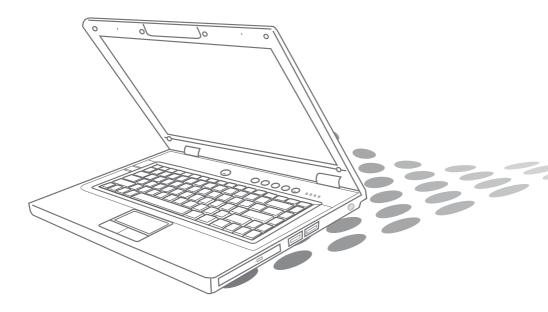
# **GIGABYTE**<sup>™</sup>



# **Notebook** USER'S MANUAL V1.0



www.gigabyte.com.tw

# About this User's Manual

This user's manual is designed to let you easily find the information you need to get the most from your notebook.

- Introduces you to the features of your notebook.
- Gives you useful details on using your notebook.
- Tells you how to look after your notebook, whether at home or traveling. •
- Talks about PCI Express Card peripherals and how to use them. •
- Goes into more detail about power management and explains how to conserve power while on the move.
- Introduces you to BIOS, the nervous system of your computer, and how to change its fundamental settings.

There is no need to read the manual from the beginning to end. Simply find your way to the section that interests you using the table of contents, or browse through the manual.

You will come across the following icons in this manual:



W Helpful pointers and tricks to get more from your notebook



To help you note and avoid possible damage to your notebook's hardware or software, or loss of your work



Points out possible damage to property, personal injury or death

Information in this document is subject to change without notice.

© GIGA-BYTE TECHNOLOGY CO., LTD.. 2007. All rights reserved.

Trademarks used in this document: Microsoft and Windows are registered trademarks of Microsoft Corporation.

Other trademarks and trade names may be used in this document to refer to either the entities claiming the marks and names or their products.

# Contents

Safety Instructions	i
Modem Regulatory Notice	ii
Specifications	vii

# Chapter 1 Introducing Your Notebook

1.1 F	ront Side	1-1
1.1.1	Internal Speakers	
1.1.2	Built-in Microphone	
1.1.3	Display	1-2
1.1.4	Top Panel Buttons and LEDs	1-3
1.1.5	Left Panel Buttons	1-4
1.1.6	Keyboard	
1.1.7	Touch Pad	
1.1.8	Touch Pad Buttons	
1.1.9	Wireless Communication Switch	
1.1.10	Device Status Indicators / Power Status	
1.2 F	Right Side	1-9
1.2.1	Optical Media Drive	
1.2.2	USB Port	
1.2.3	AC Adapter Connector	1-10
4.2 1	eft Side	4 44
1.3 L		
1.3 L	VGA Port	
1.3.1	VGA Port	
1.3.1 1.3.2	VGA Port LAN Jack	1-12 1-12 1-12
1.3.1 1.3.2 1.3.3	VGA Port LAN Jack Modem Jack	
1.3.1 1.3.2 1.3.3 1.3.4	VGA Port LAN Jack Modem Jack S-Video out Port	1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port	
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6 1.3.7	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port New Card Slot (For Express Card)	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6 1.3.7 1.3.8 1.3.9	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port New Card Slot (For Express Card) Multiple Digital Media Card Slot	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6 1.3.7 1.3.8 1.3.9 <b>1.4</b>	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port New Card Slot (For Express Card) Multiple Digital Media Card Slot Audio Ports	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6 1.3.7 1.3.8 1.3.9 <b>1.4</b>	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port New Card Slot (For Express Card) Multiple Digital Media Card Slot Audio Ports	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12
1.3.1 1.3.2 1.3.3 1.3.4 1.3.5 1.3.6 1.3.7 1.3.8 1.3.9 <b>1.4 F</b> <b>1.5 E</b>	VGA Port LAN Jack Modem Jack S-Video out Port High Power USB Port IEEE 1394 Port New Card Slot (For Express Card) Multiple Digital Media Card Slot Audio Ports Rear Side	1-12 1-12 1-12 1-12 1-12 1-12 1-12 1-12

# Chapter 2 Operating Your Notebook (Vista)

2.1	Networks	2-1
2.2	Playing CDs and Movies	2-2
2.2.1	Inserting Discs	2-2
2.2.2	Adjusting the Volume	2-2
2.2.3	Adjusting the Picture	2-2
2.3	Power Management	2-4
2.3.1	Managing Your Notebook's Power	2-4
2.3.2	Power Management Modes	2-4
2.3.3	Power Options Properties	2-5
2.3.4	SpeedStep	2-6
2.4	Battery	2-8
2.4.1	Battery Performance	2-8
2.4.2	Checking the Battery Charge	2-8
2.4.3	Power Meter	2-8
2.4.4	Low-Battery Warning	2-9
2.4.5	Charging the Battery	2-9
2.4.6	Removing the Battery	2-9
2.4.7	Installing a Battery	2-10
2.4.8	Storing a Battery	2-10
2.4.9	Working With Extra Battery Packs	2-10
2.4.1	0 Maximizing Battery Life	2-10
2.5	Advanced Charging Functions: Q-Charging & Power USB Buttons	2-11
2.5.1	Q-Charging Button with Smart Battery Software	2-11
2.5.2	Using the Q-Charging Button	2-12
2.5.3	Using the Power USB Button	2-12
2.6	WOW Video & Audio	2-13
2.6.1	Installing the Software	2-13
2.6.2	Using the Software	2-13
2.6.3	Changing Software Settings	2-13

# Chapter 3 Caring for Your Notebook

3.1	Caring for Your Notebook	3-1
3.1.1	Cleaning Your Notebook and Keyboard	3-1
3.1.2	Cleaning the Display	3-1
3.1.3	Cleaning the Touch Pad	3-1
3.1.4	Cleaning the CD/DVD Drive	3-1
3.1.5	Precautions	3-2
3.2	Traveling	3-3
3.2.1	Identifying Your Notebook	3-3

 .2 Packing Your Notebook	3.2.2
.3 Setting a Password	
.4 Travel Tips	
.5 If Your Notebook is Lost or Stolen .	

# Chapter 4 Operating Your Notebook (Vista)

4.1	Introduction	
4.2	Navigating through the BIOS Setup Program	
4.2.1	Accessing the BIOS Setup Program	
4.2.2	Launching Submenus	4-4
4.2.3	Saving Changes and Exiting the Setup Program	4-4
4.3	The Main Menu	4-5
4.4	The Advanced Menu	4-7
4.5	The Security Menu	4-8
4.6	The Boot Menu	4-12
4.7	The Exit Menu	

# **Chapter 5 Troubleshooting**

5.1	Frequently Asked Questions	5-'	1
-----	----------------------------	-----	---

# Appendix A Recovery Update Notices

# **Appendix B Service Center**

# **Safety Instructions**

Use the following safety guidelines to help protect yourself and your computer.

# General Warnings

- Do not operate your portable computer for an extended period of time with the base resting directly on your body. With extended operation, heat can potentially build up in the base. Allowing sustained contact with the skin could cause discomfort or, eventually, a burn.
- Do not attempt to service the computer yourself. Always follow installation instructions closely.
- To avoid personal injury from electric shock or fire:
  - Completely power down the computer when replacing memory modules, cleaning the computer, its components, or chassis, or performing operations requiring similar steps. To do this, first turn the power off at the power switch, remove the battery, and then disconnect the AC adapter from the electrical outlet or from any other type of external power source, such as an external battery.
  - Do not operate the computer near water, for example, near a bathtub, kitchen sink or laundry tub, in a wet basement, by a swimming pool, or in the rain.
  - Do not connect or disconnect any cables or perform maintenance or reconfiguration of this product during an electrical storm.
  - Avoid using the wired modem or LAN during an electrical storm, as a remote risk of electric shock from lightning exists.
  - Do not push objects into the air vents or openings of your computer or accessories. Doing so can short out interior components and may cause fire or electric shock.
  - When installing memory modules, ground yourself by touching a grounded conductive surface, such as a device with a grounded plug. Avoid touching the pins and leads on the memory module or internal circuitry of the computer.
- When setting up the computer for work, place it on a level surface.
- Handle components with care. Hold a component such as a memory module by its edges, not its pins.

- If the battery pack leaks and the fluid get in your eyes, do not rub them. Instead, rinse your eyes with clean running water and immediately seek medical attention. Otherwise, eye injury may result.
- If acid leaking from the battery pack contacts your skin or clothing, immediately wash it away with running water. Otherwise, skin inflammation can occur.
- Operate the computer at the recommended temperature range of +5°C to +35°C (+41°F to +95°F). Store it at a temperature of -20°C to +60°C (+4°F to +140°F).
- Your computer shipped with plastic dummies installed in the PCMCIA or Express slot. Dummies protect unused slots from dust, metal object, or other particles. Save the dummy for use when no PCMCIA or Express Card is installed in the slot.

# Power Cord & Adapter Warnings

- See the installation instructions before connecting to the power supply.
- Power cord sets for use in other countries must meet the requirements of that country. Use the appropriate AC adapter and power cord for your locale.
- If you use an extension cord with your AC adapter, ensure that the total ampere rating of the products plugged into the extension cord does not exceed the ampere rating of the extension cable.
- When using your power cord, make sure to position it around objects so it will not be cut or punctured.
- When you disconnect a cable, pull on its connector on its strain relief loop, not on the cable itself. As you pull out the connector, keep it evenly aligned to avoid bending any connector pins. Also, before you connect a cable make sure both connectors are correctly oriented and aligned.
- Be sure that nothing rests on your AC adapter's power cable and that the cable is not located where it can be tripped over or stepped on.
- Use only the AC adapters that are approved for use with this computer. Use of another type of adapter may risk fire or explosion.
- Before you connect the computer to a power source, ensure that the voltage rating of the AC adapter matches that of the available power source.
  - 115 V/60 Hz in most of North and South America and some Far Eastern countries such as South Korea and Taiwan.
  - 100 V/50 Hz in eastern Japan and 100 V/60Hz in western Japan.
  - 230 V/50 Hz in most of Europe, the Middle East, and the Far East.

- If you use an extension cable with your AC adapter, ensure that the total ampere rating of the products plugged in to the extension cable does not exceed the ampere rating of the extension cable.
- Place the AC adapter in a ventilated area, such as a desktop or on the floor, when you use it to run the computer or to charge the battery. Do not cover the AC adapter with papers or other items that will reduce cooling; also, do not use the AC adapter while it is inside a carrying case.
- Disconnect power cords and cables by grasping the connector, not by pulling on the cable itself. As you pull out the connector, keep it evenly aligned to avoid bending any connector pins. Before you connect a cable, make sure both connectors are correctly aligned.
- To remove power from the computer, turn it off, remove the battery, and disconnect the AC adapter from the electrical outlet.

# **Battery Pack Warnings**

- Do not carry a battery in your pocket, purse, or other container where metal objects (such as car keys) could short-circuit the battery terminals. The resulting excessive current flow can cause extremely high temperatures and may result in damage from burns.
- Danger of explosion may occur if battery is incorrectly replaced. Replace only with the same or equivalent type battery recommended by the manufacturer.
- Do not dispose of batteries in a fire. They may explode. Check with local authorities for disposal instructions.
- Do not use or leave the battery pack near a heat source. Heat can melt the insulation and damage other safety features, possibly leading it to leak acid, overheat, emit smoke, burst and/or ignite.
- Do not immerse the battery pack in water or allow it to get wet. Its protective features can be damaged. Abnormal chemical reactions may occur, possibly leading it to leak acid, overheat, emit smoke, burst and/or ignite.
- Do not crush, disassemble, puncture, or incinerate the short external contacts of a battery pack.
- Do not connect the positive (+) and negative (-) terminals with a metal object such as wire. Short-circuiting may occur leading the battery pack to leak acid, overheat, emit smoke, burst and/or ignite.
- Do not use an apparently deformed or damaged battery pack, which may leak acid, overheat, emit smoke, burst and/or ignite.

 If the battery pack leaks, gives off a bad odor, generates heat, becomes discolored or deformed, or in any way appears abnormal during use, recharging or storage, immediately remove it from the computer or charger and stop using it.

# Battery Pack Disposal

- Dispose of the lithium ion battery packs at approved disposal sites only. To locate an appropriate site, contact the solid waste disposal officials where you live or look for a rechargeable battery recycling website that lists disposal locations near you.
- Do not dispose of battery packs in a fire, throw them in a trash receptacle, put them in a recycling bin not intended for their disposal, or otherwise discard them in a manner that may result in their being hazardous to the environment.

# Internal Modem Warnings

**CAUTION**: When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons, including the following:

- The modem cable you connect to your computer should have a minimum wire size of 26 AWG (American wire gauge) and an UL-compliant RJ-11 modular plug.
- Avoid using a telephone (other than a cordless type) during an electrical storm.
  There may be a remote risk of electric shock from lightning.
- Do not use the telephone to report a gas leak in the vicinity of the leak.
- Do not plug a modem connector (RJ-11) into a network connection (RJ-45). This may damage the connector.

# **Modem Regulatory Notice**

Federal Communication Commission PART 68 Warning

This equipment complies with Part 68 of the FCC rules. Located on the bottom side of the modem is a label that contains, among other information, the FCC Registration Number and Ringer Equipment Number (REN) for this equipment. Upon request, you must provide this information to your telephone company.

If your telephone equipment damages the telephone network, the local telephone company may temporarily discontinue your service. If possible they will notify you in advance. But, if advance notice is not practical, you will be notified as soon as possible. You will also be informed of your right to file a complaint with the FCC.

Your telephone company may make changes to facilities, equipment, operations, or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service.

If this equipment should fail to operate properly, disconnect the equipment from the phone line to determine if it is causing the problem. If the problem is with the equipment, discontinue use and contact your dealer or vendor.

# TBR21

This equipment has been approved [Council Decision 98/482/EC – "TBR21"] for pan-European single terminal connection to the Public Switched Telephone Network (PSTN). However, due to differences between the individual PSTNs provided in different countries, the approval does not, in itself, give an unconditional assurance of successful operation on every PSTN termination point. In the event of problems, you should contact your equipment supplier in the first instance.

## **Important Safety Instructions**

Read these instructions carefully. Save these instructions for future reference.

- 1. Follow all warnings and instructions marked on the product.
- 2. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 3. Do not use this product near water.
- 4. Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- 5. Slots and openings in the cabinet and the back or bottom are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. Avoid placing the product on a bed, sofa, rug, or similar surface to prevent blocking these openings. This product should never be placed near or over a radiator or a heat register, or in an enclosure unless proper ventilation is provided.
- 6. This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- 7. Do not allow anything to rest on the power cord. Do not locate this product where people will step on the cord.
- 8. If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.
- 9. Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.
- 10. Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltages or other risks. Refer all servicing to qualified service personnel.
- 11. Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:
  - a. When the power cord or plug is damaged or frayed.
  - b. If liquid is spilled into the product.
  - c. If the product was exposed to rain or water.
  - d. If the product does not operate normally when the operating instructions are followed, adjust only those controls that are covered by the operating instructions. 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.

- e. If the product has been dropped or the cabinet has been damaged.
- f. If the product exhibits a distinct change in performance, indicating a need for service.

# EMC Regulatory Information

This product is designed and tested to comply with the following related EMC (Electromagnetic compatibility) standards.

# FCC Notice

## "Declaration of Conformity Information"

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 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.

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

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

## Canadian Notice (Canada Only)

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

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conformé à la norme NMB-003 du Canada.

# CE Notice (European Union)

## **EU Declaration of Conformity**

The product conforms to the following standards:

Supplementary Information: "The product complies with the requirements



of the Low Voltage Directive 73/23/EEC and the EMC Directive 89/336/EEC and/or the R&TTE Directive 1999/05/EEC."

This product is carrying the CE-Mark in accordance with the related European Directives.

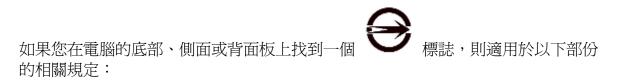
## **BSMI Notice (Taiwan Only)**

Most Compal computer products are classified by the Bureau of Standards, Meteorology and Inspection (BSMI) as Class B information technology equipment (ITE).



This (marked on the product) indicates the product complies with the BSMI standard.

## BSMI 通告 (僅限於台灣地區)



此設備經測試證明符合BSMI(經濟部標準檢驗局)之乙類數位裝置的限定規定。這些限制的目的是為了在住宅區安裝時,能防止有害的干擾,提供合理的保護。此設備會產生,使用並散發射頻能量;如果未遵照製造廠商的指導手冊來安裝和使用,可能會干擾無線電通訊。但是,這並不保證在個別的安裝中不會產生干擾。您可以透過關閉和開啓此設備來判斷它是否會對廣播和電視收訊造成干擾;如果確實如此,我們建議您嘗試以下列一種或多種方法來排除干擾:

- 重新調整天線的接收方向或重新放置接收天線。
- 增加設備與接收器的距離。
- 將設備連接至不同的插座,使設備與接收器連接在不同的電路上。
- •請向經銷商或有經驗的無線電/電視技術人員查詢,以獲得幫助。

#### **Macrovision License of Notice**

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

# **Specifications**

# CPU

- Intel Mobile Merom & Merom ICPM, Socket P, FSB800/667 MHz
- MAX 4M L2 Cache
- Dual Core
- Micro FC-PGA package CPU

# Chipset

- Intel GM965
- 667/800 MHz FSB supported
- ICH8-M

# Memory

- Supports DDR-II 533/667MHz
- No on-board memory
- Two SO-DIMM with 512MB/1GB/2GB modules
- Upgradable to 4GB memory by two SO-DIMM
- Easy install from bottom side

# Display

• Supports 15.4" WXGA (1280 x 800) TFT color LCD

# Keyboard

- ENE 925Q K/B controller
- 86-US/87-UK/88-JA Key; 12 function keys; 4 cursor keys
- Windows key; Application keys, 19.05mm pitch, 2.5mm stroke, H=5.1mm

# Hard Disk Drive (HDD)

- 9.5mm height, 2.5" HDD
- Up to 160GB capacity
- Supports SATA 1.5Gb/s
- 5400 RPM
- Easily removable

# **Optical Disc Drive (ODD)**

• 5.25" 12.7mm height 8XDVD-Super Multi Drive

# **Pointing Device**

- Touch Pad with two buttons
  - Left button
  - Right button

## I/O Ports

- USB 2.0 ports x 2
- Power USB ports x 2
- IEEE 1394 port x 1 (optional)
- Microphone-in jack x 1
- Headphone-out jack x 1
- VGA port, 15 pins x 1
- TV out (S-Video) port, 7 pins x 1
- DC-in jack x 1
- RJ-45 jack x 1
- RJ-11 jack for 56Kbps V.92 Modem (US/Canada/UK/Germany/French) (optional)
- 3-in-1 card reader for SD/MMC/MS (optional)
- Single-Wide New Card slot (54mm type) x 1
- Kensington lock

### WLAN

- PCI Express base specification compliant
- 802.11 a/b/g/n: Intel WLAN card

## Modem

• Internal Modem with MDC solution (MDC1.5) (optional)

## Bluetooth

• Foxconn Bluetooth V2.0+EDR (Broadcom chipset) (optional)

## **Mini Card Organization**

- One Mini card slot for WLAN
- One Mini card for Robson

## NEWCARD

• One Single-Wide New Card socket

• Supports both PCI-Express Card and USB2.0 Card

## **Excellent Power Management Function**

- Standby mode, Suspend to RAM or Suspend to Disk mode, by time out or by hot key
- HDD Local Standby mode by time out
- LCD Local Standby mode by time out
- Low battery alarm (beep)
- Auto-backlight off when LCD cover closed
- Full ACPI 2.0 supported
- LCD Auto-DIM mode by time out

# **Easy Buttons**

- Power button
- Internet access button
- E-mail button
- Wow Video & Wow Audio buttons
- Mute button

## **AC Adapter**

- Universal AC adapter. 100-240V AC, 50-60Hz
- 65W with 19V DC output
- 3 pin type for AC-in

## Memory Card & SO-DOMM Socket (optional)

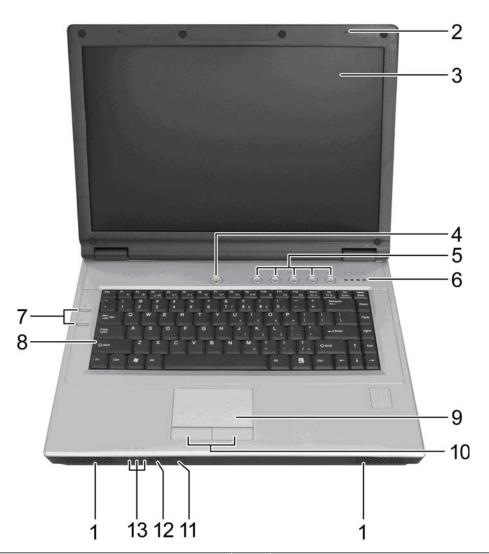
- 3-in-1 Card Reader (MS, SD, MMC)
- Push-push type, with dummy card
- Ricoh R5C833 Card reader controller

# Chapter 1

# **Introducing Your Notebook**

# 1.1 Front Side

The following picture shows the front side of the notebook.



1	Internal Speakers	8	Keyboard
2	Built-in Microphone	9	Touch Pad
3	Display	10	Touch Pad Buttons
4	Power Button	11	Consumer Infrared Receiver (optional)
5	Easy Buttons	12	Wireless Communication Switch
6	Status LEDs	13	Device Status Indicators/Power Status
7	Power USB / Q-Charging Buttons		

#### 1.1.1 Internal Speakers

The built-in speakers support stereo audio.

#### 1.1.2 Built-in Microphone

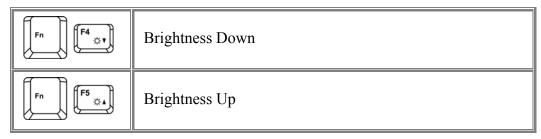
The built-in microphone allows you to communicate without connecting an external microphone.

#### 1.1.3 Display

Your display is a 15.4" COLOR TFT WXGA LCD.

#### 1.1.3.1 Adjusting the Brightness

To conserve power when running your notebook from the battery, set the brightness to the lowest comfortable setting using the keyboard shortcuts.



#### 1.1.3.2 Using an External Monitor or Television

When you start your notebook with an external display device such as an external monitor or television attached and turned on, the image may appear on either the display or the external device.

Alternatively, you can press to switch the video image to the display only, the display and the external device simultaneously, or the external device only.

#### 1.1.3.3 Setting the Display Resolution

To view a program at a specific resolution, both the video controller and display must support the program and the necessary video drivers must be installed.

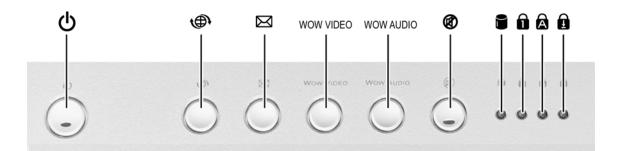
Before changing any of the original display settings, note the original settings for future reference.

# Click Start > Control Panel > Appearance and Personalization > Adjust screen resolution.

You can try different settings for screen resolution and color quality.

If you choose a resolution or color depth that is higher than the display supports, the settings will automatically adjust to the closest possible setting.

#### 1.1.4 Top Panel Buttons and LEDs



#### - Power Button:

Press to turn your notebook on. For more on power settings, see 2.3 Power Management.

Windows Vista, which comes preinstalled, goes into the shutdown sequence automatically if you press the power button while on.

In Windows Vista, you can configure this in Control Panel > System and Maintenance or Hardware and Sound > Power Options > Change plan settings > Change advanced power settings.

#### - Easy Buttons:

The notebook offers these buttons for quick launch programs and functions.

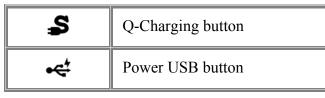
¢	Internet access button
$\square$	Email button
Wow Video Wow Audio	Wow Video/Audio
Ø	Mute button

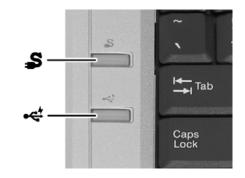
#### - Keyboard Indicators:

Ũ	HDD access indicator
Ô	Num Lock On/Off indicator
	Caps Lock On/Off indicator
Ð	Scroll Lock On/Off indicator

### 1.1.5 Left Panel Buttons

### **USB Buttons**





### 1.1.6 Keyboard

The keyboard includes a numeric keypad and the Microsoft<sup>®</sup> Windows<sup>®</sup> logo key.

### 1.1.6.1 Numeric Keypad

Keypad numbers and symbols are marked in blue on the lower right edge of the keypad keys.

To enable the numeric keypad, press

The **1** indicator will light when the numeric lock is on.

To disable the numeric keypad, press again.

To use the primary function of a dual-function key when the numeric keypad is enabled,



press and the desired key.

## 1.1.6.2 Keyboard Shortcuts

Fn F1 (j)	Sleep
Fn F2	Wireless/Bluetooth On/Off
	To enable this function, you need to install Wireless Select Switch
	Switches Display Mode (LCD > CRT > TV > LCD + CRT Simultaneous > LCD+TV Simultaneous). Switches the video image to the next display or both displays simultaneously.
Fn F4	Brightness Down
Fn F5	Brightness Up

Fn F6 (K)	Mute
Fn <b>F7</b> <b>€1</b>	Audio Volume Down
Fn F8	Audio Volume Up
Fn F9	Play/Pause
Fn F10	Stop
Fn F11	Fast Rewind
Fn F12	Fast Forward
Num Lk Scr Lk	Number Lock
Fn Num Lk Scr Lk	Scroll Lock
Caps Lock	Caps Lock

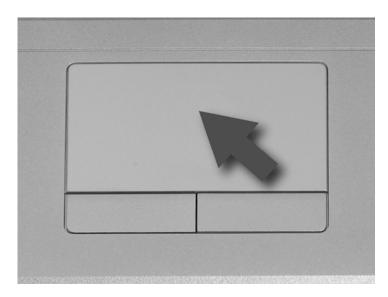
### 1.1.6.3 Windows Logo Key Functions

	Opens Windows Explorer
	Opens the Run dialog box
	Opens the Search Results dialog box
	Opens the Search Results - Computers dialog box (when your notebook is connected to a network)
Pause Break	Opens the System Properties dialog box

To adjust keyboard operation, including character repeat rate, in the **Control Panel** click **Hardware and Sound > Keyboard**.

#### 1.1.7 Touch Pad

The touch pad works like a desktop mouse. The Touch Pad responds to the movements and pressure of your finger, allowing you to move the cursor around the screen, in the same way you would with a mouse.



Place your fingers on the keyboard in the normal typing position.

You can use the Touch Pad by moving either your right or left thumb off the space bar and on to the Touch Pad.

Gently move your thumb across the Touch Pad in the direction you want the cursor to move.

The Touch Pad buttons have the same function as mouse buttons. Clicking these buttons makes selections, drags objects, or performs a variety of other functions depending on the software. To select an object, first move the pointer over the object you want to select, and then press the left button one time and release it. The functionality of these buttons depends on your software.

Double-clicking is a common technique for selecting objects or launching programs.

You may also select object or execute applications from icons by double tapping. This is similar to double-clicking; instead of pressing the Touch Pad buttons, you tap the Touch Pad itself.

#### 1.1.7.1 Customizing the Touch Pad

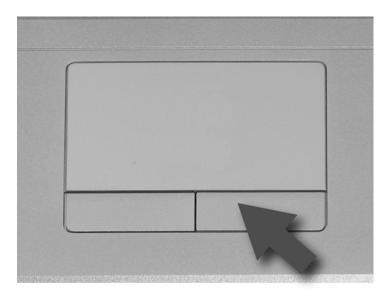
To adjust Touch Pad settings, use the Mouse Properties window, which you can open by clicking **Control Panel** > **Hardware and sound** > **Mouse**.

Select the desired settings and click Apply.

Click **OK** to save the settings and close the window.

#### 1.1.8 Touch Pad Buttons

The left and right touch pad buttons perform the same functions as the left/right buttons of a standard mouse.

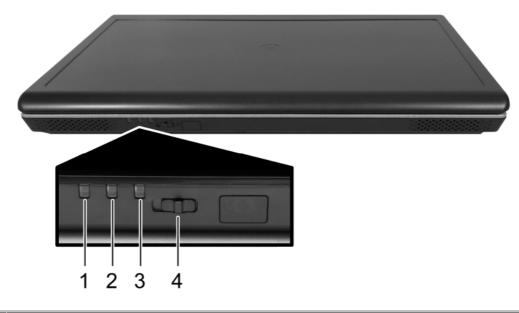


#### 1.1.9 Wireless Communication Switch

Turns the wireless communication function on or off. The wireless communication LED on the front panel lights when the function is activated.

1.1.10 Device Status Indicators / Power Status

The LEDs on the front of notebook indicate the device and power status.



1	Power On (Blue)
2	Battery Charge (Blue/Amber)
3	Bluetooth (Amber)/Wireless (Blue)
4	Wireless Communication Switch

The flashing Power On LED indicates the notebook is in standby mode. For detailed battery status, see *2.4 Battery*.

# 1.2 Right Side

The following picture shows the right side of the notebook.



1	Optical Media Drive
2	USB Ports
3	AC Adapter Connector

#### 1.2.1 Optical Media Drive

The optical media drive provides a means for you to import/export data into/from your computer. Depending on the configuration of your computer, you may either be able to record or play CDs and DVDs.

1.2.2 USB Port



Use this port to connect a USB device, such as a mouse, external keyboard, or printer to the computer.



USB is a peripheral expansion standard that supports data-transfer rates up to 480 Mbps. USB peripherals have a single standard for cables and connectors. You can install and remove USB devices while the computer is on. This is called "hot swapping".

#### 1.2.3 AC Adapter Connector



Use this connector to attach the AC adapter to your notebook. You can connect an AC adapter when your notebook is switched on or off.





While the AC adapter works with electrical outlets worldwide, power connectors and power strips vary by country. Ensure you use a compatible cable or correctly connect the cable to the power strip or electrical outlet. Failure to do so may cause fire or damage to equipment.

# 1.3 Left Side

The following picture shows the left side of the notebook.



1	VGA Port
2	LAN Jack (Green/Amber)
3	Modem Jack
4	S-Video out Port
5	High Power USB Ports
6	IEEE 1394 Port
7	New Card Slot
8	Multiple Digital Media Slot
9	Microphone Jack
10	Headphone Jack

1.3.1 VGA Port



Use this port to connect an external monitor to your computer. See 1.1.3 Display. It doesn't support CMOS and DOS modes.

### 1.3.2 LAN Jack



The RJ-45 network jack allows you to connect your notebook to a local area network (LAN).



Be careful not to plug the telephone line into the slightly larger network connector.

### 1.3.3 Modem Jack



The modem jack allows you to connect the notebook to a telephone line with a standard RJ-11 connector.

### 1.3.4 S-Video out Port



The S-Video out port allows you to connect an external display device, like a TV set or device which has S-video port, to the notebook.

1.3.5 High Power USB Port



High-power USB ports can provide power for devices that draw more than 100mA from the bus line, such as cameras and external hard disks.

#### 1.3.6 IEEE 1394 Port



The IEEE 1394 port allows you to connect devices that utilize IEEE 1394 technology to your computer. This technology is widely used in consumer products such as digital cameras.

1.3.7 New Card Slot (For Express Card)

Supports 54mm type PCI Express Card.

#### 1.3.7.1 PCI Express Card Types

The New Card slot supports one 54mm type PCI Express Card. It supports both USB 2.0 and PCI Express technology, which improves bus speed in data transfer and requires less power than PC Cards.



A PCI Express Card is not a bootable device.

#### 1.3.7.2 Installing a PCI Express Card

PCI Express Cards, with hot-plug feature, allow you to install and remove cards when your notebook is running. The card will be detected automatically when installed.

Usually Express Cards have a mark or symbol to show which end to insert into the slot. Insert the card according to the orientation symbol, and slide the card into the slot. Check the documents that came with your card if the orientation is unclear.



- 1. Press to release the dummy card from the New Card slot.
- 2. Hold the PCI Express card with its orientation symbol pointing into the slot and the topside of the card facing up.
- 3. Slide the card into the slot until it clicks into the connector.
- 4. If you encounter too much resistance, do not force the card. Check the card orientation and try again.

#### 1.3.7.3 Removing a PCI Express Card



- 1. Push the card all the way to in to release it.
- 2. Pull the card out of the slot.
- 1.3.8 Multiple Digital Media Card Slot

Supports one SD/MMC/MS card, which is used in digital still camera and various forms of portable information equipment.

#### 1.3.8.1 Adding and Removing SD/MMC/MS Cards



Before removing an SD/MMC/MS card, stop it running from the configuration utility on the taskbar. Failure to do so could result in data loss.

Insert the SD/MMC/MS card into the card reader slot.

To remove the SD/MMC/MS card, push it in gently, it ejects automatically.

#### 1.3.9 Audio Ports

You can connect a headphone or an external speaker to the  $\Omega$  port and a microphone to the  $\hat{P}$  port. The built-in speakers are disabled when a device is connected to the  $\Omega$  port.

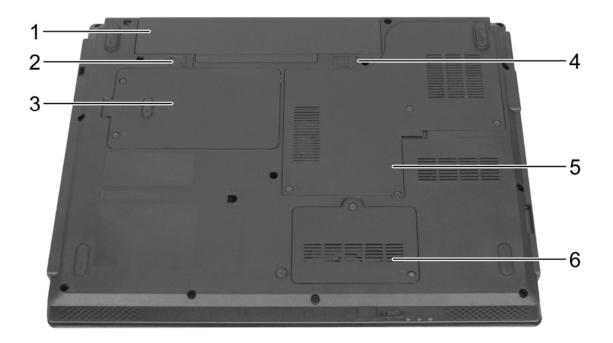
# 1.4 Rear Side

The following picture shows the rear side of the notebook.



## 1.5 Bottom Side

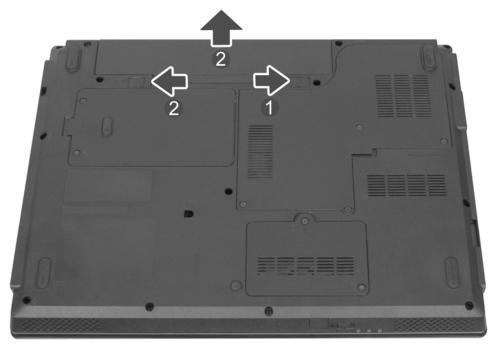
The following picture shows the bottom side of the notebook.



1	Battery Pack
2	Battery Release Latch
3	HDD Cover
4	Battery Lock Switch
5	Thermal Cover
6	Memory Module Cover

#### 1.5.1 Battery Pack

With a charged battery pack installed, you can use your notebook without connecting it to an electrical outlet. For more details, see 2.4 Battery.



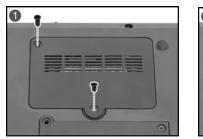
#### To remove the Battery Pack:

- 1. Move the Battery Lock Switch to the right (Unlock position).
- 2. Slide the Battery Release Latch to the left and gently pry the Battery Pack from the computer chassis.
- 1.5.2 Battery Release Latch

The Battery Release Latch secures the battery pack. To release, slide the latch and then remove the battery pack from the bay.

#### 1.5.3 Memory Modules

You can add more memory modules to your computer to improve its performance.







#### To install a memory module:

- 1. Make sure the computer is turned off.
- 2. Remove the two screws securing the memory module cover.
- 3. Lift off the memory module cover.
- 4. There are two memory module ports here. The first one is already occupied by your computer's current memory module. Place the new memory module in the second slot, matching up the notch along its connector rim with the tooth in the connection slot.
- 5. When the module is secured, press down gently until it snaps into place.



Depending on how much additional memory you require, you may need to replace the original memory module.

#### To remove a memory module:

- 1. Make sure the computer is turned off.
- 2. Remove the two screws securing the memory module cover.
- 3. Lift off the memory module cover.
- 4. Pop out the two silver latches holding the memory module into place. The module pops up.
- 5. Grasp the outer edges of the memory module with thumb and forefinger, and then gently remove it.

## Chapter 2

# **Operating Your Notebook (Vista)**

## 2.1 Networks

To access a network:

At the office, you can access a network via the built-in PCI-E LAN.

For specific information about connecting to the LAN or WAN, consult your systems administrator.

If you are working at home or while traveling, you need a dial-up connection. Ask your system administrator for the telephone number of the network.

To set up the connection, go to **Start > Control Panel > Network and Internet > Network and Sharing Center**. Click **Set up a connection or network** on the left pane of the Network and Sharing Center window.

Choose a connection option and follow the on-screen instructions to set up your network connection.

## 2.2 Playing CDs and Movies

#### 2.2.1 Inserting Discs



Be careful not to press down on the drive tray when opening or closing it. When the drive is not in use, keep the tray closed.



Do not move the computer when playing CDs or DVDs.

To insert a disc, do the following:

Press the eject button on the front of the drive.

Pull the tray out.

With the label side up, place the disc in the center of the tray.

Snap the disc onto the spindle.

Gently push the tray back into the drive.

If your notebook has a CD-RW/DVD or DVD, you can watch movies.

For more information on playing CDs or watching movies, click **Help** on the CD player software or DVD player software.

#### 2.2.2 Adjusting the Volume



If you do not hear anything when playing a CD or DVD, check that the speakers are not muted.

#### Start > All Programs > Accessories > Windows Mobility Center.

In the **Windows Mobility Center** window, click and drag the bar in the **Volume** column and slide it left or right to decrease or increase the volume.

Fn F7 T	Audio Volume Down	
Fn (F8 d)	Audio Volume Up	

#### 2.2.3 Adjusting the Picture

If you receive an error message that the current resolution and color depth are using too much memory and preventing DVD playback, adjust the display properties:

#### **Start > Control Panel > Appearance and personalization > Personalization> Display Settings**.

In the **Display Properties** window, click and drag the bar in **Resolution** section to change the setting to 1024 x 768 pixels.

Click the pull-down menu under Colors, select Medium (16 bit), and click OK.

## 2.3 Power Management

2.3.1 Managing Your Notebook's Power



See 2.4 Battery for more information on getting the best performance from battery packs.



Use your notebook connected to an electrical outlet as often as possible as battery life expectancy is affected by the number of times it is charged.

Your computer comes with built-in power management. You can configure it, through the **Power Options** program in the Control Panel, to sleep, hibernate, and wake according to specific situations.

The Advanced settings can be accessed via Start > Control Panel > System and Maintenance > Power Options.

On the **Select a power plan** page, click **Change plan setting** under the plan that you want to change.

Click **Change advanced power settings**. Expand the **Power buttons and lid** category to configure the settings.

When leaving your notebook unattended for long periods, place it in standby or hibernate mode. You can exit either power management mode by pressing the power button.

2.3.2 Power Management Modes

#### 2.3.2.1 Sleep Mode

This mode conserves power by switching off the hard drive and display after a preset period of inactivity (a time-out). When sleep mode is exited, your notebook will return to the same operating state it was before entering sleep.



If your notebook loses power from both the electrical outlet and the battery while in sleep mode, data may be lost.

To enter sleep mode in Windows Vista:

#### **Start > ▶ > Sleep**. Or

Set your notebook to enter sleep mode:

- When you close the lid of your notebook
- When you press the power button
- When you press the start menu power button

The settings can be accessed via **Power Options: Advanced settings** window. See **2.3.1** *Managing Your Notebook's Power*.

To exit sleep mode, press the power button. You cannot exit sleep mode by pressing a key or touching the Touch Pad.

#### 2.3.2.2 Hibernate Mode

In Hibernate mode, power is conserved by system data being copied to the hard drive, and your notebook is completely shut down. When Hibernate mode is exited, your notebook will return to the same operating state it was in before entering Hibernate mode.

Hibernate mode can be enabled/disabled in the Power Options window.

If enabled, your notebook will go into Hibernate mode if the battery charge level becomes critically low.

Depending on how you set the Power Management Options in the Power Options window, use one of the following methods to enter hibernate mode:

- When you close the lid of your notebook
- When you press the power button
- When you press the Start menu power button
- Start > ► > Hibernate.

The settings can be accessed via **Power Options: Advanced settings** window. See **2.3.1** *Managing Your Notebook's Power*.

To exit Hibernate mode, press the power button. You cannot exit Hibernate mode by pressing a key or the Touch Pad.

#### 2.3.3 Power Options Properties

To access the Windows Power Options window:

#### Start > Control Panel > System and Maintenance > Power Options

#### 2.3.3.1 Select a power plan

Windows Vista provides three preset power plans, Balanced, Power saver, and High performance. Each plan has different time-out settings for turning off the display and entering sleep mode. You do not need to make any further adjustments to set the performance level.

To change setting for the plan, click the following three items on the left pane of the Power Options window.

- Choose when to turn off the display
- Change when the computer sleeps
- Adjust the display brightness

After selecting a plan, you can see the percentage of battery charge remaining and active power plan by moving the mouse pointer over the battery meter icon on the taskbar.

For more information on changing advanced power settings, see the **Windows Help and Support**.

To maximize battery power, use the Power saver plan.

#### 2.3.3.2 Power buttons and password protection

Select **Require a password on wakeup**, **Choose what the power buttons does**, or **Choose what closing the lid does** from the left pane of the Power Options window. There are two main settings in this section:

- Power button and lid settings
- Password protection on wakeup

Depending on your operating system, program the following functions by clicking an option from the corresponding pull-down menu in **Advanced settings** window, and then clicking **OK** to save your settings and close this window.

For more information on accessing the **Advanced settings** window, See 2.3.1 Managing *Your Notebook's Power*.

- Set the computer to **Do nothing / Sleep / Hibernate / Shutdown** when you press the power button.
- Set the computer to **Do nothing / Sleep / Hibernate / Shutdown** when you close the laptop lid
- Select the password requirement when the computer wakes from sleep.

#### 2.3.3.3 Create a power plan

Besides the three preset power plans offered in Windows Vista, you can also customize your own power plan. Select **Create a power plan** on the left pane of the Power Options window to begin configuring your power settings.

#### 2.3.4 SpeedStep

Your notebook is equipped with SpeedStep technology to better manage power consumption. It changes the processor speed to find the best balance between your computing performance and power consumption needs. Higher speeds enjoy better performance, while slower speeds conserve more power.

In Windows Vista, the processor's performance level depends on the Power Scheme you select (see *2.3.3 Power Options Properties*). You do not need to make any further adjustments to set the performance level. Each preset power scheme has different time-out settings for entering sleep mode, hibernate mode, turning off the display, and turning off the hard drive.

For example, the Windows Vista automatically changes SpeedStep modes depending on if you are running the computer on AC power or batteries in order to prolong battery usage while still providing optimal performance.

You can also individually alter and save each of these settings and schemes if desired. Choose from the following three power plans that best describes the desired relationship between power and performance.

$\triangleright$		
	Search	Q
Create a power plan		
To create your own plan, start by selecting one of the following plans that is closest	to what you want.	
Balanced  Alagement  Alagement	Battery life: 000	
Automatically balances performance with energy consumption on capable hardware.	Performance: 000	
Power saver	Battery life: 000000	
Saves energy by reducing your computer's performance where possible.	Performance: ••	
High performance	Battery life: 00	
Favors performance, but may use more energy.	Performance: 000000	
Plan name: My Custom Plan 1		
	Next Cancel	

Windows Vista automatically chooses the SpeedStep mode to find the most appropriate speed for your processor according to the type of plan you choose and your current system demands.

## 2.4 Battery

#### 2.4.1 Battery Performance

The performance of the battery can vary, depending on operating conditions. Your battery may last less time if you are running power-intensive programs, playing CDs or DVDs, or have high display-brightness settings.

The Power Management Options can be set to alert you when the battery charge is low.



Ensure any battery you use is compatible. Failure to do so may risk fire or explosion. For more details on purchasing compatible batteries, contact your notebook retailer.



Batteries should never be disposed of with household waste. Contact your local waste disposal or environmental agency for advice on disposing of used lithium-ion batteries.



*Only use the SQU-528, SQU-601, ID6, ID6-2600, IDST-9, CBPIL48, CBPIL52, or CBPIL73 battery pack with this computer.* 

#### 2.4.2 Checking the Battery Charge

Battery Status	Indicator behavior
Charging	Flashes blue
Fully Charged	Solid blue
Critical Low	Amber > approximately 3 minutes left; system beeps

#### 2.4.3 Power Meter

The power meter sindicates the remaining battery charge. When your notebook is running

on battery power, you can check the remaining battery charge, double click the sicon on the taskbar. For more details, including how to make the icon appear on the taskbar if it is not already, see **2.3** *Power Management*.

#### 2.4.4 Low-Battery Warning



After a low-battery warning, save your work immediately, then connect your notebook to an electrical outlet. Hibernate mode will begin automatically if the battery runs completely out of power.

You will hear the low-battery warning when the battery charge is approximately 90 percent depleted. Your notebook will beep once, indicating approximately 10 to 15 minutes of battery operating time remain. If you do not connect your notebook to alternative power source during that time, there will be a periodic beep. Your notebook will automatically enter Hibernate mode if battery charge reaches a critically low level. For more information, see 2.3 Power Management.

#### 2.4.5 Charging the Battery



When connected to an electrical outlet, a completely discharged 6 cell battery needs to be charged in 3.5 to 12 hours, and a 9 cell battery in 4.5 to 12 hours (depending on whether your notebook is on or off and what programs, if any, are running). You can leave the battery in your notebook as long as you like. The battery's internal circuitry prevents the battery from overcharging.

Before using the battery for the first time it must be charged. Connect the computer to an electrical outlet and allow the battery to fully charge, indicated by the battery indicator light on the front panel of the notebook.



Once a battery pack is fully charged for the first time, use your notebook on battery power until the battery discharges completely. This will extend battery life, and helps ensure accurate monitoring of battery capacity.

If necessary, the battery will be charged whenever your notebook is connected to an electrical outlet.

The battery will not be charged if it or your notebook is too hot, either from use or being in a hot environment. If this occurs, the battery indicator will light amber. Disconnect your notebook from any electrical outlet, and allow it and the battery to cool to room temperature. You can then reconnect your notebook to the electrical outlet and charge the battery. The battery indicator will also light amber if the battery is bad and needs replacing.

2.4.6 Removing the Battery

Before removing the battery, ensure your notebook is turned off.

Move the battery lock switch to the right (Unlock position).

Slide and hold the battery release latch.

Remove the battery.

#### 2.4.7 Installing a Battery

Slide the battery into the bay.

Press it into place gently but firmly until the latch locks it into place.

Slide the battery lock switch back to the locked position.

#### 2.4.8 Storing a Battery

If storing your notebook for an extended period of time, remove the battery. Fully charge the battery before using your notebook again.

#### 2.4.9 Working With Extra Battery Packs

If you spend a lot of time traveling, working without connecting your notebook to an electrical outlet, it may be a good idea to carry additional battery packs so you can quickly replace a discharged battery and continue working.

#### 2.4.10 Maximizing Battery Life

A battery can be recharged many times, but over time it will lose its ability to hold a charge. To maximize battery life:

- If you are not using your notebook for a long period, remove the battery.
- If you have a spare battery pack, alternate the batteries.
- Ensure your notebook is off when replacing the battery.
- Store spare battery packs in a cool, dry place, out of direct sunlight.

## 2.5 Advanced Charging Functions: Q-Charging & Power USB Buttons

#### 2.5.1 Q-Charging Button with Smart Battery Software

The Q-Charging button and Smart Battery software let the user determine how much the battery is charged when connected to AC power.

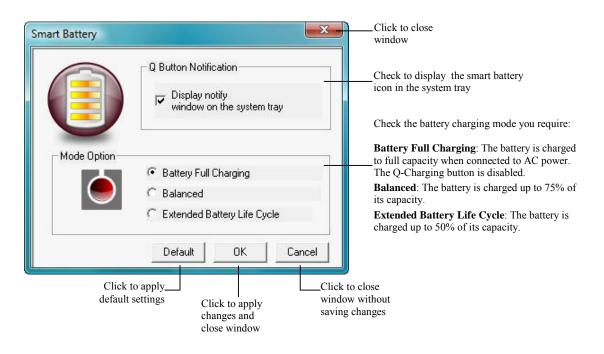
#### 2.5.1.1 Installing the Software

You must have Administrator's rights to install the software. Double click **setup.exe** in the root directory on the CD-ROM to begin installation. Once installation is complete, the system will restart automatically. The software will be loaded automatically upon reboot.

#### 2.5.1.2 Using the Software

Before you can use the Q-Charging button, you must first configure the Smart Battery software. You can access the software via the Control Panel:

- 1. Click **Start** > **Settings** > Control Panel.
- 2. Double click the **Smart Battery** icon. The main screen appears:



#### 2.5.2 Using the Q-Charging Button

Press the Q-Charging button to begin charging the battery to its maximum capacity. By pressing the Q-Charging button, you *override* any settings made in the Smart Battery software.

When you press the Q-Charging button, a pop-up message will appear '**Charging in progress. Avoid disconnecting AC adaptor**'. **DO NOT** disconnect the AC adaptor, as this may cause irreversible damage to your battery and laptop.

2.5.3 Using the Power USB Button

The laptop is equipped with a power USB function, which allows you to increase the power output when charging an external USB device, such as a mobile phone or PDA.

Press the Power USB button to increase the power output to 1 ampere. When not pressed, power output is 0.5 ampere. You can also charge external USB devices when the laptop is powered off, but this button *must* be pressed in order to do so.

Note: Power USB work at AC mode.

## 2.6 WOW Video & Audio

The Wow Video & Audio software lets the user switch between various video and audio schemes, to best suit the media that is being played.

2.6.1 Installing the Software

You must have Administrator's rights to install the software. Double click **setup.exe** in the root directory on the CD-ROM to begin installation. Once installation is complete, the system will restart automatically. The software will be loaded automatically upon reboot.

2.6.2 Using the Software

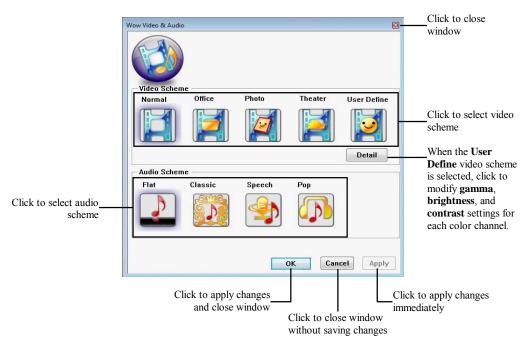
Press the **Wow Video** button on the front of the laptop to select the preferred video mode. Press the button repeatedly to cycle through the available modes: **Theater**, **Office**, **Photo**, **Normal**, **User Define** (see 2.6.3 Changing Software Settings for details).

Press the **Wow Audio** button on the front of the laptop to select the preferred audio mode. Press the button repeatedly to cycle through the available modes: **Flat**, **Classic**, **Speech**, **Pop**.

2.6.3 Changing Software Settings

You can configure the Wow Video & Audio software via the Control Panel:

- 1. Click **Start > Settings > Control Panel**.
- 2. Double click the **Wow Video Audio** icon. The main screen appears:



## Chapter 3

# **Caring for Your Notebook**

## 3.1 Caring for Your Notebook



Never spray cleaning products directly onto your notebook's case or display. Only use products designed for cleaning computer displays.

#### 3.1.1 Cleaning Your Notebook and Keyboard

Shut your notebook down, turn it off and disconnect it from the electrical outlet and any external devices, such as a printer.

Remove the battery pack.

Use the brush attachment of your vacuum cleaner to gently remove dust from your notebook's openings and keyboard.

Use a slightly moistened soft, lint-free cloth to wipe your notebook and keyboard. *Use only water or a recommended computer cleaner*.

3.1.2 Cleaning the Display

Shut your notebook down, turn it off and disconnect it from the electrical outlet and any external devices, such as a printer.

Remove the battery pack.

Use a slightly moistened soft, lint-free cloth to wipe your notebook's display. *Use only water or a recommended computer cleaner*.

3.1.3 Cleaning the Touch Pad

Shut your notebook down, turn it off and disconnect from the electrical outlet and any external devices, such as a printer.

Remove the battery pack.

Use a slightly moistened soft, lint-free cloth to carefully wipe the Touch Pad, being careful not to allow any moisture into the gaps. *Use only water or a recommended computer cleaner*.

#### 3.1.4 Cleaning the CD/DVD Drive



Never touch the lens. Use only compressed air to clean the lens.

If you experience problems playing CDs or DVDs, including skipping, clean the unlabelled side of the disc with a soft, lint-free cloth or using a commercial product.

#### 3.1.5 Precautions

- Do not spill liquids on the keyboard. If liquid is spilt on the keyboard, turn your notebook off immediately. Leave off overnight to let it completely dry out before using it again.
- Do not turn off your notebook if a drive light indicates a drive is active. Turning off your notebook while it is reading from or writing to a disk may damage the disk, the drive, or both.
- Keep your notebook and disks away from objects that generate strong magnetic fields, such as stereo speakers. Information on disks is stored magnetically. Placing a magnet too close to a disk can erase important files.
- Scan all new files for viruses. This precaution is especially important for files you receive via email, disk or download from the Internet. You will need a special program to scan for viruses. For further information, talk to your computer dealer.

## 3.2 Traveling

#### 3.2.1 Identifying Your Notebook

Attach a nametag or business card to your notebook, or use a permanent marker or stencil to write a unique identifying mark (such as your driver's license number) on the case.

Create a file on the Desktop called **if found**. Place information such as your name, address, and telephone number in this file.

Contact your credit card company, and ask if it offers coded identification tags.

#### 3.2.2 Packing Your Notebook

Remove any external devices attached to the computer and store them in a safe place.

Fully charge the main battery and any spare batteries you plan to carry with you.

Turn off the computer or put the computer into hibernate mode.

Disconnect the AC adapter.

Remove any extraneous items, such as paper clips, pens, and paper, from the keyboard and then close the display.

Pack your notebook and accessories in their carry case.

Avoid packing the computer with items such as shaving cream, colognes, perfumes, or food.

Protect the computer, the batteries, and the hard drive from hazards such as extreme temperatures, dirt, dust, liquids, or overexposure to sunlight.

Pack the computer so that it does not slide around in the trunk of your car or in an overhead storage compartment.



When traveling by air, never check in your notebook as baggage.

#### 3.2.3 Setting a Password

To provide extra protection for your data and documents, it is advisable to set a password.

As your notebook is booting (starting up), press **F2** to view the **BIOS Setup Utility**. Use the right arrow key to highlight **Security**.

Use the down arrow key to select: Set Supervisor Password. Press Enter.

Type your password, press **Enter** and re-type to confirm. Press **Enter**. Your changes will be saved. Press **Enter** to continue.

Use the right arrow key to select **Exit**, use the down key to select **Exit Saving Changes**. Press **Enter** and **Yes**. Your notebook will now boot as normal.



To enable password protection on Boot, use the down key to select **Password on** boot. Press Enter and select Enabled.

#### 3.2.4 Travel Tips

- If you are traveling abroad, carry proof of ownership—or of your right to use the computer if it is company-owned—to speed your passage through customs. Investigate the customs regulations of the countries you plan to visit and consider acquiring an international carnet (also known as a merchandise passport) from your government.
- Ensure that you know which electrical outlets are used in the countries you will visit, and prepare the appropriate power adapters.
- Check with your credit card company for information about the kinds of emergency travel assistance it offers to users of portable computers.
- When traveling by air, ensure that you have a charged battery available in case you are asked to turn on the computer.
- Before you use the computer on an airplane, verify that such usage is permitted. Some airlines forbid the use of electronic devices during the flight. All airlines forbid the use of electronic devices during takeoff and landing.



Never walk your notebook through a metal detector. Send it through an X-ray machine, or have it manually inspected.

#### 3.2.5 If Your Notebook is Lost or Stolen

Call a law enforcement agency to report your notebook lost or stolen. Ask that a case number be assigned and write down the number, along with the name, address, and telephone number of the law enforcement agency. If possible, obtain the name of the investigating officer.

If the notebook belongs to a company, notify the security office of the firm.

# Chapter 4

## **The BIOS Setup Program**

## 4.1 Introduction

The BIOS (Basic Input and Output System) Setup program is a menu driven utility that enables you to make changes to the system configuration and tailor the operation of your notebook to your individual work needs. A ROM-based configuration utility displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in nonvolatile battery backed-up CMOS RAM, which saves this information even when the power is turned off. When the computer is turned back on, the system is configured with the values found in CMOS. Via easy-to-use menus, you can configure such items as:

- Hard drives, diskette drives and peripherals
- Video display options
- Password protection from unauthorized use
- Boot devices

The settings made in the Setup program intimately affect how the notebook performs. It is important, therefore, to first understand all the available options, and second, to make settings appropriate for the way you use the notebook. This chapter guides you through the Setup program by providing clear explanations for all Setup options.

A standard configuration has already been set in the Setup program by the factory technicians. However, eventually you may want to customize your system to suit your own performance needs. It is recommended that you read this chapter and become familiar with the configurations that can be made in the BIOS.

The next section explains how to move around in the Setup program, as well as how to specify and save your new settings. A brief discussion of the optional settings among the different submenus follows.

### 4.2 Navigating through the BIOS Setup Program

- Accessing the BIOS Setup Program
- Launching Submenus
- Saving Changes and Exiting the Setup Program

The Setup program has been designed to make it as easy to use as possible. It is a menu driven program, which means you can scroll through the various directories and make your selections among the various predetermined choices. If you accidentally configure a setting, use the BIOS hot keys to return to the previous value. The hot keys are discussed in more detail later in this chapter.

When turning on the notebook for the first time you may be prompted to run the BIOS Setup program. A warning message may appear on the screen if the hardware configuration is changed or the POST fails. This message will inform you of any errors or invalid settings and prompt you to run the Setup program to correct the problem.

Even if you are not prompted by a message instructing you to use the Setup program, at some time in the future you may want to change the configuration of your computer. For example, you may want to make changes to the display option settings or enable the notebook's password function for security purposes. It will then be necessary to reconfigure your system using the Setup program so that the computer can recognize these changes.

The list below gives a few examples of reasons why you may want or need to run the BIOS Setup program.

- You have set up the computer for the first time and you got a message stating that you should run the BIOS Setup program.
- You want to redefine the communication ports to prevent any conflicts.
- You want to change the password or make other changes to the security setup.



The few examples listed above are by no means complete.

#### 4.2.1 Accessing the BIOS Setup Program

To access the BIOS Setup program, press the [F2] key as soon as the computer starts upTthe Phoenix BIOS screen displays.

	Phoenix TrustedCore(tm) Setup Utility							
Main	Advanced	Security	Boot	Exit				
					Item	n Specific Help		
System	Time:	[19:34:3	35]			<shift-tab>, or</shift-tab>		
System	Date:	[01/01/2	2005]		<enter></enter>	selects field.		
Hard Di	sk:	Hard D	isk Model I	Name				
Quiet B	oot:	[Enable	d]					
System	Memory:	640 KB	i					
Extende	ed Memory:	1022 M	В					
BIOS V	ersion:	XXXX	X					
Langua	ge:	[Englisl	n (US)]					
F1 H	elp ↑↓ Sel	ect Item	F5/F6 C	hange Values	F9	Setup Defaults		
Esc Ex	iit $\leftarrow \rightarrow Se^{-1}$	lect Menu	Enter Sele	ect ▶ Sub-Me	nu F10	Save and Exit		

#### The Menu Bar

The top of the Setup screen has a menu bar with the following selections:

Main	Allows the user to configure standard IBM PC AT system parameters.
Advanced	Allows the user to configure advanced system settings.
Security	Allows the user to configure security system settings.
Boot	Allows the user to specify the order in which the notebook is to check for a device to boot the system.
Exit	Allows the user to save CMOS setting and exit the Setup program.

To move between menu bar items, use the  $[\blacktriangleleft]$  and  $[\blacktriangleright]$  arrow keys until the desired item is highlighted. For example, if you want to move from the *Main menu* to the *Advanced menu*, press the right arrow key  $[\triangleright]$  once.

#### **Item Specific Help**

To the right of the Setup screen, you will notice an item specific help bar. For each item that you select on the menu, the bar informs of its specific function as well as the hot keys related to that item and/or submenu.

#### 4.2.2 Launching Submenus

A submenu contains additional options for a field parameter. To call up a submenu, simply move the highlight to the desired field and press the [Enter] key. The submenu opens.

If you are a first time user or are not familiar with BIOS Setup program, it is highly recommended that you take a few minutes to familiarize yourself with each of the submenus and their corresponding functions. If you accidentally make unwanted changes to the current configuration, go to the *Exit menu* and select **Discard Changes**.

#### 4.2.3 Saving Changes and Exiting the Setup Program

Refer to the *Exit Menu* section of this chapter for detailed information on saving changes and exiting the Setup program.

### 4.3 The Main Menu

When the Setup program is accessed, the Information screen appears. It displays the following pieces of information regarding your current system:

	Phoenix TrustedCore(tm) Setup Utility						
Main A	dvanced Se	curity	Boot	Exit			
					Iter	n Specific Help	
System Time		[19:34:35]				<shift-tab>,</shift-tab>	or
System Date:		[01/01/200	5]		<enter></enter>	> selects field.	
Hard Disk:		Hard Disk	Model	Name			
Quiet Boot:		[Enabled]					
System Mem	ory:	640 KB					
Extended Me	mory:	1022 MB					
BIOS Version	n:	XXXXX					
Language:		[English (U	JS)]				
F1 Help	$\uparrow \downarrow$ Select It	em F5	/F6 C	hange Valu	es F9	Setup Defaults	5
Esc Exit	$\leftarrow \rightarrow \text{Select N}$	lenu Er	nter Sel	ect • Sub-N	Menu F10	Save and Exit	

#### System Time and System Date

The hour is displayed with 24-hour format. The values set in these two fields take effect immediately.

#### Hard Disk

The hard disk information is displayed with the manufacturer and model name.

#### **Quiet Boot**

*Enabled*: Customer logo is displayed; Summary screen is disabled.

Disabled: Customer logo is not displayed; Summary screen is enabled.

#### System Memory

This field reports the memory size of system base memory. The size is fixed to 640KB.

#### **Extended Memory**

This field reports the memory size of the extended memory with an integer in the system, but 32Bit SMI will occupy 1 MB and UMA frame buffer (Integrated VGA uses only).

Extended Memory size = Total memory size -1 MB - 1 MB - UMA frame buffer

#### **BIOS Version**

This field displays current version of the BIOS.

#### Language

Currently only English is supported.

### 4.4 The Advanced Menu

Selecting *Advanced* on the menu bar displays the Advanced Menu. Each field on this menu is covered below.

Phoenix TrustedCore(tm) Setup Utility								
Main	Advanced	Security	Boo	ot	Exit			
							Item	Specific Help
AHCI C	onfiguration:		[Ena	bled]				AHCI:
Total Gr	aphics Memory:		512 1	MB			/0	SP1+IAA driver AHCI mode.
Legacy V	USB Support:		[Ena	bled]		Supp	01001	
F1 He	elp ↑↓ Sele	ect Item	F5/F6	Chang	ge Values		F9	Setup Defaults
Esc Ex	it $\leftrightarrow \rightarrow$ Sele	ect Menu	Enter S	elect	Sub-Me	nu	F10	Save and Exit

#### AHCI (Advanced Host Configuration Interface) Configuration

Disabled: Disables the AHCI mode.

Enabled: Enables the AHCI mode.

#### **Total Graphics Memory**

This field displays the total onboard graphics memory.

#### Legacy USB Support

Disabled: Disables the legacy USB support.

*Enabled*: Enables the legacy USB support.

## 4.5 The Security Menu

The notebook's advanced security system allows you to set a password to prevent unauthorized access to system resources, data, and the BIOS Setup program. This section covers each Security parameter. Selecting *Security* from the menu bar displays the Security menu.

#### A Note about Passwords

The BIOS Setup program allows you to specify passwords in the Security menu. The passwords control access to the BIOS and certain Security menu options during system startup.

Passwords are not case sensitive. A password can be entered using either upper or lower case letters; it makes no difference. When you choose your password, it should be composed of alphanumeric characters (a-z, 0-9) and be eight characters in length.

NOTE: The supervisor password must be set before the user password can be set.

	Phoenix TrustedCore(tm) Setup Utility							
Main	Advanced	Security	Boo	ot	Exit			
						Iten	n Specific Help	
Superv	isor Password Is:		Clear				sor password	
User Pa	assword Is:		Clear			controls utility.	access to the setup	
Set Sup	ervisor Password:		[Enter]					
Set Use	er Password:		[Enter]					
Passwo	ord on boot:		[Enabl	ed]				
Built-in	n HDD1 Status		Clear					
	n HDD1 Password DD User Passwor		[User ( [Enter]					
Trustee	l Platform Support	(*)	[Disab	led]				
F1 H	lelp ↑↓ Sel	ect Item	F5/F6	Chan	ge Values	F9	Setup Defaults	
Esc E	xit $\leftrightarrow \operatorname{Sel}$	lect Menu	Enter S	Select	Sub-Menu	ı F10	Save and Exit	

#### Set Supervisor Password... / Set User Password...

These fields allow you to set the System Password. The System Password allows full access to the BIOS Setup menus. To set the Supervisor password, highlight this field and press [Enter].

Type the password and press the [Enter] key. You can type up to eight alphanumeric characters. Symbols are ignored.

To confirm the password, type the password again and press the [Enter] key.

#### Supervisor Password Is / User Password Is

This field displays if the Supervisor/User Passwords is set.

Set System Password is set.

<u>Clear</u> System Password is not set.

#### Set Supervisor Password / Set User Password

Enter this field always shows the message.

While this field is highlighted, press [Enter]. The following message is shown:

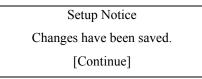
Set Supervisor Password:					
Enter New Password	[	]			
Confirm New Password	[	]			

If there is an existing password then setup will prompt with the following window instead and the current password will be required to be entered at first:

Set Supervisor Password:						
Enter Current Password	[	]				
Enter New Password	[	]				
Confirm New Password	[	]				

User can type password in field of **Enter New Password**, and re-enter password in field of **Confirm New Password** for verification.

If verification OK:



The supervisor password is saved after pressing [Enter].

If verification fails:

Setup Warning

Passwords do not match.

Re-enter password.

[Continue]

The formats of the password are as follows:

Length: No more than eight characters.

Characters: Alphanumeric keys only. The shift status, Ctrl, Shift, Alt, and capitals, are ignored.

#### **Password on boot**

If password on boot is required, the password must be set otherwise it cannot be enabled. Enable this field to have setup prompt for the password when the computer boots.

#### **Built-in HDD1 Status**

Set HDD Password is set.

<u>Clear</u> HDD Password is not set.

#### **Built-in HDD1 Password Select**

*<u>User Only</u>* For normal user entering HDD password.

User+Master Master password must be set first before user password can be configured.

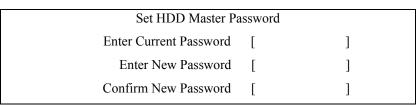
#### Set HDD User Password / Set HDD Master Password

Enter this field always shows the message.

While this field is highlighted, press [Enter]. The following message is shown:

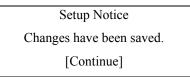
Set HDD Master Password					
Enter New Password	[	]			
Confirm New Password	[	]			

If there is an existing password then setup will prompt with the following window instead and the current password will be required to be entered at first:



User can type password in field of **Enter New Password**, and re-enter password in field of **Confirm New Password** for verification.

If verification OK:



The HDD password is saved after pressing [Enter].

If verification fails:

Setup Warning Passwords do not match.

Re-enter password.

[Continue]

If password on boot is required, the password must be set otherwise it cannot be enabled.

The formats of the password are as follows:

Length: No more than 8 characters.

Characters: Alphanumeric keys only. The shift status, Ctrl, Shift, Alt, and Capital, are ignored.

### 4.6 The Boot Menu

This menu allows the user to decide the order of boot devices to load the operating system. Bootable devices include the diskette drive in module bay, the onboard hard disk drive and the CD-ROM in module bay.

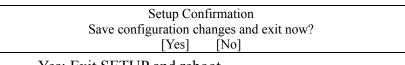
Phoenix TrustedCore(tm) Setup Utility											
Main	Advanced	l Security	Boot	E	xit						
						Iten	n Specific Help				
HDD Hard Disk Model name							Keys used to view or				
CD/DVD	D CD/DVD Drive Model name						configure devices: Up and Down arrows				
FDD			select a device.								
LAN						device u <shift +<="" td=""><td>nd <f6> moves the up or down. - 1&gt; enables or s a device.</f6></td></shift>	nd <f6> moves the up or down. - 1&gt; enables or s a device.</f6>				
F1 Hel	p ↑↓	Select Item	F5/F6	Chang	e Values	F9	Setup Defaults				
Esc Exit	←>	Select Menu	Enter S	elect 🕨	Sub-Menu	F10	Save and Exit				

### 4.7 The Exit Menu

		Phoenix Tru	ustedCo	re(tm) S	Setup Utility		
Main	Advanced	Security	Boo	ot	Exit		
						Item	Specific Help
Exit Sav	ing Changes						
Exit Disc	carding Changes						
Load Set	up Defaults						
F1 He	lp ↑↓ Sel	ect Item	F5/F6	Chang	e Values	F9	Setup Defaults
Esc Exi	t $\leftrightarrow$ Sel	ect Menu	Enter S	elect 🕨	Sub-Menu	F10	Save and Exit

#### **Exit Saving Changes**

Allows the user to save changes to CMOS and reboot system. The following message prompts the user to confirm after pressing [Enter] on the item.



Yes: Exit SETUP and reboot

No: Go back to previous screen

#### **Exit Discarding Changes**

Allows the user to exit Setup without saving changes to CMOS. The following message prompts the user to confirm after pressing [Enter] on the item.

Setup Warning	
Configuration has not been saved!	
Save before exiting?	
[Yes] [No]	

#### Load Setup Defaults

Allows the user loads default values in CMOS Setup. The following message prompts the user to confirm after pressing [Enter] on this item.

Setup Confirmation Load default configuration now? [Yes] [No]

Select Yes to confirm or No to abort. You will then return to the setup screen.

# Chapter 5

# Troubleshooting

### **5.1 Frequently Asked Questions**

### Q: My computer switches to hibernation mode much too quickly and I have to constantly hit a key or move the mouse to bring back the screen. What can I do?

This is part of Windows Power Management. Access Power Management by clicking on Start / Control Panel / Performance and Maintenance / Power Options, and change the time next to the "Turn off monitor" option to the time you want. You have the choice of either adjusting time for the power supply or for the battery.

### Q: I've heard that cleaning and rearranging files on the hard drive will improve program's launch speed. How do I do this ?

Good disk maintenances can improve program launch speed. This normally includes deleting unnecessary files, and defragmenting hard disk so that files can be more efficiently grouped. Windows contains maintenance utilities for these tasks; run Disk Cleanup to remove unnecessary files, and Disk Defragmenter to defragment fragmented file blocks. For more information about these utilities, please refer to your Windows documentation.

### Q: The dial tone volume of the internal fax/modem is too low. How can I increase its volume?

Go to Start/Control Panel/Sounds, Speech, and Audio Devices, under Device volume, adjust your speaker volume by controlling the volume bar.

#### Q: What kind of external microphone can I use with my notebook computer?

You will need to use a self-amplifying microphone.

#### Q: There are echoes coming from my speakers. What can I do?

Double click on the Speaker icon on the task bar. Then, under Microphone Balance, check the Mute box.

# Q: Because of a software problem, I was unable to shut the computer down from Windows, I pressed the power button to power off the computer, but it didn't work. How can I force a power off?

Make sure you press the power button for at least 4 seconds. Normally, this will force the computer to shut off.

### Q: Why can't I charge the battery of my notebook computer after it is out of use for some time?

After your notebook computer has not been used for a long time (for example: more than one month), the battery will enter into low voltage protection mode. Under this circumstance, restoring to normal voltage will require the battery to be slowly charged for several hours. Once the battery has been

fully charged, your computer will resume to normal operation.

#### Q: My computer says: "CMOS Battery Low", what should I do?

If your computer is without power (i.e. unplug the computer power source from the power outlet and remove the battery pack from it) for over 45 days, you would lose the information stored in CMOS. Please follow the steps below to reconfigure your CMOS settings:

- 1. Press F2 to enter into the BIOS setup utility.
- **2.** Select "Load Optional Defaults?". When you see the following prompt, choose <OK> and then press <Enter>.
- **3.** Select "Save Changes and Exit", select <OK> and press <Enter> to restart your computer.

#### Q: How to unplug or eject devices

- 1. In the notification area next to your task bar, double-click the Safe Removal icon. Safe removal displays a list of Plug and Play devices that support safe removal and that are currently attached to the system. If you do not see the Safe Removal icon, your device does not support safe removal, and you cannot unplug or eject your device using Safe Removal.
- **2.** In Safely Remove Hardware, in the list of devices, select the device that you want to unplug or eject, and then click Stop.

This tells the system that you will be unplugging or ejecting the device.

**3.** In Stop a Hardware device, click OK. A notification appears stating that it is now safe to unplug or eject the device.

#### Caution

Unplugging or ejecting a device that supports safe removal without first using the Safe Removal application to warn the system can cause data to be lost or your system to become unstable. For example, if a device is unplugged during a data transfer, data loss is likely. If you use Safe Removal, however, you can warn the system before you unplug or eject a device, preventing possible loss of data.

#### Note

For removable storage devices that can safely be removed while the system is on, the system disables write caching by default. It does this so the devices can be removed without loss of data. When write caching is disable, however, the system will likely experience slower performance, so be sure to enable write caching when you have finished removing the device.

## Appendix A

### **Recovery Update Notices**

#### How to restore your W536M to factory defaults

Time to restore: When your computer is infected by virus or there is any other reason that you want to restore your operation system to the factory defaults.

Execute Xpress Recovery2 Lite (XR2 Lite) Professional Recovery Utility.Please take the following procedures:

1. Start up your computer first. Restart your computer if it has already booted into system.

Note: If your system OS is Microsoft Vista, you have to insert the driver DVD and boot from the ODD device to run the Express 2 Recovery function.

- **2.** Right after you see the startup screen (such as trademark, logo or text), the DOS screen will appear. Press F9.
  - \* F9 is a typical hotkey to restore professional settings. Please consult with your computer manufacture if your hotkey doesn't function.
- **3.** There are three options on the menu: "RESTORE" (to restore data), "ABOUT" (to display XR2 Lite related information) and "REBOOT" (to cancel the recovery and restart the computer). We recommend you to select "RESTORE" to restore factory defaults. F9.



**4.** Then the prompt "Restore Image?" will appear on the menu. We recommend you to select "YES" to restore an image file. \* "Image file" is a compressed file that compresses all the Windows operation system data. Recovery an image file allows you to restore your operation system to factory defaults.



**5.** After all the selections have been made, the screen shows "RESTORE NOW...", indicating your computer is now recovering the operation system data. When the recovery is complete, the computer will automatically restart and restore to factory defaults.



# Appendix B

### **Service Center**

#### Taiwan (Headquarters) GIGA-BYTE TECHNOLOGY CO., LTD.

Address: No.6, Bau Chiang Road, Hsin-Tien, Taipei 231, Taiwan TEL: +886 (2) 8912-4888 FAX: +886 (2) 8912-4004

How to submit a question? Technical Issues about using GIGABYTE products. Non-technical Sales and marketing issues

WEB Address(English): http://www.gigabyte.com.tw/ WEB Address(Chinese): <u>http://www.gigabyte.tw/</u>

#### U.S.A. G.B.T. INC.

TEL: +1 (626) 854-9338 FAX: +1 (626) 854-9339 WEB Address: http://www.gigabyte.us/

#### Japan NIPPON GIGA-BYTE CORPORATION

TEL: +81-3-5791-5438 FAX: +81-3-5791-5439 WEB Address: http://www.gigabyte.co.jp/

#### China G.B.T. TECH. TRADING CO., LTD.

Shanghai TEL: +86-21-63410999 FAX: +86-21-63410100

GuangZhou TEL: +86-20-87586074 FAX: +86-20-85517843 Beijing TEL: +86-10-62102838 FAX: +86-10-62102848

Chengdu TEL: +86-28-85236930 FAX: +86-28-85256822

Wuhan TEL: +86-27-87851061 FAX: +86-27-87851330

Xian TEL: +86-29-85531943 FAX: +86-29-85539821

Shenyang TEL: +86-24-23960918 FAX: +86-24-23960918-809 WEB Address: <u>http://www.gigabyte.com.cn/</u> Russia Moscow Representative Office Of Giga-Byte Technology Co., Ltd. WEB Address: <u>http://www.gigabyte.ru/</u>

Germany HAMBURG Representative Office Of Giga-Byte Technology Co., Ltd. TEL: +49 40 25330433 ADDRESS: BULLENKOPPEL 16 22047 HAMBURG

2ZA08G-036M0-Q00