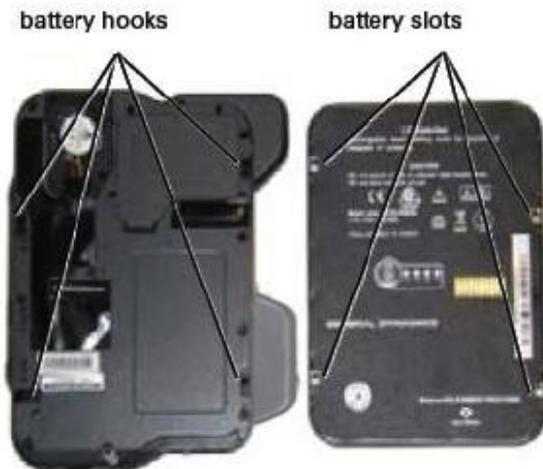
Installing and removing the battery pack

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

To Install the Battery:

Close the display and turn the computer over so that the computer is resting on the closed display.

1. Line up the four slots on the battery with the battery hooks on the GD2000. The hooks are offset, so the battery only seats one way.

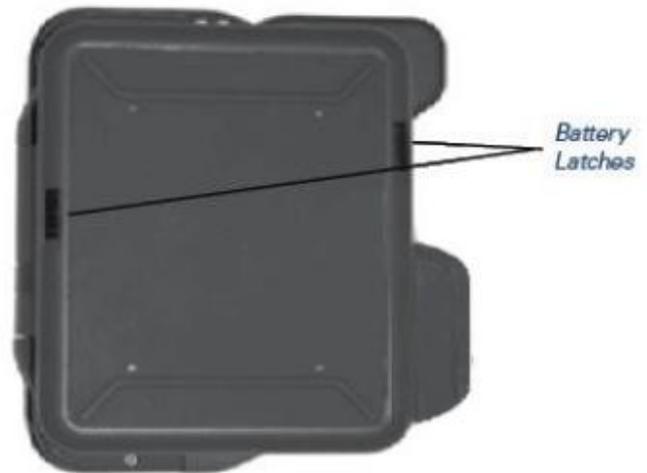


2. Press straight down on the battery until it clicks into place. **NOTE** The battery latches should automatically click into place. If they do not, slide them to the left to secure the battery as pictured.
3. Attach the AC adapter to the power jack on the computer and connect to AC power.

To turn on the GD2000, press the **POWER BUTTON** which is located above the keyboard.

NOTE If the computer doesn't power on, restart it by holding down the **POWER BUTTON** for 4-10 seconds.

If a login password has not been assigned to you, click **OK** or press **ENTER** at the login prompt to continue.



Battery Charging

When you use the AC adapter to connect your GD2000 to a power outlet, the battery begins to recharge automatically. While charging, the **Battery Power Indicator**  is lit. When the battery is fully charged, it turns off.

If your computer is turned off or suspended to RAM, a fully discharged battery takes about 4 hours to recharge. If your computer is turned on and is not suspended, it may take four to six (4-6) hours to recharge the battery.

	Charging	Discharging
System On	4-6 hours	4-5 hours
System Off (suspend to RAM)	2.5 hours	—

NOTES A fully charged LI-Polymer battery can power the GD2000 for approximately four to five (4-5) hours, depending on usage patterns.

Battery charging is disabled below 32° F (0°C) and above 113° F (45°C) to protect the lithium ion cells in the battery.

TIPS

- Partial discharge/charge cycles are preferred compared to draining the battery completely and recharging.
- Connect AC Charger, Vehicle Dock, or Vehicle Power Adapter whenever possible and at the end of each work day.

When to Replace the Battery

Over time the battery's capacity gradually decreases. Replace your battery if it no longer provides 80% of its original rated capacity.

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.

Heat Considerations

The computer's processor is designed to consume as little power as possible. However, working in a hot environment or working for long periods may raise the temperature. Your computer takes the following steps to lower temperature:

1. The cooling fan turns on. You may hear the fan and feel air coming from a vent on the left side of the computer.
2. If the temperature continues to rise, processor activity is reduced. You may notice a slight loss of performance.
3. To prevent damage, if the computer gets too hot, the processor stops and the computer shuts down.

Monitoring Battery Power

For Windows® XP:

To see how much power the battery has left, move the cursor to the **Power Saver** icon ( or ) in the **System Tray** area of the **Taskbar**. The status will show as a pop-up when you mouse-over the icon. Right-click on the icon to use the **Power Saver** utility to manage battery power.

For Windows® Vista:

There are several ways to monitor your battery power.

- Hover your mouse over the battery icon  in the **Taskbar** to see how much battery power you have remaining.
- To configure and monitor your battery settings, use the **DynaPower** utility in your **Taskbar**. Right-click on the **DynaPower** icon in the **System Tray** area of the **Taskbar**, then on **Windows® Mobility Center**. Under **Battery Status**, click on the drop-down menu to choose a power plan: **Balanced**, **Power Saver**, or **High Performance**. Click on the red X to save your changes and close the window.
- You can also configure your battery settings by right-clicking on the battery icon  in the **System Tray** area of the **Taskbar**. A sub-menu will display. Click on **Power Options** to select a **Windows® Power Plan: Balanced, Power Saver, or High**

Performance. You can click on Change plan settings under each option to edit a power plan.

For Windows® 7:

To see how much power the battery has left, move the cursor to the **Power Saver** icon ( or ) in the **System Tray** area of the **Taskbar**. The status will show as a pop-up when you mouse-over the icon. Right-click on the icon to use the **Power Saver** utility to manage battery power.

Low Battery Alarms

CAUTION When battery power is low the alarm beeps or displays a warning on your screen. Take immediate action to avoid data loss by saving files and connecting to AC power.

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.

To set or change low battery alarms, do the following:

For Windows® XP:

Select **Start, Settings, Control Panel, Power Options, Alarms**.

Two different power alarms can be enabled or disabled: the **Low Battery Alarm**, and the **Critical Battery Alarm**. Use the slide bar to set the power level at which the alarms are activated. Select the **Action** button to choose whether the alarm sounds, displays a message, or both.

For Windows® Vista:

Right-click on the **DynaPower** icon  in the **Taskbar**, then click on **DynaPower Grid**. Using the scroll bar, scroll to the bottom of the Grid until you see Battery. Use the slide bars and drop down menus to set low and critical battery action and notification levels.

For Windows® 7:

Select **Start, Settings, Control Panel, Power Options, Alarms**.

Power Saving Settings

For Windows® XP: For Windows® XP:

Your computer comes with a utility, **Power Saver**, to build upon the operating system's power management capabilities. It is

recommended that you use **Power Saver** rather than the Power Management utility located in the **Control Panel**. **Power Saver** works with the Windows® XP operating system only.

When on external power, **Power Saver** provides two profiles: **Docked** and **Normal**. When on battery, it provides another two profiles: **Max Life** and **Normal**. You can easily toggle between the **Max Life** and **Normal** battery profiles by pressing **CTRL+SPACE**.

There is also an option to keep the computer awake, while at the same time, saving battery power. To configure **Power Saver** settings for Windows® XP

1. On the **System Tray** area of the **Taskbar**, right-click the **Power Saver** icon .
2. Choose any of the power saving options to configure your power plan on the sub-menu.
3. You can also manage power settings when your computer is on AC power. Left-click on the **External Power** icon  in the **Taskbar** tray. This will display a sub-menu to configure power options while your computer is plugged in. Click on one of the options to configure external power settings.
4. Right-click on the external power icon . This will display two options: Adjust **Power Properties** or **Open Power Meter**. Click on **Open Power Meter** to display how much power the batter has left.

Power Saver Icons	
Icon	Description
	The computer is on battery power and set to use the Max Life battery profile.
	The computer is on external power and set to use the Docked plugged in profile.
	The computer is on battery power and set to use the Normal battery profile.
	The computer is on external power and set to use the Normal plugged in profile.
	The computer is on battery power and set to Stay Awake . This setting overrides any settings that cause the computer to inactivity suspend, hibernate or turn off the display. It may shorten your battery life and should only be used temporarily.
	The computer is on external power and set to Stay Awake . This setting overrides settings that cause the computer to inactivity suspend, hibernate or turn off the display.

For Windows® Vista:

DynaPower is the utility for the Windows® Vista operating system. **DynaPower** is a power management and battery calibration tool wrapped up in one utility. **DynaPower** does not run on Windows® XP. To configure **DynaPower** settings for Windows® Vista:

- Use the **DynaPower** utility. Left-click on the **DynaPower** icon  in the **Taskbar** and choose a power plan from the drop-down menu: **Power Saver, Balanced, or High performance**.
- You can also use **Automatic Power Plan Switching**. This will set your machine to automatically change power plans when you plug in or unplug your unit. For instance, you may wish to always run in the "**Power Saver**" plan when you are unplugged from AC power, and to always run in the "**High Performance**" plan when you are plugged in. Clicking on this command to configure **Automatic Power Plan** settings.
- Click on the **Start** Button, scroll past the power icon and padlock icon, then click on the arrow to display the **Shut Down** menu. Click on **Sleep, Hibernate** or **Shut Down** to manually enter any of the low-power states.

For Windows® 7:

1. On the **System Tray** area of the **Taskbar**, right-click the **Power Saver** icon .
2. Choose any of the power saving options to configure your power plan on the sub-menu.

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.

NOTE For more information on managing power using Windows® XP, 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. From the **Power Saver** or **DynaPower** utilities, you can configure the **POWER BUTTON, SLEEP BUTTON (FN+F3)** and **LID SWITCH** to initiate any of the low-power states.

Standby/Sleep

Most system devices 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.

For Windows® XP: Select **Start, Turn Off Computer, Standby** to enter **Standby/Sleep** mode.

For Windows® Vista and Windows® 7: Select **Start** and click on the arrow next to the Shut down menu. Then select **Sleep** to enter **Standby/Sleep** mode.

Hibernate

Hibernate, or **Suspend to Disk**, is similar to **Standby** except the current state of the computer is copied to the hard disk in a special file. Then, 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.

For Windows® XP: On the **System Tray** area of the **Taskbar**, right click the **Power Saver** icon, then select **Configure Power Settings** and make your desired changes.

For Windows® Vista and Windows® 7: On the **System Tray** area of the **Taskbar**, right click the **DynaPower** icon, then select **DynaPower Grid** and make your desired changes.

Power Off

All applications are closed and the system shuts down. To power off the computer select **Start, Shut Down, Shut down**. Then click OK.

Power Button Settings

The function of the Power Button can be set to **Shut Down**, **Standby** or **Hibernate** in the **Power Saver** utility. However, holding the Power Button down for more than four seconds will force a power off while operating under any situation, resulting in the loss of any unsaved information.

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).

NOTE 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 exposure to extreme temperatures for long periods, which can shorten battery charge life and potentially damage the battery.

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 screen brightness.
- Enable the display's automatic dimming feature.
- Use the AC adapter or vehicle adapter whenever possible. Connect to a charging source and fully charge at the end of day (this ensures the gas gauge is accurate and provides a charged battery for the next day).
- Avoid allowing the Li-Polymer or Lithium-Ion battery pack to completely discharge.
- Use the **Dynapower** utility to help save power.
- When running on battery power, make sure your system suspends automatically after a few minutes of inactivity.

NOTE Radios, custom applications, or modified system settings may affect this.

- Unplug peripherals when you are not using them, since they may draw power from the system even when not in use.
- Avoid operating audio and video applications when using battery power (operating video, or audio equipment increases the computer's power requirements).
- Don't use screen savers as they draw excessive current, especially "3D" screen savers.
- Avoid or minimize using applications that keep the CPU busy a large percentage of the time.

Identifying power wasting programs

The following will help you determine if your system is running applications or processes that are keeping the CPU busy:

- Start the **Task Manager Utility**.

For Windows® XP:

Open **Windows® Task Manager** by right-clicking an empty space on the **Taskbar**, and then click **Task Manager**. Click on the **Process** tab to view running processes. Click on the **Performance** tab to view running applications.

Watch the CPU Usage. It is okay if the processor usage is occasionally 100 percent, but if it is 100 percent most of the time, this may indicate a problem.

What to do if applications are keeping the CPU busy

- If possible, close 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).
- Your organization's help desk may have an updated version of the application.

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 3 or 4 months helps to keep the gas gauge accurate. For information on calibrating the battery, refer to **Battery Calibration**.

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

Stored Li-Polymer or Lithium-Ion battery packs gradually deteriorate, particularly if they are not stored in ideal conditions, and their life expectancy decreases. When storing Lithium-Ion battery packs for extended periods, consider these recommendations:

- When storing batteries for extended periods, it is recommended that you store them between 3°C to 7°C (38°F to 45°F) to retard self-discharge and battery aging.

NOTE If you store batteries at normal ambient temperatures, use the following charging policy to maintain battery pack condition:

- Charge installed batteries every 21 days to maintain their charge capacity.
- Charge uninstalled batteries every 6 months.
- Unused or stored batteries can lose power over time. When you install a battery that has not been used recently, connect external power to the computer and fully charge your battery.
- Fully charged Li-Polymer or Lithium-Ion batteries deteriorate faster than partly discharged ones. For ideal storage, charge the battery to 100% and then discharge them to 50% charge before storing.
- Do not allow stored Li-Polymer or Lithium-Ion batteries to discharge completely, as this may permanently damage them. Stored batteries should be recharged to 50% capacity every six months.

The BIOS 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 will operate correctly. You can use the BIOS Setup Utility to change your computer's startup configuration. For example, you can change your system's security routine.

Starting the BIOS Setup Utility

The **Setup Utility** can only be started shortly after powering up the computer. When the message "Press Fn+F2 button to enter SETUP" is displayed at the bottom of the screen, press and hold Fn+F2. The **Aptio Setup Utility** will open.

CAUTION The BIOS configuration on your GD2000 comes pre-configured at the factory with optimal settings. These settings may be changed at any time, however, be aware of the effects of making changes. Incorrect settings can cause your system to malfunction. To correct mistakes, return to Setup and restore the Setup Defaults by going to the **Exit Menu** and selecting "Load Optimal Defaults".

Navigation and Help

The Menu Bar

The **Setup Utility** has five menu options in the **Menu Bar** (1) at the top of the window. To navigate between the screens you must use the keyboard and the arrow keys.

The keyboard is used to navigate through BIOS screens:

MAIN Use for basic system configuration

ADVANCED Use to set the advanced features

SECURITY Use to set user and supervisor passwords

BOOT Use to select the sequence of boot devices that are searched to load an operating system.

SAVE & EXIT Use to exit the current Setup session



The Field and General Help Windows

THE FIELD HELP WINDOW (2) 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 FIELD LIST (3) is on the left side of the **BIOS Setup Utility** screen. It displays the actual field titles and entry fields for the BIOS settings.

THE NAVIGATION MENU (4) is on the lower right side of the **BIOS Setup Utility** screen. It displays the navigation keys used with an external keyboard.

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.

#	Function	Description
1	The Menu Bar	The Setup Utility has six menu options in the Menu Bar at the top of the window. Press the left or right arrow keys to cycle through these menu screens.
	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 up
	Save & Exit	Includes options to save or discard your changes, and to exit the BIOS Utility
2	Settings and Information fields	This area is used to display current system and BIOS information, and allows changes to some field settings. See Viewing or Changing Field Settings below

The Main Menu

The Bios Main Menu displays detailed information about the computer, including the system time and date.



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, 2005 to December 31, 2099. The value takes effect immediately.
CPU Type	(none)	Displays the type of CPU
CPU Speed	(none)	Displays the CPU speed
Install Memory	(none)	Displays the current system memory
HDD Serial Number	(none)	Displays the HDD Serial Number
BIOS Version	(none)	Displays the current system BIOS version
VBIOS Version	(none)	Displays the VBIOS version
EC Version	(none)	Displays the EC version
System Board Version	(none)	Displays the System Board version
Serial Number	(none)	Displays the Serial Number
Asset Tag Number	(none)	No Asset Tag
Product Name	(none)	Displays the Product Name
Manufacture Name	(none)	Displays the Manufacturer Name
UUID	(none)	Displays the UUID

The Advanced Menu

The Advanced Menu provides the user with the ability to configure specific system settings.



Field	Setting	Function
Stealth Mode Configuration	Sub-Menu	Depending on Stealth Mode setting, LED, FAN Beeps, LCD Brightness, Audio and Wireless devices will keep silent when activated. This allows the computer to be used in an environment where sound and light could be dangerous or disruptive.
Keyboard Features	Sub-Menu	Selects keyboard options such as NumLock power on state, Light Sensor, Backlight, and left button.
Graphics Memory Sub-Menu	Sub-Menu	Select the amount of total graphics memory
USB Control Sub-Menu	Sub-Menu	Enable/Disable all external USB ports
Super IO Configuration	Sub-Menu	Configure I/O Devices (serial ports) on the vehicle dock, office dock and the GPS radio
2nd Super IO Configuration	Sub-Menu	Configure I/O Devices (serial ports) on the Expansion Module (Only displayed if Expansion Module is installed)
Battery Calibration Sub-Menu	Sub-Menu	Configure Virtualization and system resumption
SATA Mode	IDE AHCI	Controls the mode in which the SATA controller should operate.
Intel Execution-Disable Bit	ENABLED Disabled	When disabled, forces the Execute-Disable Bit Capability extended feature bit to always return to 0.
System Cooling Mode	Cool NORMAL Max Performance	Set cooling mode. Cool: CPU is slowed down to reduce heating Normal: CPU runs normally Max Performance: CPU runs as fast as necessary NOTE Max Performance will not allow the unit to over-heat. However, over-heating will limit performance and the fan will run.
Resume on Modem Ring	OFF On	The system wakes from sleep when an incoming call is detected if the setting is On.
WLAN Support	ENABLED Disabled	The WLAN device is powered on when the system boots if the WLAN support is enabled. It is not powered on when the system boots if the WLAN support option is disabled.
Bluetooth® Support	ENABLED Disabled	The Bluetooth® device is powered on when the system boots if the Bluetooth® support is enabled. It is not powered on when the system boots if the Bluetooth® support option is disabled.

GPS Support	ENABLED Disabled	The GPS support option is powered on when the system boots if GPS support is enabled. It is not powered on when the system boots if the GPS support option is disabled.
Boot on External Power Detect	Enabled DISABLED	The unit boots from off state when external power is applied if setting is enabled.
S3 Resume When Lid Opened	Enabled DISABLED	The unit wakes from sleep when display lid is opened if setting is enabled.
On-board LAN	ENABLED Disabled	Enables or Disables Dock Ethernet port.
Auto Diming	ENABLED Disabled	The system will support Auto-Dim of the LCD backlight when the AC power source is NOT available (running on battery power).
Radio Button	ENABLED Disabled	The Radio button will not be functional when the setting is disabled. The radios remain in their last state.
Auto G-Sensor VGA Rotation	ENABLED Disabled	Disables or enables the G-Sensor VGA rotation.

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	Enabled: all LEDs and sound devices will be turned off Disabled: the computer functions normally and the options listed are not accessible
LED	Off	LEDs are disabled
	ON	LEDs function normally
Fan	Off	Fan is disabled, CPU will throttle as needed to remain cool enough to operate
	ON	The fan functions normally
Audio & System Beep	Off	Audio and System beeps are muted
	ON	Audio and System beeps function as normal
Display Brightness	Off	Display brightness is set to 0
	ON	Display brightness functions normally
Wireless Devices Power	Off	All wireless devices are set to off
	ON	The radio on/off button functions normally
Keyboard Backlight	Off	The keyboard backlight set to off
	ON	The keyboard backlight set to normal operation

Keyboard Features

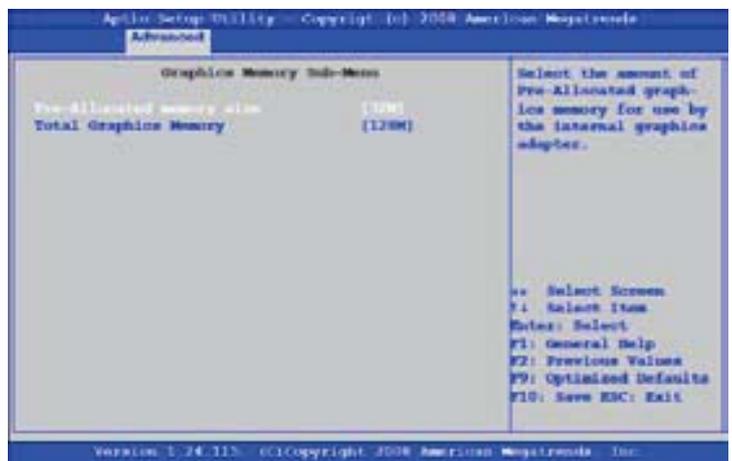
The Keyboard Features screen is used to configure the keyboard start up settings.



Field	Setting	Function
NumLock	Auto On OFF	Sets NumLock on/off/auto state at startups. Affects external keyboards.
Left Mouse Button	ENABLE Disable	Enables/Disables the left mouse button on the keyboard.
Keyboard Backlight Time out	0-255	Sets the time in seconds until the keyboard backlight turns off due to inactivity.

Graphics Memory Sub-Menu

The Graphics Memory sub-menu is used to configure the graphics memory settings.



Field	Setting	Description
Pre-Allocated Memory Size	32M 64M 128M	Select the amount of pre-allocated graphics memory for use by the internal graphics adapter.
Total Graphics Memory	128MB 256M Max	Select the amount of total graphics memory = pre-allocated + fixed + DVMT for use by the internal graphics device.

USB Control Sub-Menu

The USB Control sub-menu is used to configure all USB ports.



Field	Setting	Description
External USB Ports	ENABLED Disabled	Enables/Disables all external USB ports.
USB Devices for Expansion Module	ENABLED Disabled	Enables/Disables all USB Controller Functions for the Slice module.
Legacy USB Support	ENABLED Disabled	Enabled: allows USB devices to operate during Power On Self-Test (POST). Required to use USB keyboard/mouse or to boot from USB drive. Disabled: No USB devices recognized during boot process.

Super IO Configuration

This configuration option allows you to assign serial port settings for an office or vehicle dock (if you are using one) and to assign GPS port settings (if your unit has GPS capability).

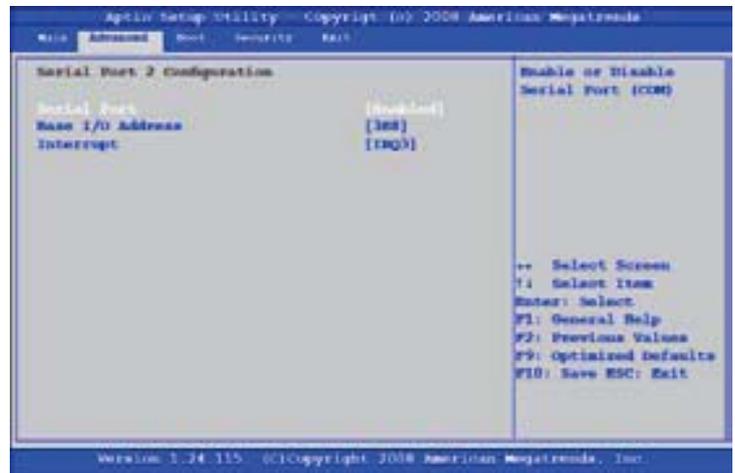


Field	Setting	Function
Serial Port	ENABLED Disabled	Enables or disables the Serial Port (COM).
Base I/O address	3F8 2F8 3E8 2E8	Sets the base I/O address for the Office or Vehicle dock serial port.

Interrupt	IRQ3 IRQ4	Select Interrupt for the COM port.
Serial Port for GPS	ENABLED Disabled	Turns GPS serial port on/off.
Base I/O address:	3F8 2F8 3E8 2E8	Sets the base I/O address for GPS port.
Interrupt	IRQ5 IRQ7	Select Interrupt for the COM port.

2nd Super IO Configuration

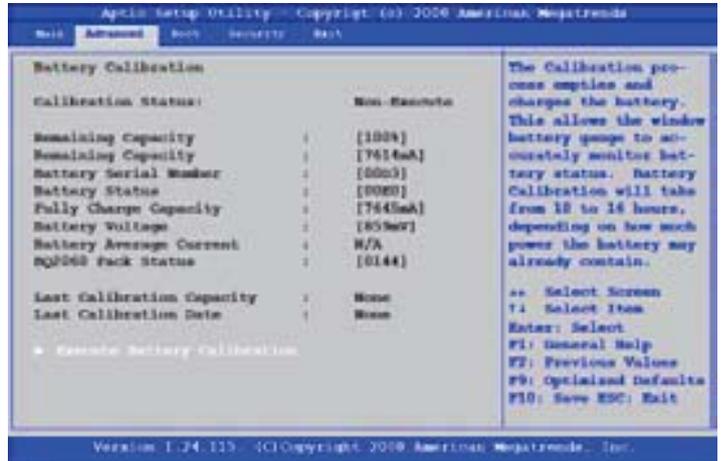
This configuration option is only displayed if you have an **Expansion Module** on your unit. It allows you to activate and assign serial port settings on the expansion module.



Field	Setting	Function
Serial Port On Expansion Module	ENABLED Disabled	Enables or disables the Serial port (COM).
Base I/O address	3F8 2F8 3E8 2E8	Sets the base I/O address for the expansion module serial port.
Interrupt	IRQ3 IRQ4	Select Interrupt for the COM port.

Battery Calibration Sub-Menu

The **Battery Calibration** process empties and charges the battery, allowing the battery gauge to accurately monitor the battery status. It will take from 10 to 16 ours to calibrate the battery, depending on how much power the battery already contains.



Field	Setting	Function
Calibration Status		Displays current battery calibration status, Non-Execute or Execute.
Remaining capacity	(none)	Displays the remaining battery capacity.
Remaining capacity	(none)	Displays the remaining battery capacity.
Battery Serial Number	(none)	Displays the battery serial number.
Battery Status	(none)	Displays the current battery status.
Full Charge Capacity	(none)	Indicates the full charge capacity.
Battery Voltage	(none)	Displays the battery voltage.
Battery Average Current	(none)	Displays the battery average current.
BQ2060 Pack Status	(none)	Displays the BQ2060 Pack Status.
Last Calibration Capacity	(none)	Displays the last calibration capacity.
Last Calibration Date	(none)	Displays the last calibration date.
Execute Battery Calibration	Yes No	Select Yes to execute the Battery Calibration process. Battery calibration will take from 10 - 16 hours, depending upon how much power the battery already contains.

The Security Menu

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

NOTE If you have an **Expansion Module** installed and it has TPM, the screen may have an additional TPM support item listed in the table above. Please read the **Trusted Platform Module (TPM)** section of this manual before activating this feature.



Field	Setting	Function
Set Supervisor Password	Enter New Password Confirm New Password	The supervisor password controls access to the Setup Utility . The password must be entered and confirmed. The password can be removed or changed by pressing enter on this field and entering the current password, then pressing enter to move through the fields entering a new password, or leaving it blank to remove the password.
Set User Password	Enter New Password Confirm New Password	The user password controls access to the system at boot. The password can be removed or changed by pressing enter on this field and entering the current password, then pressing enter to move through the fields entering a new password, or leaving it blank to remove the password. This password can only be entered if the supervisor has entered a password first.
Password on Boot	DISABLED Enabled	Enables user password entry on boot.
Set HDD Password		Allows the user to set a password on the HDD.
TPM Support Submenu		Trusted Computing (TPM) settings.

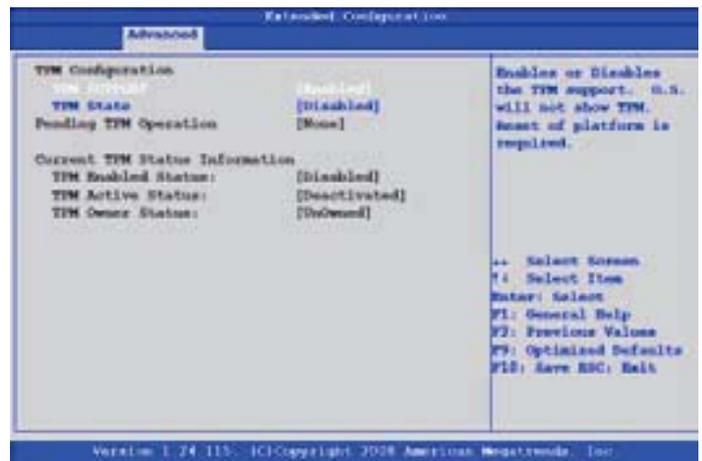
Trusted Platform Module (TPM) Menu

Security Menu with TPM Support

Adding an expansion module with a TPM device, adds the TPM support option to the **BIOS Security** menu.

WARNING Read all the instructions below and back up your data, before attempting to activate this security feature. If you have any questions or concerns contact the **Client Care Center** for support.

Enable **TPM Support** to display the **TPM State** menu item in the menu banner at the top of the screen.

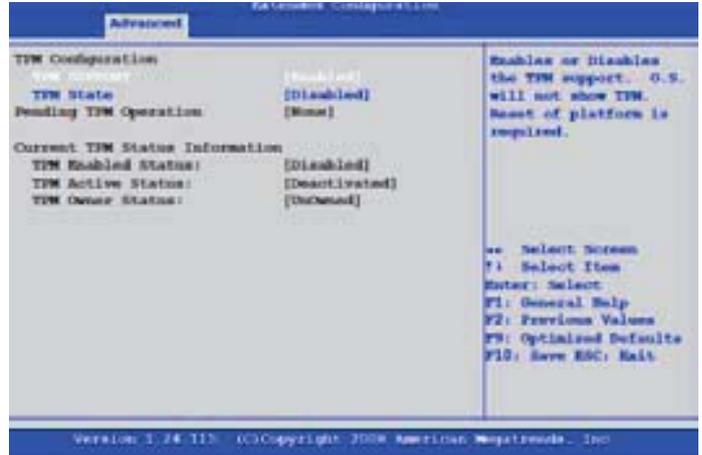


Field	Setting	Function
TPM Support	DISABLED Enabled	Enables or disables the TPM support. Operation system will not show TPM. Reset of platform is required.

TPM Configuration Menu

After the **TPM Support** option on the **Security** menu is enabled, the **TPM State** menu appears.

When you have finished making changes to the **TPM State**, go to the **Exit** menu and select **Exit Saving Changes**. The system will shutdown and reboot.



Field	Setting	Function
TPM Support	ENABLED Disabled	Enables or disables TPM Support. Operating system will not show TPM. Reset of platform is required.
TPM State	Enabled DISABLED	Turn TPM Enable/Disable. NOTE: Computer will reboot during restart in order to change State of TPM.
Pending TPM Operation	(none)	Displays any pending TPM operation.
TPM Enabled Status	(none)	Displays the TPM Enabled Status.
TPM Active Status	(none)	Displays the TPM Active Status.
TPM Owner Status	(none)	Displays the TPM Owner Status.

Physical Presence operations menu

Upon rebooting, select the **Launch System Setup** option once again. The following screen will display (if TPM has been enabled):

NOTE If **TPM State** changes, this screen will appear on reboot even without selecting **Launch System Setup**.

Field	Setting	Function
TPM State configuration change was requested to State	none	This is a display-only field, showing the requested state of the TPM.
	REJECT Execute	Reject or Execute TPM operations and exit

If you choose a **TPM state**, such as **Deactivate & Disable** or **Clear**, additional warning messages, such as the one to the right, will display on reboot:

After choosing to **Execute** or **Reject** the **TPM state**, the system will reboot once more. You may press the **LEFT MOUSE BUTTON** again on the **Setup** screen to display the normal **BIOS** menu with the **TPM State** menu item activated.

The Boot Menu

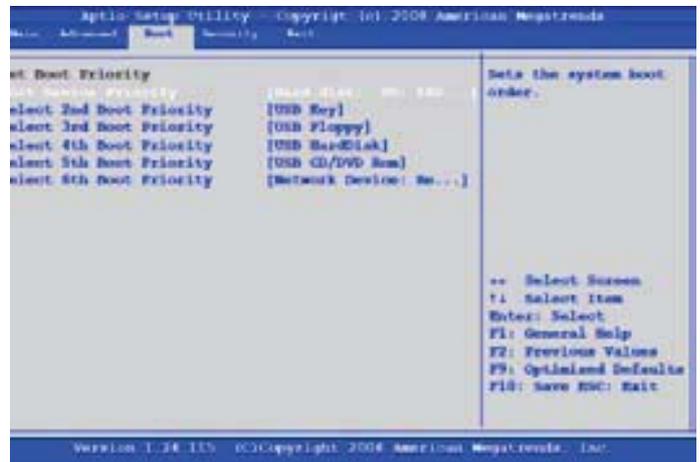
The Boot Menu sets the order of priority for devices from which the system will boot. Available devices are automatically detected by the computer.



Field	Settings	Function
Boot Priority Order Sub Menu	Sub-Menu	Displays boot drive order. First listed drive is the primary boot drive. Use up and down arrow keys to highlight a drive device. Use +/- keys to move the device up or down the list.
F12 Boot Menu	Disabled ENABLED	Enabled allows the user to change the boot device during POST.
Network Boot	DISABLED Enabled	Allows booting from the network if enabled.

Boot Priority Menu

To change the priority order, use the **UP** and **DOWN** arrow keys to highlight a device. Then press **+** or **-** to move the device higher or lower on the priority list.



Field	Selection	Function
Select 1st Boot Priority Select 2nd Boot Priority Select 3rd Boot Priority Select 4th Boot Priority Select 5th Boot Priority Select 6th Boot Priority	Hard Disk: PO: 64 GB SATA Flash Drive USB Key USB Floppy USB Hard Disk USB CD/DVD Rom Network Device: Realtek Boot Agent	Sets the system boot order.

The Save & Exit Menu

The Save & Exit Menu will exit the user from the BIOS setup and start up the Windows® operating system.



Field	Function
Exit Saving Changes	Exit the Setup Utility and save the changes to BIOS .
Exit Discarding Changes	Exit the Setup Utility without saving Setup data to CMOS .
Load Optimized Defaults	Load optimized default values for all Setup items.
Discard Changes	Load the previous values from BIOS for all Setup options
Save Changes	Save Setup data to BIOS but do not exit the Setup Utility .

Optional Equipment and Accessories

The GD2000 computer has several equipment and accessory options to further enhance your mobile computing experience from an expansion module to docking solutions. Click [here](#) for a current list of optional peripherals and accessories.

CAUTION Only purchase approved accessories. Some accessories are proprietary items and can be obtained through your system vendor. If you use equipment that is 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 printers, ensure that the accessory functions properly with your computer before making the purchase. Your system vendor may be able to recommend reliable brands and models.

Expansion Modules (Option)

An optional, factory installed expansion module adds functionality to the GD2000.

There is one expansion module available. It includes doors for water and dust sealing.

NOTE All expansion modules are factory installed. Please contact your GD2000 distributor for units and installation.

CAUTION When connecting a GD2000 computer with expansion module option use an approved CSA/UL certified telecommunication cable with 26 AWG wire or larger.

USB Expansion Module

The USB Expansion Module adds four USB 2.0 port and a RJ45 port.

#	Feature
1	Expansion Module
2	Ports with doors
3	Battery



Hard Drive Replacement

1. Save and backup any work, then shut down the computer.
2. Open the SSD release latch located on the left side of the computer.
3. Grasp the gold tab and slide the SSD.



4. Once the drive is projecting from the GD2000, grasp it gently and pull it straight out of the unit.

To insert a hard drive

1. Line up the hard drive and slide it into the SSD slot.



CAUTION Keep the drive straight and press gently to avoid damaging the exposed hard drive connector pins.

NOTE If an expansion module is included, its hard drive is also accessible (See [Optional Equipment and Accessories](#))

- 2.

Place the hard drive in the slot on the GD2000 and slowly slide it in straight until the latch clicks into place.

Optional Equipment and Accessories

NOTE The hard drive pins in the Expansion Module are recessed and not as easily damaged as those on the basic unit. However, you should always handle the hard drive with care.

Office Dock



#	Feature	Description
1	Audio In Port	Connect a microphone, or any other sound input with a 3.5mm jack (pink port)
2	Audio Out Port	Connect headphones, external speakers, or any other output device with a 3.5mm jack (green port)
3	9-Pin Serial Port	Connect any 9-pin serial device.
4	External VGA Video Out Connector	Connect an external monitor or projector to your GD2000. External devices require a VGA connector.
5	DC-In port	Connect the included AC power cord here and to a 120 volt wall socket to provide power to the device. The battery automatically recharges whenever the AC power cord is plugged into this port and into a live wall socket.
6	RJ-45 Ethernet 10/100 Base-T port	Connect to a 10 or 100 Base-T ethernet network, or connect (using a crossover ethernet cable) to another computer's ethernet port.
7	Two USB 2.0 ports	Connect additional devices, including flash memory drives, external hard drives, external optical drives, additional input devices (such as an external keyboard or mouse), digital cameras, digital music players, or any other USB device

Optional Equipment and Accessories

Vehicle Power Adapter

The Vehicle Power Adapter is an optional device that supplies power from the vehicle battery to operate the computer and charge the battery installed in the unit. It typically connects to the vehicle battery using the cigarette lighter socket.

The GD2000 vehicle power adapter is intended to provide a convenient, temporary power source for powering and charging the computer in a vehicle. It is not designed for continuous operation due to the nature of the electrical connection. For additional information on permanent installation of the vehicle power adapter please contact your support representative.

CAUTION The vehicle adapter is only designed for temporary use. Use the optional vehicle dock to power and secure the GD2000 for frequent or long term vehicle installations.

To prevent possible damage to the battery, the system will not allow the battery to charge at extreme temperatures. Be aware of the following charging characteristics, especially if the computer is left unattended in a closed vehicle.

Temperature	Charging Activity
<5°C (<41°F)	Battery will not charge
>50°C (>122°F)	Battery will not charge

To connect the vehicle adapter

1. Insert the vehicle adapter's power cord into the power port 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.

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 20°C (68°F), the battery will be fully charged in approximately four to five hours. However, as the battery temperature approaches the ends of its temperature range (5°C/41°F to 50°C/122°F), it will take longer to charge the battery.

CAUTION Avoid exposing batteries to extremely hot or cold temperatures for long periods. To prevent possible damage to the battery, the GD2000 notebook 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).

Vehicle Adapter Recommendations

- Connect the GD2000 to the vehicle power adapter as needed; disconnect when charging is complete or the unit is not in use.
- Allow the GD2000 to power on and run from the internal battery periodically during the day.
- Regularly inspect the vehicle power adapter for loose or missing parts and replace or correct as necessary.
- When not using the vehicle power adapter, disconnect it from the vehicle power port (12V source) receptacle and the GD2000.

General Dynamics Itronix 72-0139-001

- If the fuse in the vehicle power adapter repeatedly fails (opens) there may be a problem with the vehicle power supply or the adapter itself. Please contact your support representative for further information and assistance.
- When replacing the vehicle power adapter fuse, use a replacement fuse of the same type and rating.

IMPORTANT

- Refer to **Battery Tips** for charging temperature and other recommendations.
- If you charge your battery daily, rely on the gas gauge reading to determine battery capacity. The gas gauge may show that the battery is full, but charging continues. This happens because the charging process is trying to put a little more capacity into the battery. External power can be removed at this time since the battery is virtually full.
- If your battery is new or has not been used for several weeks, rely on the indicator light to determine when the battery is fully charged. The gas gauge is unreliable in these cases; it may read 100%, when the actual capacity is only 10%.

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 issue that may cause glitches, hang-ups, crashes, performance slow downs, and computer down time. It is recommended that you use a quality surge protector with your computer and any attached peripherals.

The GD2000 is rugged and weather resistant. Handle it with the normal care required by any sophisticated electronic equipment and it will provide reliable service even under harsh field conditions. 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

- Read and follow the guidelines and precautions in the **Safety** section, **Power Management** section and **Battery Tips** section.
- Periodically inspect the ports and connectors for damage and contamination.
- Charge the batteries daily or whenever their capacity is low.

NOTE Where possible, charge the batteries with the display open to increase the allowable temperature that supports charging.

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.
- The total current rating of all equipment plugged into a single wall outlet should not exceed the fuse rating.

Servicing Your Computer

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

- The computer has been dropped and 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.

Storing Your Computer

If you plan to store the computer, follow these storage guidelines. To store the computer:

1. Save files and data before storing the computer.
2. Remove any media from the media bay.
3. Exit all applications.

4. Follow the shut down steps for your operating system.

WARNING Do not press and hold the **POWER BUTTON** to shut the notebook off as this may cause damage to the system components.

5. Remove the battery from the unit and store it in a dry place.
6. Store the computer within the recommended temperature ranges of -67° F to 167° F (-55° C to 75° C).

Storage

When storing the computer for five (5) days or less:

1. Install the battery pack and connect the computer to external power and allow the battery pack to fully charge. The charging LED will be on solid while charging and go off when battery charging is completed.
2. Shut down the computer and store in a cool, dry location.

When storing the computer longer than five (5) days:

- Lithium-Ion batteries can be permanently damaged if the computer is stored for extended periods. This condition requires battery replacement.
- If the computer will be stored for more than 5 days, backup files and data, fully charge the battery, discharge it to 40% and then remove the battery.
- Store the computer and battery in a cool, dry location.

When Storing battery packs for extended periods:

- Fully charged Lithium-Ion battery packs deteriorate faster than partly discharged ones. For ideal storage, charge the packs to 100% and then discharge them to a 40% charge before storage.
- Do not allow stored Lithium-Ion packs to discharge completely, as this may permanently damage them. Stored packs should be recharged to 40% capacity every six (6) months.
- Storing packs at temperatures near 0°C (32°F) slows down self-discharge and battery aging; packs that are stored for a long period should be kept at low temperatures where practical.

NOTE Store batteries as close to 0°C (32°F) as practical without allowing the batteries to freeze or reach 0°C (32°F).

- If you store battery packs at normal ambient temperatures, use the following charge policy to maintain battery pack condition:
 - Store batteries within the temperature range of 15°C to 30°C (59°F to 86°F).
 - Installed packs: Charge every 5 days to maintain their charge capacity.
 - Uninstalled packs: Charge every six (6) months to 100%, then discharge to 40% and return to storage.

Cleaning Your Computer

Outside Case

1. Disconnect external power and turn off the computer.
2. **Remove the battery.**
3. 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.
4. Wipe off any excess liquid with a soft cloth.
5. **Reinstall the battery.**

CAUTION! Aerosols, solvents, or strong detergents are not recommended cleaning solutions and may void your warranty. For system decontamination recommendations please contact your support representative.

Display

Use a soft, dry cloth. In some cases, you can use a small amount of water to remove streaks or smears. For difficult display cleaning tasks, use a 50/50 mixture of isopropyl alcohol and water. Do not use paper products because they can scratch the screen.

NOTE General Dynamics Itronix offers a display cleaning kit that you can order via the website.

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 electronics grade isopropyl alcohol.

Connectors

If connector pins get dirty, clean the connector with a cotton swab dipped in electronics grade isopropyl alcohol.

Data Backup

Regularly backup your data to ensure the greatest data integrity, provide the fastest recovery options, and minimize downtime.

After you have installed all 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** frequently to backup data. It is recommended you set the backup utility to run automatically.

Saving 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.

Backing Up Files in 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.

Backing Up Files in Windows® Vista:

Select **Start, Control Panel** and select **Backup Your Computer** under **System and Maintenance**.

Backing Up Files in 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.

Backing Up 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 if it becomes 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. Start with the least destructive and fastest recovery options, listed below in the order in which you should restore data.

1. Restore system information.
2. Restore a backup using the **Windows® Backup Utility**.
3. Restore the entire contents of drive C:

Option 1: Restoring System Information

Windows® XP:

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

Windows® Vista and Windows® 7:

Select **Start, Control Panel, System and Maintenance, Backup and Restore Center**. On the **Tasks** menu on the left-hand side of the screen select **Repair Windows® using System Restore**.

Option 2 : Restoring a Backup

Windows® XP:

Select **Start, All Programs, Accessories, System Tools, Backup**. Then follow the instructions in the wizard to restore files and settings.

Windows® Vista:

Select **Start, Control Panel, System and Maintenance**. Then select **Backup Your Computer**. This opens 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.

Option 3: Restoring Drive C:

If you used the **Hard Disk Backup and Recovery Utility** to create a backup disk image you can use it to restore drive C:.

CAUTION 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.

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.

Windows® XP:

Select **Start, All Programs, Mobile Computer Tools, Hard Disk Backup and Recovery** and follow the prompts.

Windows® Vista:

Select **Start, Control Panel, System and Maintenance**. Then select **Backup Your Computer**. This will bring you to the **Backup and Restore Center** where you can restore files and folders. To restore your entire computer select **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**.

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

Client Care Center (CCC)

The General Dynamics Itronix Client Care Center provides world class service with a single entry point of access to meet all your needs including:

- Troubleshooting and RMA origination
- Dispatch of field support staff
- Wireless carrier service activation
- Hardware performance information
- RMA status checks on service unit and warranty/service parts orders
- New and refurbished platform, accessory and add-on orders
- Trial unit orders and status updates
- Proof of delivery status updates for service and new unit orders
- International new unit and accessory, peripheral and service parts orders
- Centralized access for all invoicing and finance related issues

Most of these services are available through the ServeNet web based system.

Go to the **Support** section of our website and select ServeNet Login for more information.

Services Expertise

The Technical Services and Client Services Account Management staff provide support with expertise that spans hardware platforms, industry applications and third party solutions. They regularly visit customers to garner feedback and input and provide training and post-installation support. For more information on our comprehensive service programs or current support phone numbers and email addresses, [click here](#).

Product Support - Updates

To see if there are any updates for your computer and get the most from your product, go to the **Support** section of our website and select product downloads.

NOTE Downloads are listed by model and/or product number (GD2000).

This section is designed to help you determine and fix problems you might encounter while operating the GD2000 computer. Try the following things in order:

- First look through the categories in this section for a solution.
- If you are having a problem with a computer application, use the Help that comes with the application to find a solution.
- If you still cannot resolve your problem, contact the help desk at your organization.

Applications

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

For Windows® XP:

- You may need to restart your computer. Select **Start, Shut Down, Restart**. If that does not work, try pressing **CTRL+ALT+DEL** and select **Shut Down**.
- If the computer does not restart, the keyboard may be locked up. Press and 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 the **SCANDISK** Utility.
- The operating system may be out of memory or resources. Close some open programs to free up more memory or exit and restart by selecting **Start, Shut Down, Restart**.

For Windows® Vista:

- Click the **Start** button and point your cursor past the icon and click on the arrow. This will bring up the **Shut Down/Log Off** menu. Click **Restart** to reboot the computer.
- If the computer does not restart, the keyboard may be locked up. Press and 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 the **CHKDSK** Utility.
- The operating system may be out of memory or resources. Close some open programs to free up more memory or exit and restart by selecting **Start, Shut Down, Restart**.

Using Windows® 7:

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

Battery Troubleshooting

The battery does not charge

- Check the connection and power to the charger.
- Check the charger connection to the GD2000 and verify that it is detecting external power. The power status LED should be lit.
- Verify Battery status (**Windows® Power Options Properties** or

GD2000 **Power Saver**); ensure the battery is properly detected.

- If the battery is not detected or charge status incorrectly reports fully charged, the battery should be replaced.

NOTE Contact the **Client Care Center** to order replacement batteries.

- If battery replacement does not correct the problem, contact your support representative for additional assistance.

Hints and Tips

- To prevent possible damage to the battery, the computer 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). 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:

- Make sure the computer is turned off.
- **Remove the battery.**
- Connect the AC adapter to the computer and an AC wall outlet, and then turn on the computer by pressing the **POWER BUTTON**.
- Let the computer complete the boot process. Then reinstall the battery.
- Allow the system to remain idle for one hour with the AC adapter connected to the computer.
- The Battery Power Indicator  lights when the battery starts charging.
- If the battery still fails to start charging after an hour, remove the battery, wait several seconds, and then install it again.

Batteries charge time is longer than seven hours

Under moderate temperatures, about 20°C (68°F), the computer's battery takes approximately 4 to 5 hours to completely charge.

NOTE As the battery temperature approaches the ends of its temperature range (5°C/ 41°F to 50°C/122°F), it may take longer to charge the battery.

The batteries don't last very long

- Ensure that the battery indicates fully charged (100%) following an over-night charge.
- Following a full charge, if the battery does not last as long as expected or as reported through the gas gauge, a Calibration may be required. **Calibrate the battery** using the **Battery Calibration** selection in **Mobile Computer Tools**. If your battery is new or has not been used for several weeks, calibrating the battery accurately sets the gas gauge.
- As your battery ages, its maximum capacity 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.

The gas gauge isn't full after charging the battery

This may indicate that the charging process terminated prematurely.

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

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 virtually full.

My battery seems to have less and less capacity

- If your battery is new, or if you are using it for the first time, you will need to **calibrate it** prior to using it.
- 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 / Touchscreen

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

- Adjust the brightness level.
- The automatic power-saving mode may have shut off (suspended) the computer. Press any key to resume.
- If the display brightness is unreadable after a resume or reboot but is easily adjusted, you may have set **Stealth mode** in the **Setup Utility**. If you disable **Stealth mode**, the display and backlight will operate normally.
- Clean the photo sensor. The photo sensor below and to the right of the display may be dirty.

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

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

The display appears to have random pixels darkened after scrolling

Contact your supervisor or your organization's help desk for information about correcting this problem.

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

Try restarting your computer for the changes to take effect.

When I try to use the stylus on my touchscreen, nothing happens

If you cannot select objects accurately with the stylus, you may need to **calibrate the touchscreen**.

The touchscreen doesn't respond after a suspend

The touchscreen needs a few seconds to work after a suspend. Wait a moment and try again.

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 display when I press certain keys

You may be in **Caps Lock** mode. Press **FN+SHIFT** to toggle **Caps Lock** mode off.

I have difficulty double-clicking the mouse fast enough

For Windows® XP:

Select **Start, Control Panel, Mouse**. The **Buttons** tab contains the setting for the double-click speed.

For Windows® Vista:

Select **Start, Control Panel, Hardware and Sound**. Then select **Mouse** to configure double-clicking 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.

Miscellaneous Troubleshooting

The computer shuts off unexpectedly

The computer has entered suspend mode. Press any key to resume from the standby state. 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 and press the **POWER BUTTON** to resume.

The speaker volume is too high or too low

See the **Audio** section.

The computer won't turn on

- Remove any USB drives from the unit
- 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 it is not charged
- If you are using the AC adapter, check the electrical outlet you are using to make sure it is working properly.
- If the GD2000 computer does not turn on, restart the computer by holding down the **POWER** button for at least 10 seconds and then release it

The computer won't turn off

For Windows® XP:

1. Select **Start, Shut down, 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, Shut down, 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:

- Click the **Start** button and point your cursor past the icon and click on the arrow. This will bring up the **Shut Down/Log Off** menu. Click **Restart** to reboot the computer.
- If that does not work, press **CTRL+ALT+DEL** and then select **Start 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.

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**.
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.

The computer enters suspend mode too quickly

For Windows® XP:

When there is no activity for a period of time, the computer turns off or enters suspend mode. To extend this time, use the **Power Management** program (**Start, Settings, Control Panel, Power Management**) and increase the non-activity time to enter suspend.

For Windows® Vista:

Select **Start, Control Panel, Hardware and Sound**. Select **Power Options**. 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.
- If the **Standby** setting is either in the **Battery** or **External Power** mode in the **Power Properties** or **Power Saver** utilities "**Never**"; change the setting.

The system date and time are incorrect

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

I receive an "out of memory" error message

- Restart the computer.
- 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).

Holding down the Power button to reset the computer doesn't always work

Try resetting the computer again. If this doesn't work, remove

all power, including the battery pack, and allow the unit to remain idle for ten minutes. After ten minutes, connect external power and retry.

The LED's, backlight, and/or keyboard backlight don't illuminate

You may have enabled **Stealth mode** in the **Setup Utility**. Go to CMOS Setup and disable **Stealth mode**.

The computer doesn't make any sounds, even during boot-up

You may have enabled **Stealth mode** in the **Setup Utility**. Go to CMOS Setup and disable **Stealth mode**.

The fan stopped running

You may have enabled **Stealth mode** in the **Setup Utility**. Go to CMOS Setup and disable **Stealth mode**.

The computer battery life is shorter than expected

- Check your power savings settings to ensure you are getting the most efficient battery use.
- 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 computer locks up

- Determine if the touchscreen, touchpad or keyboard inputs are recognized.
- Attempt to close any programs that are not responding (press the **CTRL+ALT+DEL** key and click on the **Task Manager** button).
- If **Task Manager** does not list any suspect programs/applications, perform a reboot.
- Restart applications and try the specific operation again.
- If the **Shut down Menu** does not respond, press and hold the power button for approximately 10 seconds to perform a forced shutdown.
NOTE Any unsaved data will be lost when using this shutdown method.
- Power on, boot to Windows®, and restart the RF applications, if this does not resolve the problem image corruption is likely. Re-image the GD2000 and try again.

RF Communication Issues

- If coverage is historically good at this location, check the signal strength. Reposition the computer slightly to increase signal strength. Wait approximately five minutes. Determine if there is RF activity. Applications provided with RF devices generally provide diagnostic capability.

- If not resolved, exit all applications, restart the applications, and try RF communications again.
- If not resolved, connect external power and perform a restart.
- Restart applications and try RF communications again.