

*Notebook Computer*

*User's Guide*

G731001



## **Preface**

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While reasonable efforts have been made to ensure the accuracy of this manual, the manufacturer and distributor assume no liability resulting from errors or omissions in this manual, or from the use of the information contained herein.

## Notices

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### Federal Communications Commission Radio Frequency Interference Statement

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**NOTE:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and if not installed and used in accordance with the instruction manual may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

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- 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.

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**Notice:**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment. Shielded interface cables and a non-shielded AC power cord must be used in order to comply with emission limits.

This equipment is to be used with power supply:

I/P: 100-240 Vac, 50-60Hz, 1.5A

O/P: 19Vdc, 4.74A or

I/P: 100-240 Vac, 50-60Hz, 20A

O/P: 20Vdc, 6A

There is no internal power supply.

**Canadian DOC Notice For Class B Computing Devices**

This Class B digital apparatus meets all requirements of the Canadian Interference - Causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

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**Safety Precautions**

This section is designed to assist you in identifying potentially unsafe conditions while working with this product. Required safety features have been installed in the computer to protect you from injury. However, you should use good judgment to identify potential safety hazards:

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning. Use moisture sheet or cloth for cleaning.
4. For pluggable equipment, that the socket-outlet shall be installed near the equipment and shall be easily accessible.

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- 5.** Please keep this equipment from humidity.
  - 6.** Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
  - 7.** Make sure to use the right voltage for the power source when connecting the equipment to the power outlet.
  - 8.** Place the power cord in such a way that people can not setp on it. Do not place anything on top of the power cord.
  - 9.** All cautions and warnings on the equipment should be noted.
  - 10.** If the equipment is not use for a long time, disconnect the equipment from the main power outlet to avoid being damaged by transient overvoltage.
  - 11.** Never pour any liquid into the opening, this could cause fire or electrical shock.
  - 12.** Never open the equipment. For safety reason, the equipment should only be opened by a qualified service personnel.
  - 13.** If on the following situations arises, get the equipment checked by a service personnel:
    - a.** The Power cord or plug is damaged.
    - b.** Liquid has penetrated into the equipment.
    - c.** The equipment has been exposed to moisture.
    - d.** The equipment has not work well or you can not get it work according to the user's manual.
    - e.** The equipment has dropped and damaged.
    - f.** If the equipment has obvious sign of breakage.
  - 14.** Do not leave this equipment in an environment unconditioned, storage temperature above 60°C (140°F), it may damage the equipment.
  - 15.** The unit can be operated at an ambient temperature of

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max. 35°C.

- 16.** The sound pressure level at the operators position according to IEC 704-1: 1982 is equal or less than 70 dB(A).

**17. Power Cord Requirements**

The power cord set used with the AC adaptor must meet the requirements of the country where you use the AC adaptor, whether it is 100-120 or 200-240 Vac. The following information explains the requirements for power cord set selection.

- The cord set must be approved for the country in which it is used.
- The appliance coupler must have a configuration for mating with a CEE22/EN6032/IEC 320 appliance inlet.

**A.** For U.S. and Canada:

- The cord set must be UL Listed and CSA Certified.
- The minimum specifications for the flexible cord are No. 18 AWG.

**B.** For Japan:

- All components of the cord set must bear a “ T ” mark and registration number in accordance with the Japanese Dentori Law.
- The minimum specifications for the flexible cord are .75m<sup>2</sup> conductors.

**C.** For Other Countries:

- The cord set fittings must bear the certification mark of the agency responsible for evaluation in a specific country.
- The flexible cord must be of a HAR (harmonized) type H05VV-F.

- 
- The cord set must have a current capacity of a least 2.5 Amperes and voltage rating of 125 or 250 Vac.
18. When using your telephone equipment, basic safety precautions should always be followed to reduce the risk of fire, electric shock and injury to persons. These precautions includes the following:
    1. Do not use this product near water, for example, near a bathtub, wash bowl, kitchen sink or laundry tub, in a wet basement or near a swimming pool.
    2. Avoid using a telephone (other than a cordless type) during an electrical storm. There may be a remote risk of electric shock from lightning.
    3. Do not use the telephone to report a gas leak in the vicinity of the leak.
    4. Use only the power cord indicated in this manual.
  19. Do not use the AC adapter near open water or other liquids. Never spill liquid into the AC adapter.
  20. Laser Warning: Laser Class I Product Caution - Invisible laser radiation when open avoid exposure to beam.

### **Wichtige Sicherheitshinweise**

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1. Bitte lesen Sie diese Hinweis sorgfältig durch.
2. Heben Sie dirse Anleitung für den späteren Gebrauch auf.
3. Vor jedem Reinigen ist das Gerät vom Stromnetz zu trennen. Versenden Sie Keine Flüssig- oder Aerosolreiniger. Am besten eignet sich ein angefeuchtetes Tuch zur Reinigung.
4. Die Netzanschlußsteckdose soll nahe dem Gerät angebracht und leicht zugänglich sein.
5. Das Gerät ist vor Feuchtigkeit zu schützen.
6. Bei der Aufstellung des Gerätes ist auf sicheren Stand zu achten. Ein Kippen oder Fallen könnte Beschädigungen hervorrufen.

- 
7. Beachten Sie beim Anschluß an das Stromnet die Anschlußwerte.
  8. Verlegen Sie die Netzanschlußleitung so, daß niemand darüber fallen kann. Es sollte auch nichts auf der Leitun abgestellt werden.
  9. Alle Hinweise und Warnungen, die sich am Gerät befinden, sind zu beachten.
  10. Wird das Gerät ueinen längeren Zeitraum nicht benutzt, sollten Sie es vom Stromnetz trennen. Somit wird im Falle einer Überspannung eine Beschädigung vermieden.
  11. Durch die Lüftungsöffnungen dürfen niemals Gegenstände oder Flüssigkeiten in das Gerät gelangen. Dies könne einen Brand bzw. Elektrischen Schlag auslösen.
  12. Öffnen Sie niemals das Gerät. Das Gerät darf aus Gründen der elektrischen Sicherheit nur von autorisiertem Servicepersonal geöffnet werden.
  13. Wenn folgende Situationen auftreten ist das Gerät vom Stromnetz zu trennen und von einer qualifizierten Servicestelle zu Überprüfung.:
    - a. Netzlabel oder Netzstecker sind beschädigt.
    - b. Flüssigkeit ist in das Gerät eingedrungen.
    - c. Das Gerät war Feuchtigkeit ausgesetzt.
    - d. Wenn das Gerät nicht der Bedienungsanleitung entsprechend funktioniert oder Sie mit Hilfe dieser Anleitung keine Verbesserung erzielen.
    - e. Das Gerät ist gefallen und/oder das Gehäuse ist beschädigt.
    - f. Wenn das Gerät deutliche Anzeichen eines Defektes aufweist.
  14. **VORSICHT:** Explosionsgetahr bei unsachgemäßen Austausch der Batterie. Ersatz nur durch denselben oder einem vom Hersteller empfohlenem ähnlichen Typ.

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Entsorgung gebrauchter Batterien nach Angaben des Herstellers.

15. Dieses Schaltnetzteil kann bis zu einer Außentemperatur von maximal 35°C.
16. Die Ausgangswerte dürfen nicht die auf dem Label angegebenen Werte überschreiten.
17. Anforderungen an das Stromkabel

Das Kabel-Set, das an das Netzteil angeschlossen wird, muss den Anforderungen des Landes, in dem Sie das Netzteil einsetzen, genügen, je nachdem, ob die Netzspannung 100-120 oder 200-240V Wechselspannung beträgt.

- Das Kabel-Set muss für das Land, in dem es eingesetzt wird, zugelassen sein.
- Der Gerätestecker des Kabels muss in eine CEE22/ EN603/ IEC 320 Buchse passen.

**A.** Für die USA und Kanada:

- Das Kabel-Set muss UL-gelistet und CSA zertifiziert sein.
- Die Minimalanforderungen für das Kabel entsprechen No. 18 AWG.

**B.** Für Japan:

- Alle Teile des Kabel-Sets müssen entsprechend dem japanischen Dentori Law mit einem "T"-Symbol markiert sein
- Die Minimalanforderungen für das Kabel sind .75m m<sup>2</sup> Leiter.

**C.** Für andere Länder:

- Die Zubehörteile des Kabel-Sets müssen das Prüfsiegel derjenigen Stelle, die in dem jeweiligen Land für die Sicherheitsprüfung zuständig ist, tragen.

- 
- Das Kabel muss vom HAR (harmonisierten) Typ H05VV-F sein.
  - Das Kabel-Set muss eine Stromkapazität von mindestens 2,5 Ampere haben und Spannungen von 125 oder 250 V Wechselstrom gestatten.
- 18.** Bei der Benutzung Ihres Telefongerätes sollten Sie immer die grundlegenden Sicherheitsmaßnahmen beachten, um das Risiko von Feuer, Stromschlägen und Verletzungen zu minimieren. Zu beachten sind u.a. folgende Punkte:
- 1.** Benutzen Sie das Gerät nicht in der Nähe von Wasser, wie zum Beispiel Badewanne, Waschbecken, Spülbecken, Waschtisch, in feuchten Kellerräumen oder in der Nähe von Schwimmbecken.
  - 2.** Benutzen Sie kein Telefon (ausgenommen schnurlose Modelle) während eines Gewitters. Es besteht das geringe Restrisiko eines Blitzschlages.
  - 3.** Benutzen Sie das Telefon nicht um ein Gasleck zu melden, falls es sich in der Nähe des Lecks befindet.
  - 4.** Benutzen Sie nur solch ein Stromkabel, wie in dieser Anleitung beschrieben.
- 19.** Benutzen Sie das Netzteil nicht in unmittelbarer Nähe zu Wasser oder anderen Flüssigkeiten. Gießen Sie nie Flüssigkeiten über das Netzteil.
- 20.** Achtung Laser: Laser Produkt der Klasse I. Achtung - Unsichtbarer Laserstrahl, vermeiden Sie Kontakt mit dem Strahl bei offenem Gehäuse.

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## Personal Inventory

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This Notebook computer system is designed for years of productive and pleasurable computing. Use this section to keep notes about details of your purchase. Update this section when you add new options.

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**Date of Purchase:**

---

**Dealer's Name:**

---

**Phone:**

---

**Address:**

---

**E-Mail Address:**

---

**WWW Site:**

---

---

**Serial Number:**

---

**CPU Type:**

---

**Hard Disk Capacity:**

---

**Memory Capacity:**

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**Optional  
Equipment:**

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# *Introduction*

**WARNING:**

**There are more and more people spending large amounts of time in front of computer monitors now that scientists from many fields including anatomy, psychology, and occupational safety are involved in the study of ergonomically sound work environments.**

A few tips to help you work effectively without a lot of physical discomfort:

- Purchase a chair with armrests and good back support. Don't slouch when sitting; keep your back straight.
- Try to place the LCD panel or external monitor so that there is little glare from the sun on the monitor.
- Walk around the room every hour.
- Every half hour look away from the computer screen for a few minutes.
- Place everything that you need to work within easy reach.

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## *Welcome to the Notebook PC*

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Congratulations on your purchase of the Notebook PC. Your Notebook features the latest advances in portable computing technology. The Notebook's modular design provides maximum expandability without compromising portability. The high-performance CPU and enhanced IDE hard drive provides you with extra processing power for handling complex graphics and running large programs.

One PCMCIA slot gives you the ability to use standard PCMCIA cards, such as a LAN adapter or memory cards.

## *Getting to Know Your Computer*

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### *Opening the LCD Panel*

At the front of the Notebook you will find a retaining latch on the display panel that locks the display in closed position when the Notebook is not in use.

Slide the display panel latch to the right until the display panel releases, and then raise the LCD screen.

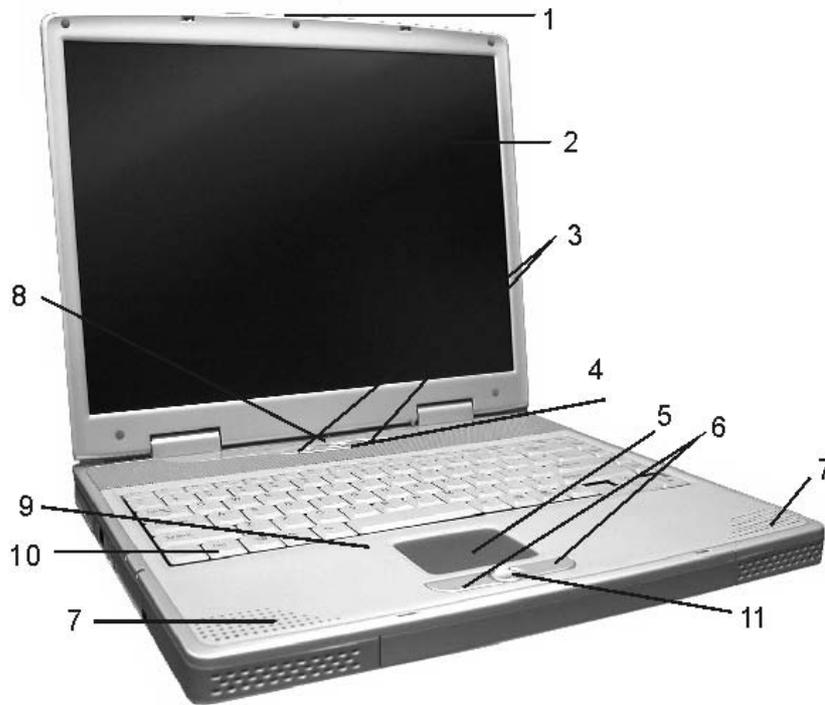
At any time you can tilt the display toward or away from you to a comfortable viewing position.

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**CAUTION:** To avoid damage to the display panel:

1. Try not to slam the display upon closing it.
  2. Try not to place any object on top when it is closed or open.
  3. Be sure the system is turned off or in suspend mode before you close the display panel.
- 

With the LCD screen open, you will see several features important for operating your Notebook computer.



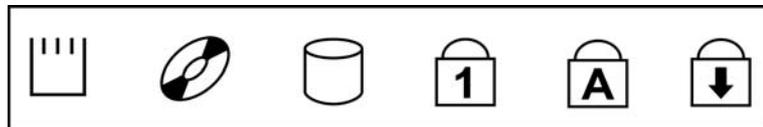
Each of these features is briefly described below.

1. **LCD Cover Release Latch** - Slide this latch to the right to open the LCD cover.
2. **LCD Screen** - Your Notebook computer is equipped with a replaceable color Liquid Crystal Display (LCD) screen that supports up to 1024 x 768 or 1400 x 1050 x 16M LCD resolution utilizing a AGP BUS.

A built-in backlight allows you to comfortably view the screen even when ambient lighting is low.

3. **Short-cut Keys** - These two short-cut keys are assigned as functions for: Explorer and mail respectively.

- 
4. **Power/Resume Button** - Pressing this button for 1-2 seconds will turn on the system or pressing this button when the computer is in Suspend mode will resume normal operation. Pressing this button for 4-6 seconds will also turn off the system.
  5. **TouchPad** - The TouchPad is hardware-compatible with the IBM PS/2 mouse and software-compatible with the Microsoft mouse.
  6. **TouchPad Buttons** - The buttons below the TouchPad correspond to the left and right buttons on a standard mouse. The PS/2 compatible mouse will work with the Notebook PC's TouchPad simultaneously.
  7. **Stereo Speakers** - The internal speakers provide true stereo sound.
  8. **System Status Indicator Panel** - The system status indicator panel keeps you informed of the computer's operating status. There are also two system status indicators — **Power and Charge LED** — on the left side of the notebook. (Please refer to "The Left Side" section description)



-  Indicates the computer is accessing the PCMCIA drive.
-  Indicates that the computer is accessing the CD-ROM drive.
-  Indicates that the computer is accessing the hard disk drive.
-  Indicates that the keyboard is in Num Lock mode.



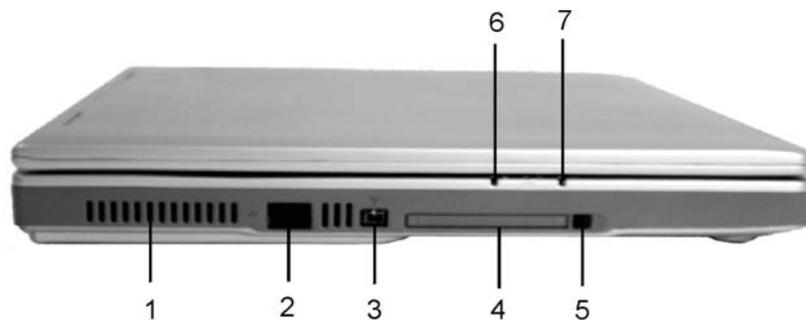
Indicates when the keyboard is in Caps Lock mode. In this mode, the keyboard produces uppercase text when you press a key. When you press the Caps Lock key again, the indicator goes off and the keyboard produces lowercase text.



Indicates when the keyboard is in Scroll Lock mode. Some applications will move information across the screen differently when Scroll Lock is on.

9. **The Built-in Microphone** - The built-in microphone is located to the left of the TouchPad.
10. **Keyboard** - Your computer has an 84-key enhanced keyboard that provides all the functions of a standard 101/102 key keyboard.
11. **Scroll Button** - Use this button to scroll up and down the scrolling bar.

### *The Left Side*



1. **Ventilation Opening** - Please don't block this opening during operation of the system.
2. **The LAN Port** - This jack provides a standard RJ-45 connection for integration with an existing network or a high-speed (DSL or cable) connection via a network cable.

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**NOTE:** When using a LAN, please use an EMI Shielding Cable to minimize an interference when transmitting.

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3. **1394A (Option)** - A very fast external bus standard that supports data transfer rates of up to 400 Mbps (400 million bits per second). Can be used to connect up to 63 external devices, also supports isochronous *data* -- delivering data at a guaranteed rate.

This makes it ideal for devices that need to transfer high levels of data in real-time, such as video devices. Also supports both Plug-and-Play and hot plugging, and also provides power to peripheral devices.

4. **PCMCIA Socket Cover** - Open this cover to access the PCMCIA socket. The computer's PCMCIA socket lets you extend the capabilities of your computer by inserting PC cards.
5. **PCMCIA Socket Button** - The computer has one PCMCIA type II socket
6. **Battery Charge/Suspend** - This indicator will lit when the battery is in charging status. It also indicates when the system enter suspend mode.
7. **Power On** - This indicator will lit when the notebook is powered on.

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### *The Right Side*



1. **The CD-ROM/DVD-ROM or DVD CD-RW Combo (Option)** - Your Notebook comes with a swappable 24X (or higher) 5.25" IDE CD-ROM or 8X DVD-ROM.
2. **USB Ports** - Your computer includes four Universal Serial Bus (USB) port. USB is the latest development in Plug and Play technology. It will eventually replace the need for separate connectors for external keyboards, serial ports, and parallel (printer) port.

### *The Rear*



1. **Audio Line Out/SPDIF Jack** - You can plug an external speaker, headphone or connect the line out jack to an audio device such as a cassette recorder to record the notebook's audio output.

S/PDIF engine receives the digital format data from either DVD-ROM or CD-ROM, regroup the data to be

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synchronous signal and de-multiplexes audio and other digital data.

2. **External Microphone Jack** - This mono microphone jack is used to connect an external microphone.
3. **Infrared Data Port** - The Infrared Data Port allows your Notebook to become truly wireless. You can use this port to transfer large amounts of data very quickly to any other machine (Notebook computers, printers, etc.) which is also equipped with an IrDA-compliant IR port.  
  
This allows you to print documents without any inconvenient cable hookups.
4. **Parallel Port** - This port allows you to easily connect a parallel printer or plotter using this 25-pin bi-directional female port.
5. **External CRT Port** - This port allows you to easily connect an external VGA/SVGA display monitor into your Notebook using the 15-pin female connector.
6. **TV Out Port** - This 4-pin S-Video port allows you to view the Notebook's Video output on a television monitor.
7. **The Modem Port** - This jack is an internal 56K voice/fax/data modem. You will connect your computer to your phone line through this port.

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**NOTE:** Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment. To reduce the risk of fire use only No. 26 AWG or larger telecommunication line cord.

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8. **DC IN Connector** - Plug the AC adapter into this connector.
9. **Ventilation Opening** - Please don't block this opening during operation of the system.

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## The Bottom Panel



1. **Battery** - Your notebook comes equipped with a factory-installed battery pack module. After the battery runs down, the module can be removed and replaced with a charged battery.
2. **Expansion Compartment** - This compartment will serve as an expansion to upgrade your RAM module.
3. **CD-ROM Release Latch** - Push this latch to release the CD-Rom from its bay.
4. **Battery Release Latch** - Lift up this latch to release the battery from its bay.
5. **Hard Disk Drive** - Your computer includes a 2.5-inch IDE hard disk drive (9.5mm in height). The notebook PC's BIOS automatically detects IDE drive types.



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## Chapter 2

# *Getting Started*

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### *Connecting to a Power Source*

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#### *Connecting the AC Adapter*

A universal AC adapter is provided to supply your computer with power and also charge the computer's battery pack. The adapter's AC input voltage can range anywhere from 100 to 240 volts, covering the standard voltages available in almost every country.

The power cord for the AC adapter requires a three-hole grounded AC outlet. To connect the computer to an external power source:

1. Plug the AC adapter's connector into the DC-IN connector on the rear of the computer.
2. Connect the power cord to the AC adapter and then to a wall outlet.



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**CAUTION:** The best kind of AC power source to connect your Notebook to is a UPS (Uninterruptible Power Supply). Lacking this, use a power strip with a built-in surge protector. Do not use inferior extension cords as this may result in damage to your Notebook. The Notebook comes with its own AC adapter. Do not use a different adapter to power the computer and other electrical devices.

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Whenever possible, keep the AC adapter plugged into the Notebook and an electrical outlet to recharge the battery.

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**CAUTION:** Never turn off or reset your Notebook while the hard disk or floppy disk is in use and the FDD and/or HDD status icon is lit; doing so can result in loss or destruction of your data.

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**CAUTION:** Always wait at least 5 seconds after turning off your Notebook before turning it back on; turning the power on and off in rapid succession can damage the Notebook's electrical circuitry.

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## *Turning On Your Notebook Computer*

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Turn on your Notebook by pressing the power button. Hold the button down for a second or two and release. The Power-On Self Test (POST) runs automatically.

After the POST is completed, the computer reads the operating system from the hard disk drive into computer memory (this is commonly referred to as "booting" a computer). If your OS (Operating System such as Windows ME, Windows 2000.... etc) is installed, it should start automatically.

To turn the Notebook off, save your work and close all open applications, click on **Start**, then **Shut Down** and select **Shut down the computer** and click "**Yes**" or press the power button for 4-6 seconds.

## *Operating on Battery Power*

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Your computer comes with a rechargeable battery pack that lets you operate the computer without an external power source. When the battery pack is fully charged, you can operate the computer for approximately 1 hour and 10 minutes (for 59.2Whr) or 2 hours (for 87Whr) under the following conditions:

- The battery pack initially has a full charge.
- No peripheral devices are installed.
- The disk/CD-ROM drives run no more than 10% of the time.

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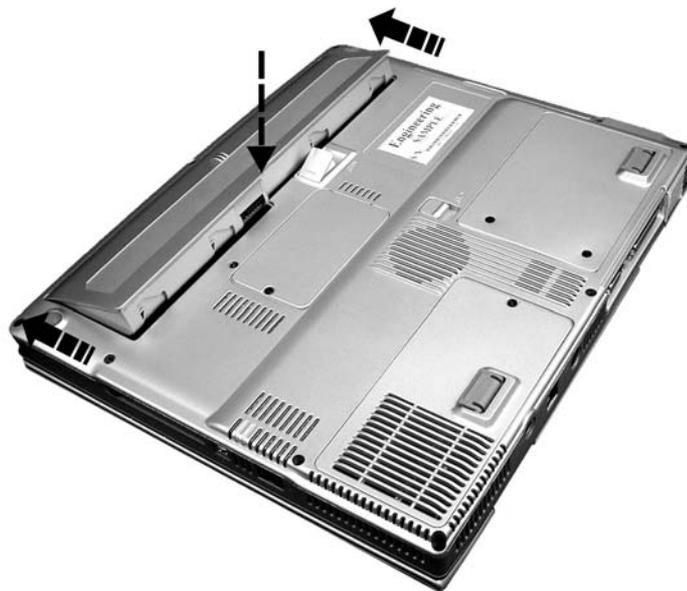
**NOTE:** Only use batteries that are approved by an authorized dealer. All batteries are **not** the same and therefore should not be treated as such. Using the wrong battery could cause serious damage to your computer and yourself through toxic emissions.

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### *Inserting and Removing the Battery Pack*

The battery pack should already be inserted in your Notebook computer when you unpack it. If not inserted, follow these directions:

1. Turn over the notebook with the front of the unit facing you and place it on a solid, flat surface.
2. Angle the battery into the bay. The front edge of the battery should slide into the grooves in the system case.



- 
3. Gently lower the battery into the bay and push it until it clicks securely in the bay.

To remove the battery pack:

1. Turn off the notebook, and disconnect the AC adapter. Close the LCD panel and turn it over and place it on a solid, flat surface.
2. Lift the release latch to release the battery from the bay. At this time the battery will now be angled slightly out of the bay.



3. Hold the battery at the finger grip and lift it out of the compartment.

---

## *Charging the Battery Pack*

The installed battery pack charges automatically any time the computer is connected to the AC adapter and an external power source.

It is a good idea to occasionally discharge the battery pack fully to preserve its operating performance.

---

### **NOTE:** Battery Charging

Step 1: Discharge the battery and recharge until it reach full charge capacity.

Step 2: A fully charge battery must be discharge to less then 95% capacity then recharge the battery.

---

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## Chapter 3

# *Using the Notebook Computer*

### *Adjusting the LCD Screen Display*

---

The LCD screen display can be adjusted by the following key combinations.

<b>KEYS</b>	<b>FUNCTIONS</b>
[Fn] + [F7]	Decreases the brightness level.
[Fn] + [F8]	Increases the brightness level.
[Fn] + [F10]	Use this key combination to expand your video screen or reset to its original size.
[Fn] + [F12]	This key combination toggles the display between the LCD, CRT, simultaneous LCD/CRT, TV, simultaneous CRT/TV.

---

---

## *LCD Care*

LCD screens are delicate devices that need careful handling. Please pay attention to the following precautions:

- When you are not using the computer, keep the LCD screen closed to protect it from dust.
- If you need to clean your LCD screen, use a soft tissue to gently wipe the LCD surface.
- Do not put your fingers or sharp objects directly on the surface and never spray cleaner directly onto the display.
- Do not press on, or store any objects on the cover when it is closed. Doing so may cause the LCD to break.

---

## *External CRT Display*

You can hook up an external monitor through the 15-pin CRT connector. Five configurations are available:

- LCD only
- CRT only
- Simultaneous display of the LCD screen and CRT monitor
- TV only
- Simultaneous display of the TV screen and CRT monitor

You can switch between these display configurations by pressing the key combination **[Fn] + [F12]**. For information on connecting an external display, please refer to Chapter Four.

---

## *A Tour of the Notebook's Keyboard*

The Notebook's keyboard uses a standard QWERTY layout with the addition of special function keys and an embedded numeric keypad for number intensive data entry. Your keyboard supports Windows by incorporating the two Windows specific keys. With the two Windows keys you will be able to access and take advantage of many of the time-saving features of Windows software.

---

The function keys (F1-F12) on the top row of the keyboard, serve different purposes and carry out different tasks depending on the application you are running.

The cursor (arrow) keys (which are all located in the lower right corner of your keyboard) and the [PgUp], [PgDn], [Home] and [End] keys (which are located along the right edge of the keyboard) allow you to move the active cursor of the computer to various locations on the screen or within the document.

The embedded numeric keypad consists of 15 keys that make number intensive input more convenient. Like the [Num Lock] key, these keys are labeled in blue on the keycaps. Numeric assignments are located at the upper right of each key.

When the numeric keypad is engaged, the NumLock icon will appear in the System Window. The keypad is activated by pressing the [Fn] + [NumLk] key. If an external keyboard is connected, pressing the NumLock key on either the Notebook or external keyboard will enable/disable NumLock of both keyboards in unison.

To disable the Notebook numeric keypad while keeping the keypad on an external keyboard activated, use the [Fn] + [NumLk] hot key on the Notebook keyboard.



---

## *The Notebook's Hot Key Controls*

<b>KEYS</b>	<b>FUNCTION(S)</b>
Power Button	Press this button once to power on or enter the suspend/resume mode. Press this button for more than 4 seconds to power off the system.
Internet Button	Open Internet WWW Home short-cut key
Email Button	Open Email Reader short-cut key
[Fn] + [F2]	This key combination turns on/off the volume.
[Fn] + [F3]	Decreases the speaker volume.
[Fn] + [F4]	Increases the speaker volume.
[Fn] + [F7]	Decreases the brightness level.
[Fn] + [F8]	Increases the brightness level.
[Fn] + [F10]	Use this key combination to expand your video screen or reset to its original size.
[Fn] + [F12]	This key combination toggles the display between the LCD, CRT, simultaneous LCD/CRT, TV, simultaneous CRT/TV.

---

## *The TouchPad*

The touchpad is a rectangular electronic panel located just below your keyboard. You can use the static-sensitive panel of the touchpad and slit it to move the cursor. You can use the buttons below the touchpad as left and right mouse buttons.

### *TouchPad Precautions*

The TouchPad is a pressure sensitive device. Please take note of the following precautions.

- Make sure the TouchPad does not come into contact with dirt, liquids or grease.
- Do not touch the TouchPad if your fingers are dirty.

- 
- Do not rest heavy objects on the TouchPad or the TouchPad buttons.

You can use the TouchPad with Microsoft Windows as well as non-Windows applications.

## ***Connecting an External Tracking Devices***

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The system will only enables you to use one tracking device whether it is an internal or external tracking device.

## ***Data Storage and Retrieval***

Data storage and retrieval are two of the most fundamental tasks you will perform when working with your computer. The Notebook is equipped with a 3.5" floppy disk drive (FDD) and a hard disk drive (HDD). The HDD is removable allowing for easy upgrades.

### ***The Floppy Disk Drive***

Your Notebook features a removable high-density 3.5-inch floppy disk drive module. It is designated drive A by the operating system.

## ***The CD-ROM/DVD-ROM/Combo***

---

### ***Features of the CD-ROM/DVD-ROM/Combo Module***

The features of the CD-ROM/DVD-ROM/Combo drive are listed below.

- The Audio Play feature allows you to play music CDs
- Front panel load/unload button
- Supports CD-DA, CD-ROM mode 1 and mode 2, Multi-Session Photo CD™, CD-I/Video CD (pcs.)
- Low power consumption

- 
- 12.7mm height

### ***Precautions for Handling CD-ROM/DVD-ROM/Combo Discs***

- Always hold the disc by the edges, avoid touching the surface.
- Use a clean, dry, cloth to remove dust, smudges, or fingerprints. Wipe from the center outward.
- Do not write or place objects on the surface of the disc.
- Store discs in a cool dry place not to damage the disc.
- Do not use benzene, thinners, or cleaners with detergent. Only use CD-ROM/DVD-ROM cleaning kits.
- Do not bend or drop the discs.

### ***Loading a Disc***

To play a CD disc, follow the instructions listed below.

- 1.** Push the CD-ROM/DVD-ROM/Combo eject button on the CD drive door. Gently pull the tray all the way out.
- 2.** Carefully lift the CD-ROM/DVD-ROM/Combo by the edges and make sure the shiny surface is face down (the side with no writing on it). Carefully insert the CD-ROM onto the tray. Push the CD-ROM/DVD-ROM down gently so that it snaps onto the center ring.
- 3.** Push the tray back into the drive.

To remove a disk, do the following:

- 1.** Check the LED display and make sure that the computer is not accessing the CD-ROM/DVD-ROM drive.
- 2.** Push the eject button and pull the tray all the way out.
- 3.** Carefully pick up the CD disk by the edges and – while pressing down on the center ring – remove the CD-ROM/DVD-ROM/Combo from the tray.

---

**NOTE:** Do not insert any foreign objects into the disc tray. If you experience difficulty when ejecting the CD disk tray, stretch a paper clip (or use a pin or a thin metal rod) and insert it into the emergency eject hole located on the right side of the front panel. The CD disk tray should eject immediately. This procedure can also be used to remove a CD from the drive when the Notebook is powered off.

---

### *Removing the CD-ROM/DVD-ROM/Combo Drive*

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1. Push the release latch into the direction of the arrow as described in the illustration.
2. Pull out the CD-ROM/DVD-ROM drive from the bay.

---

## *PCMCIA Cards and Expansion Sockets*

---

The Notebook features one PCMCIA expansion socket design to interface with one Type II card.

### *Inserting a PCMCIA Card*

The computer will emit a medium tone followed by a high tone when a PC card is inserted.

When you eject a card, the computer will emit a high tone followed by a medium tone. You can insert and remove a PC card whether the computer is turned **On** or **Off**.

Follow these instructions to insert a PCMCIA card:

1. Hold the PCMCIA card with the arrow side up and the connector side toward the socket.
2. Align the card connectors with the socket and carefully slide into the socket until it locks into place. The system will beep once to indicate that it has detected the PC card.

To remove a PC card push the eject button, the button will pop out, push the button again to eject the PCMCIA.

---

**NOTE:** When inserting a Type II PC card, make sure the connector is inserted in the socket. Before ejecting a PC card, ensure that it is not being accessed by the System.

For example, if the message "Write protect error writing Drive x" is displayed, the user has to change the write protect switch setting on the memory card. To change the switch setting, (a) eject the card, (b) change the switch setting, and (c) re-insert the card.

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**CAUTION:** Always disconnect all telephone lines from the wall outlet before servicing or disassembling this equipment. To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.

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## *Power Saving Modes*

---

This section contains information on the Notebook's power system, including the AC Adapter, the battery system, recharging the battery, and tips for conserving battery power.

The power system is comprised of two parts, the AC Adapter and the battery system. The AC Adapter converts AC power from a wall outlet to the DC power required by the computer.

### *The Battery Power System*

A fully charged pack will provide approximately 1 hour and 10 minutes (for 59.2Whr) or 2 hours (for 88.8Whr) of battery life depending on your system configuration application it runs.

Before using the computer on battery power for the first time, check the battery status icon on the Windows Toolbar to make sure the battery is fully charged.

See Battery Status later in this section for a description and explanation of the Windows Battery icon. Charging the battery takes about 3 hours to charge when the system is in off state. If possible, always charge the battery completely.

### *Removing the Battery Pack*

To remove the battery pack from its compartment, please refer to Chapter Two, *Inserting and Removing the Battery Pack*.

---

## *Preparing the Battery Pack for Use*

Before using the battery pack for the first time, the Smart Battery IC within the battery pack should be calibrated in order to get accurate reporting of remaining battery life status.

To calibrate the battery pack follows the instructions below:

1. Insert the battery into the battery compartment and turn on the Notebook. If the battery is completely without power go to the next step.

Otherwise, let the battery run down until the battery low-low warning beeps are heard.

The system will automatically enter Suspend mode.

2. Turn the Notebook off. Connect the AC adapter and let the battery fully recharge. When the battery charge indicator turns off, the battery is fully charged.
3. Turn On the notebook, let the battery run down until the battery is in low-low state and you hear a warning beeps. The system will automatically enter the Suspend mode. You can now connect the AC adapter.
4. The battery pack is now calibrated properly.

In general, using the battery until the low-low battery-warning indicator appears and fully recharges the battery each time (full discharge/charge cycle) will ensure the accurate reporting of the battery gauge status.

## *Automatic Battery Pack Charging Function*

You can automatically charge the battery pack by using the AC Adapter. The charge time is about three hours when the Notebook power is turned off. The following table summarizes the charging modes:

<b>Charge Mode</b>	<b>Charge Time</b>
--------------------	--------------------

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Fast	3.5 hours (88.8Whr) or 2.5 hours (59.2Whr) with the system off or in Suspend mode. The temperature must be 25°C or below room temperature.
Pre-Charge	A pre-charge is supplied to the Li-Ion battery pack.

---

***Battery Status***

Windows ME/Windows 2000/Windows XP has an applet in the Control Panel that will display an icon in the Windows taskbar indicating when the Notebook is running on battery power or is attached to the AC adapter.

This applet also displays a meter that indicates how much charge is remaining in the battery.

***Battery Low Warning***

When the pack initially reaches the “Battery Low” state approximately 10 ~ 15 minutes of the usable battery life is left.

You will hear an audible beep signal every 1.5 seconds alerting you to the “Battery Low” status. When the battery power reaches the “Battery Low Low” status the beeping sound will accelerate.

Your battery now has 1 ~ 2 minutes of battery charge remaining. You must save your data or connect AC power immediately; otherwise, you may lose your data.

<b>Sound</b>	<b>Meaning</b>
Continuous beeping every 1.5 seconds	<b>Battery Low:</b> Indicates that there is 7 to 10 minutes charge remaining.
Beeping accelerates	<b>Battery Low Low:</b> Indicates that there is 1 to 2 minutes of battery charge remaining. Save your work and turn off the Notebook, or connect the AC adapter.

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When there is only one minute of battery charge remaining, the Notebook will suspend to the HDD and power off. You should connect AC power and resume to save your work.

### *Small Battery for the Real Time Clock*

There is a small built-in battery pack that supplies power to the system in order to maintain certain system information while the power is off. If the Notebook is left without a power source for long period of time, this battery will be exhausted and system information will be lost.

#### **Warning:**

**Danger of explosion if 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. Never remove the battery pack while the power is on as this may result in data loss when the system loses power.**

### *Resetting the System*

After installing a software application package, you may be prompted to reset the system to load the changed operating environment. To reset the system, or “reboot,” press the [Ctrl] + [Alt] + [Delete] keys simultaneously. This is known as “warm boot.” This key combination acts as “software” reset switch when you encounter hardware or software problems, which lock up the Notebook.

If this key combination does not shut down the Notebook, you can reset the Notebook by using the Notebook’s power button. Should the Notebook lock up for some reason, pressing this button powers the Notebook off.

---

### *Adjusting the Brightness*

To adjust the brightness on the LCD screen, press and hold down the **[Fn]** key in the lower left hand corner of the keyboard and press the **[F7]** key to reduce the brightness or **[F8]** to increase the brightness.



# *Desktop Operation*

Your notebook is capable of providing you with efficient and productive mobile computing, it also has the speed and capacity to service as a desktop system.

This chapter discusses those functions of your notebook that are typical of desktop systems.

### *Audio*

---

#### *The Multimedia Sound System*

The Notebook's built-in audio capabilities allow you to take advantage of a wide range of education and entertainment multimedia software. The Notebook is equipped with two internal stereo speakers, a microphone, and input audio ports for external audio units.

An external microphone can be connected to the microphone jack. External speakers or headphones can be connected to the Notebook's audio-out jack.

---

External audio devices can be connected to the Line in jack. All audio features are software controlled. The Notebook's multimedia sound system includes the following features:

- Supports Windows Sound System compatibility
- Full Duplex operation
- Dynamic filtering reduces noise and distortion rate
- 16-bit digitized audio playback
- A built-in microphone for convenient recording
- Two built-in stereo speakers
- Digitized audio recording through the Notebook's built-in microphone or any external source

### *Audio Volume Control*

The Notebook is equipped with hot-key volume controls: Pressing the **[Fn] + [F3]** hot-key combination decreases the audio output volume, press the **[Fn] + [F4]** hot-key combination increases the audio output volume.

### *Audio Software*

Your notebook comes equipped with an integrated sound system capable of providing you with quality audio sound through the built-in speakers or through external speakers connected via the system ports.

### *Sound Recording*

Your system allows you to record sounds and store them as files using the microphone via the microphone jack on the rear of the notebook computer. Check the Windows Help and Support Center in Windows for information on using the various elements in sound recording.

---

---

**NOTE:** For a high-quality sound, click on the "Volume Control" at the lower right end of your screen. From the Volume Control windows, click on the "Advanced" tab, click and select the "Microphone Boost" item.

---

---

### *Playing Sound Files*

Your notebook can play audio files stored in MIDI, WAVE or MP3 file format. Check the Help and Support Center in Windows for information on the functions of the Media Player.

### *External Speakers and Microphone*

The sound system is capable in providing high-quality sound to external speakers and receiving and processing sounds from an external microphone or external sound source.

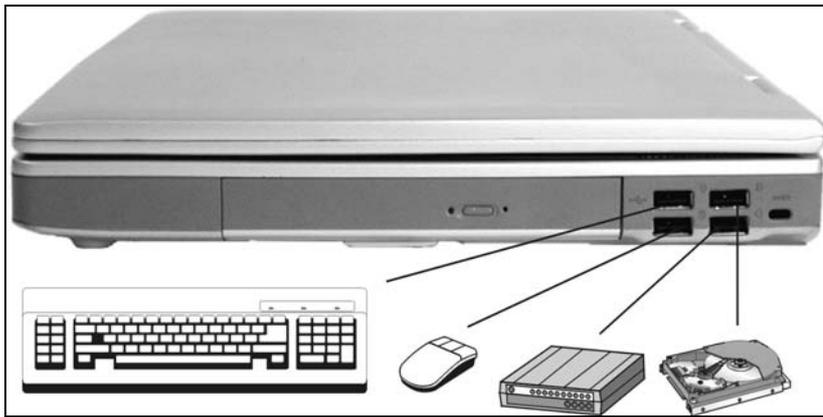
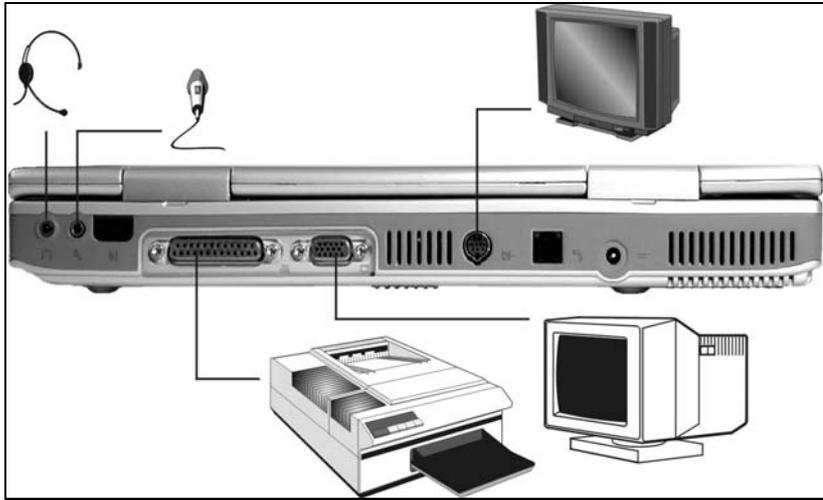
### *Connecting Peripheral Devices*

---

To expand your computing capabilities, you can add a variety of external devices to your computer. You may, for example, want to add a mouse, modem, or a printer.

The computer is equipped with several interface ports, including an enhanced parallel (printer) port, a serial port, and USB ports. These are provided as a means of connecting peripheral devices to the computer.

Connect peripheral devices to the computer's interface ports as shown below:



# *Running BIOS Setup*

### *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 your system to reflect installed hardware or alter system performance. When the notebook computer is turned back on, the system is configured with the values stored in CMOS.

### *Navigating through BIOS Setup*

---

The Setup program has been designed to make it as easy to use as possible. If you accidentally make a setting and don't know which one to switch back to, the Setup program has a hot key that allows you to return to the previous value.

---

## *Accessing the BIOS Setup Program*

---

To access the BIOS Setup program, press the **Del** key after the notebook computer has run through its POST.

### *Item Specific Help*

On the right side of the Setup screen is an area labeled Item Specific Help. This area will list navigation key shortcuts and information that is specific for the item that you are currently editing.

### *The Menu Bar*

---

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

#### **Standard CMOS Setup**

Set the time and date. Configure disk drives.

#### **Advanced CMOS Setup**

Configure basic system performance parameters.

#### **Peripheral Setup**

Configure I/O support for the Notebook computer.

To access the menu bar items, press the **↑** up or **↓** down arrow key on the keyboard until the desired item is highlighted.

---

## *The Legend Bar*

---

At the bottom of the Setup screen you will notice a legend bar. The keys in the legend bar allow you to navigate through the various setup menus.

The following table lists the keys found in the legend bar with their corresponding alternates and functions.

<b>Legend Key</b>	<b>Function</b>
Esc	Jumps to the Exit menu or returns to the Main menu from a submenu.
↑ or ↓	Moves the cursor up and down between fields.
PgUp/PgDn	Set to modify the field selected.
F2/F3	Set the color (8 colors) of the BIOS Setup screen.
F10	Save and Exit.
Enter	Will select a sub menu or show a range of options for a field.

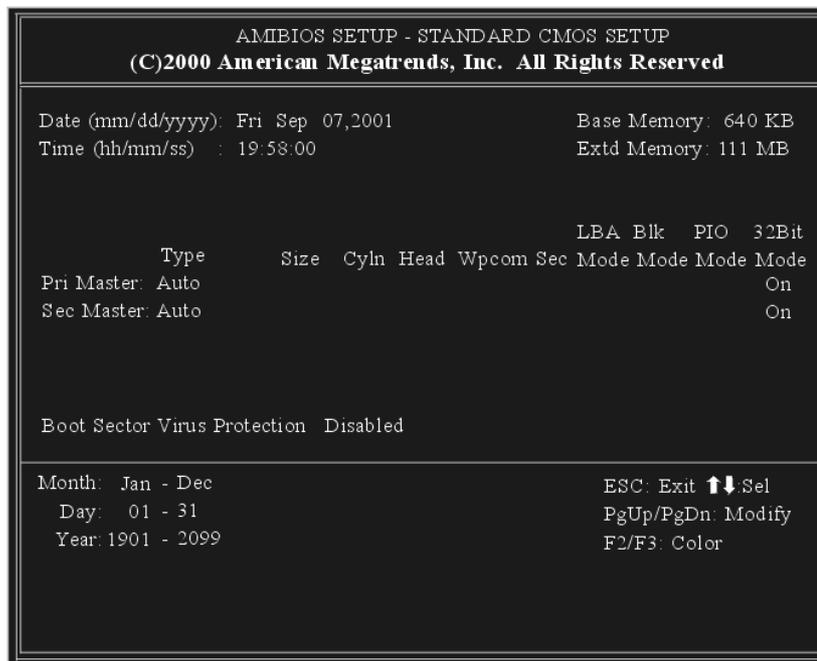
## *Save Changes and Exit the Setup Program*

Refer to the "Save Settings and Exit" section of this chapter for detailed information on saving changes and exiting the setup program.

## *The Standard CMOS Setup*

---

When the Setup program is accessed, the following screen appears:



### Date/Time

The current values for each category are displayed. Enter new values through the keyboard.

### Pri Master, Sec Master

Select one of these hard disk drive icons to configure the hard disk drive named in the option.

---

## The Advanced CMOS Setup

---

When the Setup program is accessed, the following screen appears:



### Quick Boot

Set this option to Enabled to instruct AMIBIOS to boot quickly when the computer is powered on.

- **The settings are Disabled or Enabled (default value).**

### 1<sup>st</sup> Boot Device

This option sets the type of device for the first boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST

---

completes.

- **The settings are Disabled, IDE-0, CD/DVD and USB FDD (default value).**

### **2<sup>nd</sup> Boot Device**

This option sets the type of device for the second boot drives that AMIBIOS attempts to boot from after AMIBIOS POST completes.

- **The settings are Disabled, IDE-0, CD/DVD (default value) and USB FDD.**

### **3<sup>rd</sup> Boot Device**

This option sets the type of device for the third boot drives that the AMIBIOS attempts to boot from after AMIBIOS POST completes.

- **The settings are Disabled, IDE-0 (default value), CD-ROM and USB FDD.**

### **TouchPad Support**

Set this option to enabled or disabled the touchpad. The default setting is Enabled.

### **Password Check**

This option enables password checking every time the system boots or when you run AMIBIOS Setup. If Always is chosen, a user password prompt appears every time the computer is turned on. If Setup is chosen, the password prompt appears if AMIBIOS is executed.

### **Share Memory Size**

This field shows the share memory size available.

### **Graphic Win Size**

This field shows the graphic win size available.

- 
- **The settings are 4M/8M/16M/32M/64M (default value)/128M/256M**

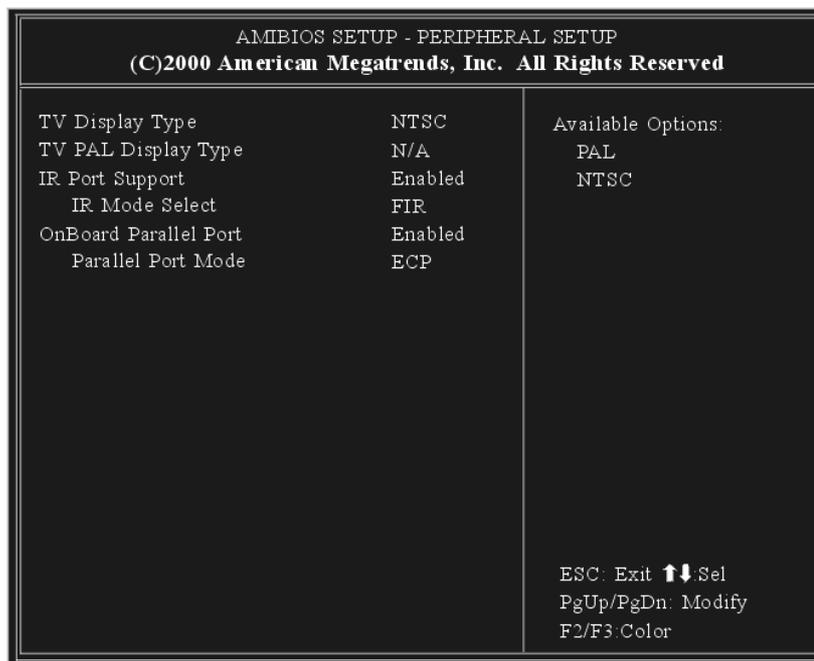
### **USB Keyboard/Mouse/FDD Legacy Support**

Set this option to Enabled to enable support for older keyboards and mouse devices if the USB Function option is set to Enabled.

- **The settings are Enabled or Disabled.**

## *The Peripheral Setup*

---



### **TV Display Type**

This field allows you to choose the television display option when using the TV out port.

- **The settings are PAL, NTSC (default value).**

---

### **TV PAL Display Type**

This field allows you to choose the television PAL system type.

- **The settings are PAL (default value), PAL-M, PAL-N.**

### **IR Port Support**

This option specifies the IR port address for the IR Port.

- **The settings are Disabled or Enabled (default value).**

### **IR Mode Select**

This option specifies the infrared transmission method.

- **The settings are SIR or FIR (default value).**

### **OnBoard Parallel Port**

This option specifies the base I/O port address of the parallel port on the motherboard.

- **The settings are Enabled (default value) or Disabled.**

### **Parallel Port Mode**

This option specifies the parallel port mode.

- **The settings are Normal, Bi-dir, EPP or ECP (default value).**

---

### *Change Supervisor Password*

This field allows you to set the Supervisor password. To set the Supervisor password, highlight this field and press the [Enter] key. The following dialog box appears:

**Enter new supervisor password:**

### *Auto Configuration with Optimal Settings*

The optimal default settings are best-case values that should optimize system performance. To set the configuration, highlight this field and press the [Enter] key. The following dialog box appears:

**Load high performance settings [Y/N] ?**

### *Battery Calibration*

This option helps execute the calibration of the system battery.

**Execute Battery Calibration [Y/N] ?**

### *Save Settings and Exit*

This option saves your selections and exit the Setup program.

**Save current settings and exit [Y/N] ?**

---

### *Exit Without Saving*

This option should only be used if you do not want to save the changes you have made to the Setup program.

**Quit without saving [Y/N] ?**

---

## Chapter 6

# *The Software Utilities*

## *Disks*

There are two separate procedures on how to install the driver: **AutoRun installation** and **Manual installation**.

### *AutoRun Installation*

---

- Follow the step-by-step procedures on the CD-ROM/DVD-ROM to execute the “AutoRun” application by selecting the topic of “Driver Installation”.
- To re-run the “AutoRun” installation, please refer to the procedures on the “Manual Installation” for a more detailed explanation.



**NOTE:**

If you encounter this message when executing the Auto Run program in Windows 2000, please perform the following procedures:

Click on the “Start” – “Setting” – “Control Panel” – “System” – “Advanced” tab – “Performance” tab – “Change” tab – reduce the maximum Virtual Memory setting to 200MB.

---

### *Installing VGA Display Drivers for Win2K/ME/XP*

This section describes the operation and installation of VGA display software drivers supplied on the Driver Utility CD-ROM that is shipped with your computer.

1. Insert the CD-ROM Driver into your CD-ROM/DVD-ROM drive.
2. Click “Start” and Select “Run”.
3. Type the following:  
D:\Driver\VGA\Win2K&XP\Setup.exe or  
D:\Driver\VGA\WinME\Setup.exe (If D is not your CD-ROM/DVD-ROM drive, substitute D with the correct drive letter).
4. Click on “Setup” to begin the Installation Wizard.
5. Follow the Wizard’s on-screen instructions to complete the installation. Restart the system.

---

### *Installing the Audio Driver for 2K/Me/XP*

To install the audio driver you must first remove the currently installed driver.

1. Insert the CD-ROM Driver into your CD-ROM/DVD-ROM drive.
2. Click “Start” and Select “Run”.
3. Type the following: D:\Driver\Audio\Setup.exe (If D is not your CD-ROM/DVD-ROM drive, substitute D with the correct drive letter).
4. Click on “Setup” to begin the Installation Wizard.
5. Follow the Wizard’s on-screen instructions to complete the installation. Restart the system.

### *Installing the IR Driver for Win2K/Me/XP*

To install the IR driver you must first remove the currently installed driver.

1. Insert the CD-ROM Driver into your CD-ROM/DVD-ROM drive.
2. Click “Start” and Select “Run”.
3. Type the following: D:\Driver\IR\Setup.exe (If D is not your CD-ROM/DVD-ROM drive, substitute D with the correct drive letter).
4. Click on “Setup” to begin the Installation Wizard.
5. Follow the Wizard’s on-screen instructions to complete the installation. Restart the system.

### *Installing the LAN Driver for Win2K/Me/XP*

To install the LAN driver you must first remove the currently installed driver.

- 
1. Insert the CD-ROM Driver into your CD-ROM/DVD-ROM drive.
  2. Click “Start” and Select “Run”.
  3. Type the following: D:\Driver\LAN\Setup.exe (If D is not your CD-ROM/DVD-ROM drive, substitute D with the correct drive letter).
  4. Click on “Setup” to begin the Installation Wizard.
  5. Follow the Wizard’s on-screen instructions to complete the installation. Restart the system.

### *Installing the TouchPad Driver for Win2K/Me/XP*

To install the touchpad driver you must first remove the currently installed driver.

1. Insert the CD-ROM Driver into your CD-ROM/DVD-ROM drive.
2. Click “Start” and Select “Run”.
3. Type the following:  
D:\Driver\Touchpad\Win2K&XP\Setup.exe or  
D:\Driver\Touchpad\WinME\Setup.exe (If D is not your CD-ROM/DVD-ROM drive, substitute D with the correct drive letter).
4. Click on “Setup” to begin the Installation Wizard.
5. Follow the Wizard’s on-screen instructions to complete the installation. Restart the system.

### *Manual Installation*

---

To install the driver manually, follow the step-by-step procedures described on each individual section for a more clear installation.

---

### *Installing the MiniPCI Modem Driver for Win2K/XP*

Please follow these instructions to install the Modem driver:

1. From your screen, click on the "My Computer" icon and use your mouse or touchpad right button to select the "Properties" item.
2. Click on the "Hardware" tab from the "System Properties" dialog window.
3. Double click "Device Manager" tab.
4. Select the "PCI Device" in the "Other Devices" group (denoted by a yellow mark symbol).
5. Click the "Driver" tab then click the "Update Driver" item.
6. Select the "Search for a suitable driver for my device(recommended)" item and click "Next".
7. Click "Browse" button and specify for the designate location of your CD driver.

### *Installing the MiniPCI Modem Driver for WinME*

Please follow these instructions to install the Modem driver:

1. From your screen, click on the "My Computer" icon and use your mouse or touchpad right button to select the "Properties" item.
2. Click on the "Device Manager" tab from the "System Properties" dialog window.
3. Click on the "Other Devices" (denoted by a yellow mark symbol), select the "PCI Card" and click on the "Driver" tab.
4. Click the "Update Driver" tab and select the "Specify the location of the driver (Advanced)" item.

- 
5. Select the "Specify a location" item.
  6. Click "Browse" button and specify for the designate location of your CD driver.

### ***Installing the CardBus Driver for WinXP***

Please follow these instructions to install the cardbus driver:

1. From your screen, click on the "My Computer" icon and use your mouse or touchpad right button to select the "Properties" item.
2. Click on the "Hardware" tab from the "System Properties" dialog window.
3. Double click the "Device Manager" button.
4. Click on the "PCMCIA adapters" , select the "Generic CardBus Controller" and click on the "Driver" tab.
5. Click the "Update Driver" tab and select the "Install from a list or specific location (Advanced)" item and click "Next".
6. Select the "Include this location in the search" item.
7. Click "Browse" button and specify for the designate location of your CD driver.

### ***Installing the CardBus Driver for Win2K***

Please follow these instructions to install the cardbus driver:

1. From your screen, click on the "My Computer" icon and use your mouse or touchpad right button to select the "Properties" item.
2. Click on the "Hardware" tab from the "System Properties" dialog window.
3. Double click to enter the "Device Manager" window.
4. Click on the "PCMCIA adapters",select the "Generic

---

CardBus Controller" and click on the "Driver" tab.

5. Click the "Driver" tab then click the "Update Driver" item.
6. Select the "Search for a suitable driver for my device (recommended)" item and click "Next".
7. Select the "Specify a location" and click "Next".
8. Click "Browse" button and specify for the designate location of your CD driver.

### ***Installing the CardBus Driver for WinME***

Please follow these instructions to install the cardbus driver:

1. From your screen, click on the "My Computer" icon and use your mouse or touchpad right button to select the "Properties" item.
2. Click on the "Device Manager" tab from the "System Properties" dialog window.
3. Click on the "PCMCIA socket", select the "Generic CardBus Controller" and click on the "Driver" tab.
4. Click the "Update Driver" tab and select the "Specify the location of the driver (Advanced)" item.
5. Select the "Specify a location" item.
6. Click "Browse" button and specify for the designate location of your CD driver.

### ***WinME VGA Utilities***

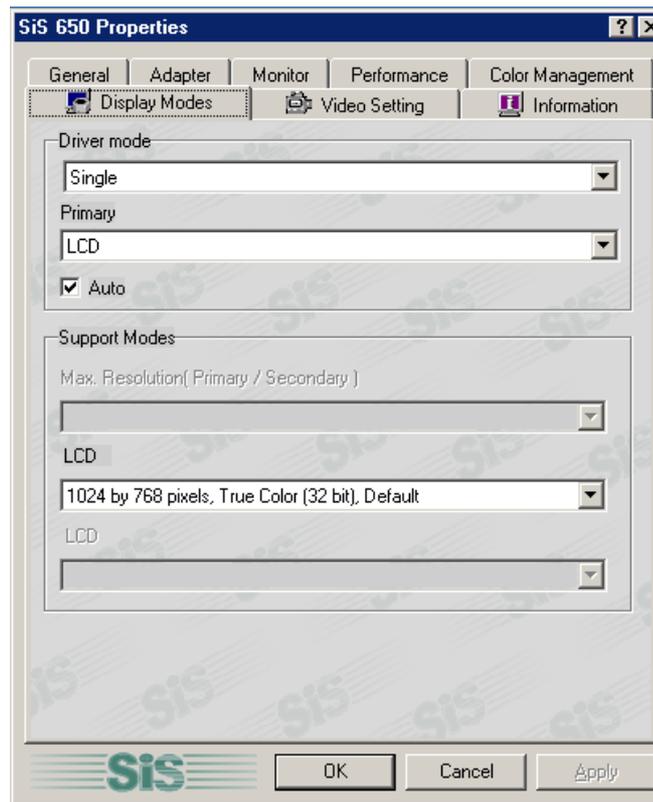
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After you have restarted Windows, open the "Control Panel" and double click on the "Display" icon. From the "Display Properties" window, select the "Settings" tab and click on the "Advanced" tab to enter the "SiS 650 Properties" window. You will notice three new entries have been made in the Display Properties window: Display Modes and Video Setting.

---

## Display Modes

The SiS's driver support three output namely: LCD, VGA and TV. Before proceeding, be sure the monitor is connected to the computer.



### Driver Mode

This define the two status of Single, Mirror and Multi Monitor (when an external monitor is connected to your notebook computer).

- 
- When the "Single" is selected, the display can only be seen on the notebook computer LCD, VGA or TV panel.
  - When the "Mirror" is selected, you can display different combination between the LCD, VGA or TV display.

### **Display Combination**

This applies to the display that you prefer to use.

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**REMINDER:** The "Auto" tab will serve as additional function of the "Mirror" and "VGA" respectively by removing the ✓ check mark under the "Display Combination" selection field.

---

- Select the "VGA" if you want the picture to only display on the monitor screen.
- Select "LCD" if you want the picture to only display on the notebook computer screen.

---

**NOTE:** Use the [Fn] + [F12] hot keys to toggle between the LCD and external monitor display. If you prefer to use only one display in operating your system, press the [Fn] + [F12] hot keys will shut down the LCD display, external monitor display or both at this random order.

---

### **Option: Single**

This function will only show one single display whether it be on your notebook computer or external monitor.

### **Option: Mirror (Simultaneous Display)**

This function supports different combination of LCD, VGA and TV display.

- 
1. Click on the “Control Panel” and double click on the “Display” icon. Click on the “Settings” tab to enter the “Display Properties” window. Click on the “Advanced” button.
  2. From the “SiS 650 Properties” window, click on the “Display Modes” tab. Select the "LCD", “VGA” or "TV" tab by clicking on the button to enable and connect the video display to the external display screen.
  3. Click on the “Apply” tab and you will be ask to keep the new setting. The notebook computer and external monitor/TV screen will now simultaneously display the same image.

**Option: Multi-Monitor**

"Multi-Monitor" is only applicable when the function of "Dual View" is being access. This function will only be available if an external monitor is connected to your notebook computer.

Use this to achieve a large desktop display on a small size screen. To do this:

- Adjust the screen resolution by increasing the desktop area in the “Display Area”.
- Use your touch pad or mouse cursor to point at any area of the screen to move the window screen to a larger view.

To achieve the “Dual View” function, follow the procedures below:

1. Click on the “Control Panel” and double click on the “Display” icon. Click on the “Settings” tab to enter the “Display Properties” window.

2. Use the cursor to click on the Monitor “2” screen on the sub-screen of the “Display Properties” window.



3. A message is shown on your screen to ask you whether to

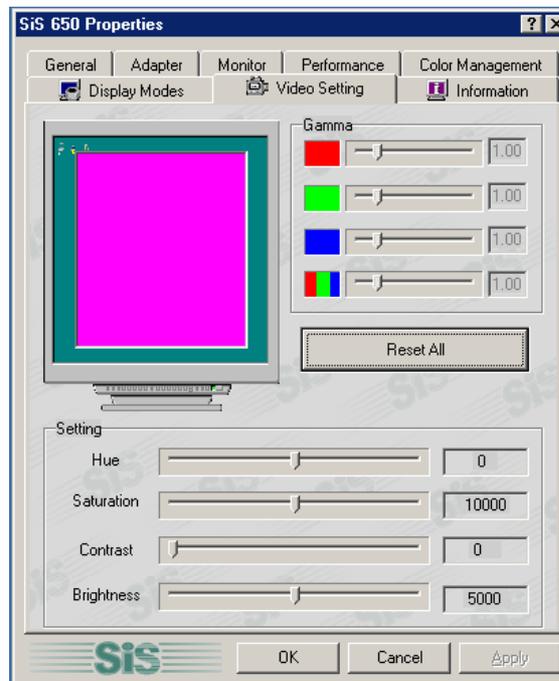
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enable the monitor that you have chosen. Click “Yes” to accept the change. Click the “Apply” tab to run the function and restart the computer.

4. After the system has restarted, your notebook computer LCD screen and the external monitor screen are connected with each other. From the LCD display, open the “Display Properties” and use the cursor to drag it to the right thus moving the image to the external monitor screen.

### *Video Setting*

From the "Setting", you can also adjust the video of your display to overlay, contrast or brightness.



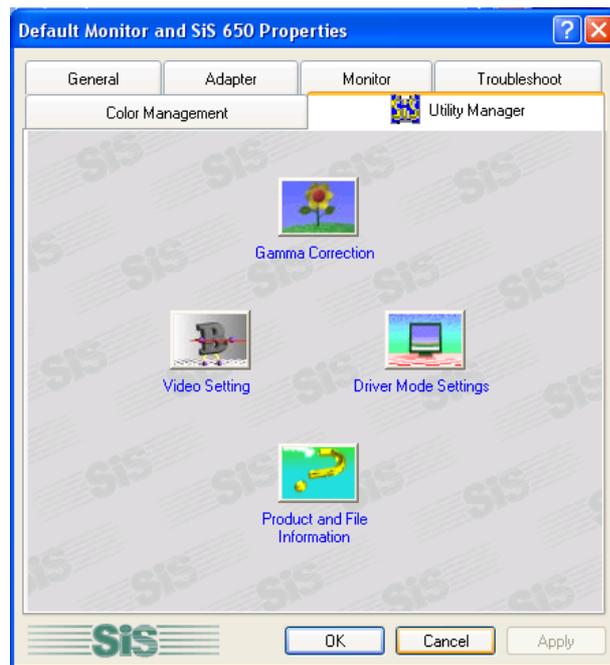
### *Windows 2000/XP VGA Utilities*

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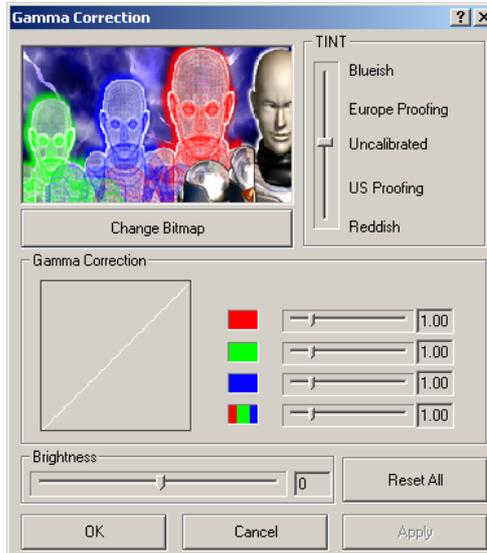
After you have restarted Windows, open the "Control Panel" and double click on the "Display" icon. From the "Display Properties" window, select the "Settings" tab and click on the "Advanced" tab to enter the "SiS 650 Properties" window.

You will notice four new entries have been made in the "Utility Manager" window: Gamma Correction, Video Setting, Driver Mode Setting and Product File Information.

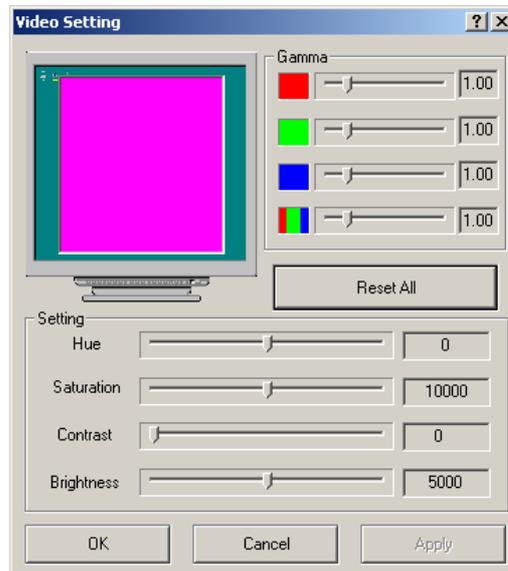


### *Gamma Correction*

You can adjust the right color for your window screen by moving the "Tint" adjustment window. Adjust the "Brightness" to increase or decrease the right resolution for your screen display.



## Video Setting



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This dialog box has the following scroll bars and buttons for controlling the color components of the video image.

### **Brightness**

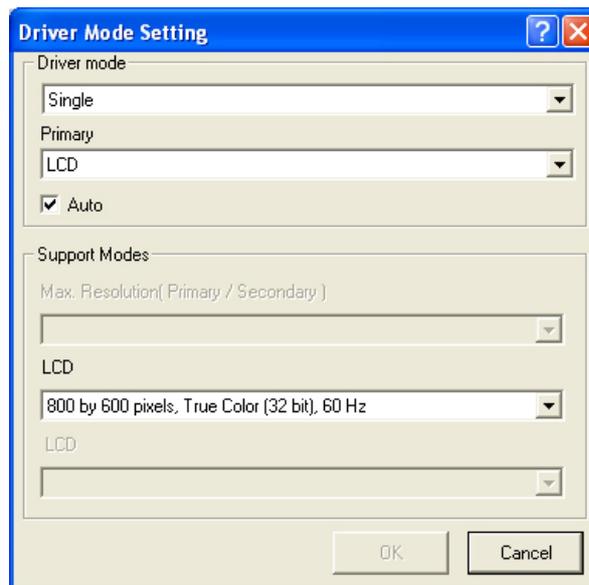
Use this scroll bar to adjust the overall intensity of light emitted by the video display.

### **Contrast**

Use this scroll bar to adjust the contrast level between the bright and dark areas of the video image. The higher the contrast, the brighter the bright areas and the darker the dark areas, and vice versa.

## ***Driver Mode Settings***

The SiS's driver allows three simultaneous outputs to LCD, VGA and TV. Before proceeding, be sure the monitor is connected to the notebook computer.



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### Driver Mode

This defines the two status of Single, Mirror and Multi Monitor (when an external monitor is connected to your notebook computer).

- When the "Single" is selected, the display can only be seen on the notebook computer LCD, VGA or TV panel.
- When the "Mirror" is selected, you can display different combination between the LCD, VGA or TV display.

### Display Combination

This applies to the display that you prefer to use.

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**REMINDER:** The "Auto" tab will serve as additional function of the "Mirror" and "VGA" respectively by removing the ✓ check mark under the "Display Combination" selection field.

---

- Select the "VGA" if you want the picture to only display on the monitor screen.
- Select "LCD" if you want the picture to only display on the notebook computer screen.

---

**NOTE:** Use the **[Fn] + [F12]** hot keys to toggle between the LCD and external monitor display.

If you prefer to use only one display in operating your system, press the **[Fn] + [F12]** hot keys will shut down the LCD display, external monitor display or both at this random order.

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---

**Option: Single**

This function will only show one single display whether it be on your notebook computer or external monitor.

**Option: Mirror (Simultaneous Display)**

This function supports different combination of LCD, VGA and TV display.

1. Select the "LCD" , "VGA" or "TV" tab by clicking on the button to connect the video display to the external CRT screen.
2. Click on the "Apply" tab and you will be asked to keep the new setting. The notebook computer and external monitor/TV screen will now simultaneously display the same image.

**Option: Multi-Monitor (for Win XP)**

"Multi-Monitor" is only applicable when the function of "Dual View" is being accessed. This function will only be available if an external monitor is connected to your notebook computer.

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**NOTE:** This function is only applicable when you are using the Win XP operating system.

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## Chapter 7

# *Troubleshooting*

This chapter describes locating and solving problems that you may encounter while using your computer.

### *Locating a Problem*

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Problems with your computer can be caused by something as minor as an unplugged power cord – or as major as a damaged hard disk. The information in this chapter is designed to help you find and solve minor problems. If you try all the suggested solutions and you still have a problem, make a list of what steps you have taken to correct the problem and contact your dealer.

Successful troubleshooting is the result of careful observation, deductive reasoning, and an organized approach to solving the problem.

The problems that you will encounter can be divided into two basic categories: hardware problems and software problems. Hardware problems can be further divided into electrical and mechanical problems. You will know you have a hardware problem if the screen is dark, the computer cannot read the disk

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drives, or you get an error message during the Power-On Self Test (POST).

Software errors can occur at several levels. The ROM BIOS and the operating system can give you a large number of error messages. On top of this, each application software package has its own set of error messages. It is important to determine whether the software error message you are getting is from the application or the operating system. Once you know this, you can look in the respective manual for a solution to the problem.

### *Checking Cables and Connections*

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Start by performing a careful visual inspection of the exterior of the computer. If no LEDs are illuminated, make sure that your computer and its peripherals are getting power and communicating with each other properly.

To check the power cables, and connections:

If you have been using battery power, connect the Notebook to an external power source and make sure that the battery has a charge.

If you are using the Notebook with the AC adapter, check the power outlet, the power cord, and any power switches that may affect your computer.

- Check the wall outlet or power strip with an item that you know is functioning properly. A lamp or radio is a convenient item for checking the power. You may also need to check the fuses and breakers in your electric box.
- If the outlet is controlled by a wall switch, make sure that the switch is on.
- If the outlet is controlled by a dimmer switch, use a different outlet.
- If your computer is plugged into a power strip with an On/Off switch, make sure the switch is on.

With the computer's power switched off, check all cable connections. If the computer is connected to any peripheral

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devices, look for loose or disconnected cables.

If the computer is too close to a wall, a cable connection may be loose or the cables may be crimped.

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**NOTE:** Do not substitute cables for different devices (other than the manufacturer recommended cables) even if they look exactly alike. The wiring inside the cable may be different.

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When you are certain that you have power available and all connections are good, turn the computer on again.

If the computer still does not start, you may have a hardware problem.

## *The Power-On Self Test*

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The Power-On Self Test (POST) runs every time you turn on or reset the Notebook. The POST checks memory, the main system board, the display, the keyboard, the disk drives, and other installed options.

A few seconds after you turn on your computer, a copyright message appears on your display screen. A memory test message appears next; as the test continues, memory size increases until all installed memory is tested. Normally, the only test routine visible on the screen will be the memory test.

Two classifications of malfunctions can be detected during the POST:

- Error messages that indicate a failure with either the hardware, the software, or the *Basic Input/Output System* (BIOS). These *critical malfunctions* prevent the computer from operating at all or could cause incorrect and apparent results. An example of a critical error is microprocessor malfunction.

- 
- Messages that furnish important information on the power-on and boot processes (such as memory status). These *non-critical malfunctions* are those that cause incorrect results that may not be readily apparent. An example of a non-critical error would be a memory chip failure.

In general, if the POST detects a system board failure (a critical error), the computer halts and generates a series of beeps. If failure is detected in an area other than the system board (such as the display, keyboard, or an adapter card) an error message is displayed on the screen and testing is stopped. It is important to remember that the POST does not test all areas of the computer, only those that allow it to be operational enough to run diagnostic programs.

If your system does not successfully complete the POST, but displays a blank screen, emits a series of beeps, or displays an error code, consult your dealer.

## ***General Hardware Problems***

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A few common hardware problems and suggested solutions are presented in the table below:

**Problem:** Failure in the installation of the Audio driver.

**Solution:** Be sure to first remove the current audio device from your system. Please follow the instruction on the installation of audio driver.

**Problem:** The display screen is dark

**Solution:** Make sure that the computer is not in Suspend mode. Check the Brightness controls for the screen. If the controls are turned too far down, the screen will be dark.

**Problem:** An incorrect date and time are displayed.

**Solution:** Correct the date and time using the DOS DATE and TIME commands or the options in the Setup Utility. If the date and time become incorrect after a short

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time, your CMOS battery may be depleted. Contact your dealer to change the battery.

**Problem:** The message: "Invalid system disk, Replace the disk, and then press any key" appears during boot.

**Solution:** Check and make sure that you do not have a non-bootable floppy diskette inserted in your floppy drive. If your FDD is empty, you may not have an operating system installed on your drive. Contact technical support for assistance.

**Problem:** You hear irregular beeps during operation of the Notebook and the system halts.

**Solution:** The problem is beyond the scope of this manual. Contact technical support.

**Problem:** An unidentified message is displayed.

**Solution:** Reboot the computer and run the BIOS system setup. Confirm the Setup parameters. If the same message is displayed after booting up again, contact technical support for assistance.

**Problem:** The system cannot access the CD-ROM/DVD-ROM drive.

**Solution:** Check that a CD is properly inserted in the drive. Make sure that you are using the correct program for that kind of CD. For example, the system cannot read a data CD using an audio program.

**Problem:** You cannot operate the printer.

**Solution:** Check the printer cable connection. Ensure that the printer power switch is turned on. Confirm that the printer is on-line.

**Problem:** You can't save data to disk.

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**Solution:** Ensure that the disk has been formatted. Consult your operating system manual for information on formatting floppy diskettes.

**Problem:** The diskette is write-protected. Eject the diskette, remove the write protection, and try again.

**Solution:** The diskette is full. Try using another diskette or free up some space on the diskette. The disk drive is not operating. Contact your dealer for support.

**Problem:** You cannot use the mouse.

- Check the cable connection.
- Check the mouse with another application to see if there is a software incompatibility problem.
- If possible, check the mouse with another computer to see if it works. If it doesn't operate on a different system, the mouse might be broken.

## *Contacting Your Dealer*

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If you still have a problem after reading the preceding sections, the next step is to contact your dealer. Your dealer can determine if the problem is something that requires the computer to be taken to the shop. Before you call your dealer, however, prepare the following information:

- How is your computer configured? Your dealer needs to know what peripheral devices you are using.
- What messages, if any, are on the screen?
- What software were you running at the time?
- What have you done already to try to solve the problem? If you have overlooked a step, your dealer may be able to solve the problem over the phone.

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## Chapter 8

# *Upgrading your System*

### *Upgrading your Memory*

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Refer to the following instructions and illustration for information on upgrading your notebook's memory.



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1. Turn off the computer and disconnect the AC adapter and all peripherals.
  2. Turn the notebook over so that the rear ports are facing you and locate the memory module compartment.
  3. Remove the screws that secure the RAM module compartment cover to the chassis and set it aside. Slide the cover to the direction of the arrow. Locate the RAM modules.
  4. Using your fingers or a small screwdriver, press the grips on the side of the RAM module away from the modules. The RAM module should pop out slightly.
  5. Gently pull out the RAM modules.
  6. To replace the RAM modules, align the RAM module connector with the RAM module socket and then press the RAM module down until it clicks into place.

### *The Easy to Upgrade HDD Module*

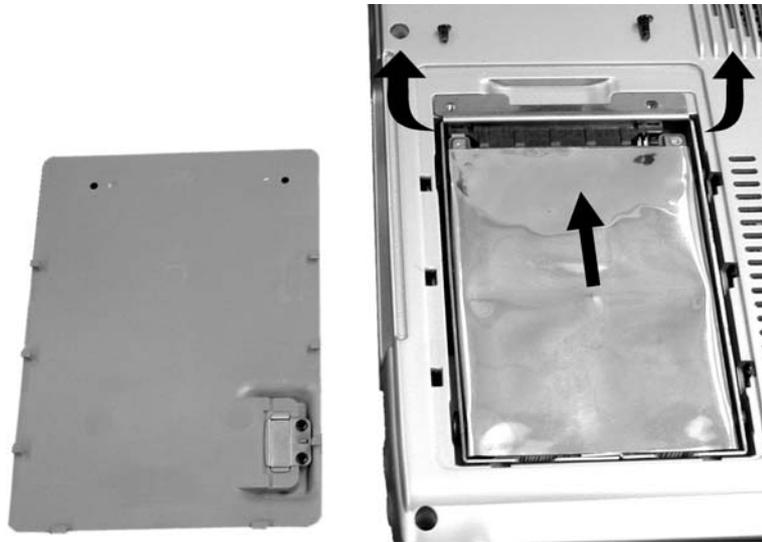
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Your computer's hard disk drive is an integrated electronic drive, commonly referred to as an IDE drive, with a form factor of 2.5 inches.

#### *Removing and Replacing the Hard Disk Drive*

The Notebook's hard disk is easy to upgrade. To remove the hard disk drive:

1. Use a Philip screwdriver to unscrew the screws of the HDD compartment
2. Slide the HDD cover in the direction of the arrow as shown in the illustration.



3. Gently hold the grip of the HDD and release it from its socket.
4. Use your thumb to push the grip downward to lift up the HDD to completely release the HDD from its compartment.

### *CPU Upgrade*

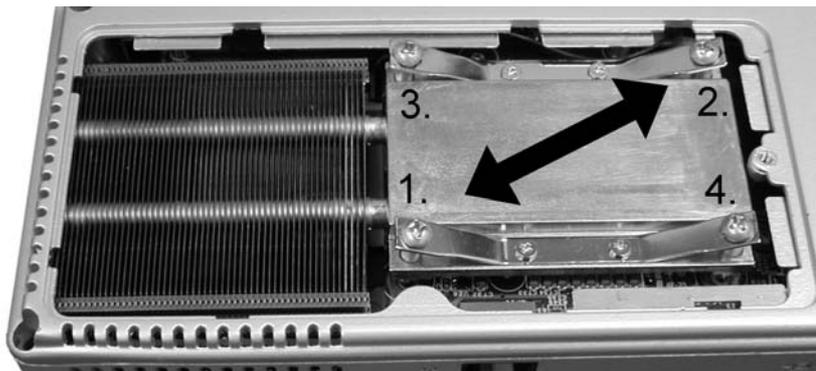
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To upgrade your CPU, follow the procedures below:

1. Turn the notebook over so that the rear ports are facing you.
2. Locate for the expansion compartment.
3. Unscrew and remove the cover of the CPU compartment.



4. Remove all the screws attached to the heatsink.
5. Before removing the screws, there are certain measures to followed in removing the heatsink



6. To remove the heatsink, first loosen the screw carefully.

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**REMINDER:** After loosening one screw, be certain that the next to be loosen should be the screw on its adjacent side as shown on the illustration.

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**Warning:**

**Be sure to loosen all the screws first before removing it totally to release the heatsink.**

**Failure to do so will cause a major damage to the heatsink.**

Now you can totally remove all the screws also in that order when you first loosen the screw.

To insert the heatsink, follow the procedures below:

1. Make sure it is in slant position aligning with the socket of the compartment.
2. Slowly push down and insert the heatsink into its socket until it is properly seated into the expansion compartment.
3. Be certain that the screw holes on the heatsink align completely with the screw holes in the compartment.
4. Secure the screw one at a time and on the adjacent side.
5. You can now tighten up the screws after all are secured into place one at a time and on the adjacent side.



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## Appendix A

# *Specifications*

### *Detailed Notebook Specifications*

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#### *General*

##### **CPU**

- Intel FCPGA2 P4 series  
1.4GHz/1.5GHz/1.6GHz/1.7GHz/1.8GHz CPU, 256KB L2 cache on die, CPU front-side bus 400MHz
- Intel FCPGA2 Northwood series 2.0GHz/2.2GHz/2.4GHz CPU, 512KB L2 cache on die, CPU front-side bus 400MHz
- Intel FCPGA2 Celeron series 1.7/1.8/2.0GHz(0.13u) 128KB L2 cache on die
- 478 pin mPGA478 socket

##### **Memory**

- 2 expandable memory slot up to 2GB with 1GB technology
- 128/256MB memory options

- Two 200 pin DDR SO DIMM type memory slots
- 2.5V DDR SDRAM module
- Supports 133 MHz Synchronous DRAM

#### **Core Logic**

- SiS650+961

#### **PCMCIA Sockets**

- 1 Type II, support CardBus

#### **Pointing Devices**

- Synaptics TouchPad

#### **Keyboard**

- Keyboard controller: NS PC87591
- 12 function keys, Windows function keys
- Language supported: US, Japanese, European etc.,
- 2 short-cut keys

#### **Audio**

- Dual full-duplex Direct Sound Channels
- Hardware SoundBlaster Pro for real-mode DOS legacy compatibility
- 18-bit ADC & DAC resolution
- Support SPDIF out
- AC'97 2.2 & PC2001 compliant

#### **I/O Ports**

- One parallel port supported EPP/ECP (25-pin female D-connector)
- One S-video TV out port for TV
- One DC input port for External AC adapter (2-pin DC jack)
- One Type II PCMCIA card socket
- One video port for external analog VGA monitor (15-pin female D-connector)

- 
- USB 1.1 port x 4
  - MIC-in, headphone jack w/ adaptor for 5.1 channel SP/DIP support
  - RJ-11 jack for Fax/Modem
  - RJ-45 jack for LAN
  - One FIR
  - IEEE 1394 mini-jack (option)

## *Mass Storage*

### **Hard Disk Drive**

- Standard Capacity: 10GB or higher
- Type: 2.5" (MCC Specification) IDE
- Height: 9.5mm

### **CD-ROM/DVD-ROM/Combo Drive**

- 2.5" 12.7 mm CD-ROM/DVD-ROM/CD-RW drive
- Factory option: built-in CD-ROM or DVD-ROM/CD-RW

## *Video System*

### **Display**

- 15.0" XGA TFT
- 14.1" XGA TFT
- SiS650

## *Electrical*

### **AC Adapter**

- Universal input - auto-sensing - 3 wire AC and 2 wire DC

### **DC-DC Converter**

- Supplies 5V, 3.3V CORE VCC and IO VCC, +12V, MP5V
- Contains smart battery charger

- Charge modes
  - System off or in Suspend mode  
3.5 hours (88.8Whr) charge time

## *Mechanical*

### **Dimensions**

- Weight: 3.9KG (8.59 lbs) with 14.1" panel, battery and DVD-ROM drive installed
- Size: 332.0mm (W) x 281.0mm (D) x 37.9mm/44.7mm (H)

## *Operating Environment*

### **Temperature**

- Operating: 5°C ~ 35°C
- Storage: -20°C ~ 60°C

### **Humidity**

- Operating: 30% ~ 90% (non-condensing)
- Non-operating: 10% ~ 90% (non-condensing)

### **Altitude**

- Operating: -200 to 10,000 feet above sea level
- Non-operating: -200 to 30,000 feet above sea level.

## *Options*

- Spare Li-Ion battery pack
- Factory option: Fax/Modem miniPCI card or 1394 Fax/Modem Combo card
- Memory Extension card
- Module bay: CD-ROM/DVD-ROM/Combo (DVD-ROM+CD-RW) Drive

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## *Software Specifications*

### **System Software**

- System BIOS: AMI BIOS
- Video BIOS: SiS650
- Supported Operating Systems
  - Optional Windows XP Home/Professional or above version
  - Optional Windows ME or above version
  - Optional Windows 2000 or above version
- Standard Software Drivers
  - VGA driver
  - Audio driver
  - 1394 driver (option)
  - TouchPad driver
  - Modem driver
  - LAN driver
  - Cardbus driver