Notice

The company reserves the right to make any updates, revisions or changes to the information contained herein as and when deemed necessary. The company is under no obligation to notify any purchaser or end-user of such actions in advance or afterwards.

September , 2000

Trademarks

IBM PC, PS/2, XGA, and SVGA are registered trademarks of International Business Machines Corporation.

Intel, Pentium are trademarks of Intel Corporation.

SiS is a registered trademark of Silicon Integrated Systems.

MS-DOS, Microsoft Windows, Windows 98, Windows 2000, Windows NT and Microsoft Mouse are registered trademarks of Microsoft Corporation.

Insyde is a registered trademark of SystemSoft Corp.

Other brand and product names are trademarks of their respective companies.

Federal Communications Commission (FCC) Statement

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning:

[A shielded-type power cord is required in order to meet FCC emission limits and also to prevent interference to the nearby radio and television reception. It is essential that only the supplied power cord be used.]

[Use only shielded cables to connect I/O devices to this equipment.]

You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

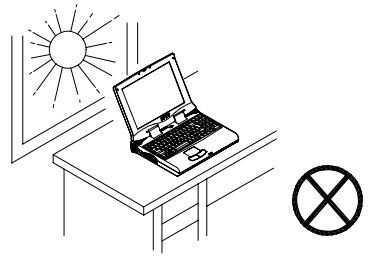
[ ]: depend on EUT condition.

Safety Instructions

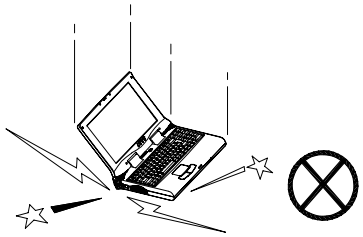
As with any other piece of precision electronic equipment, proper care and operation of your notebook computer will prolong its use. Help your notebook computer last longer by following this advice:

Handling the Computer

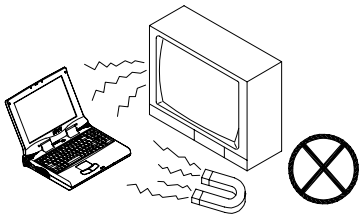
Do not expose it to excessive heat or direct sunlight.



Do not expose your notebook computer to any shock or vibration.

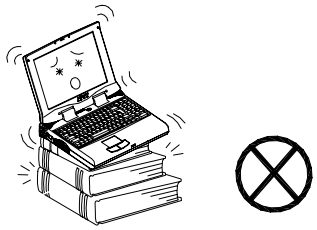


Do not expose it to strong magnetic fields.

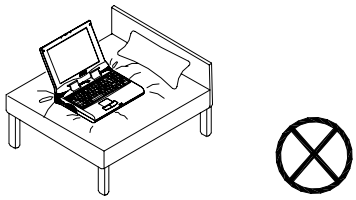


Do not leave it in a place where foreign matter or moisture may effect the system.

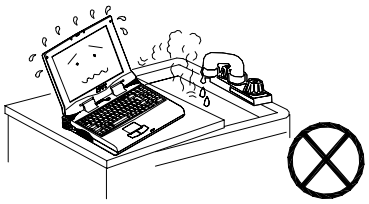
Do not place the computer on an unstable surface.



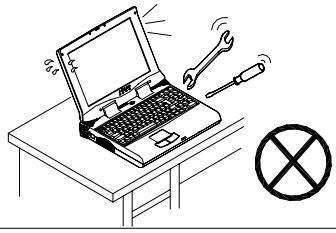
Do not place the computer on any surface which will block the vents.



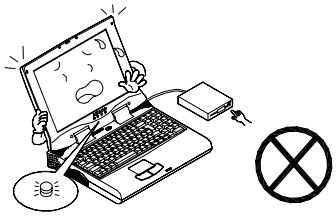
Don't use or store the computer in a humid environment.



Do not disassemble the computer by yourself.

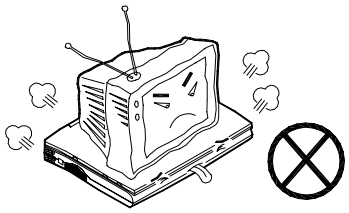


Do not turn off any peripheral devices when the computer is on.



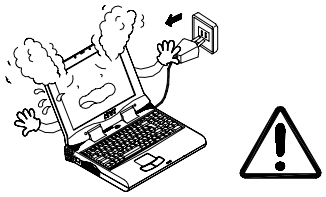
Do not turn off the power until you properly shutdown all programs.

Do not place anything heavy on the computer.



When traveling by air, follow the airline's instructions for in-flight use.

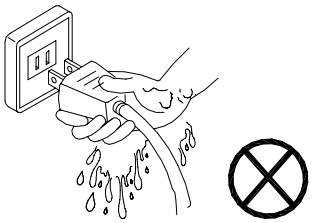
If there is an unusual odor, heat or smoke coming from your computer, unplug the cord.



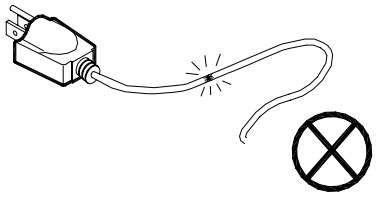
Perform routine maintenance on your computer.

Handling of the Power Cord & Battery

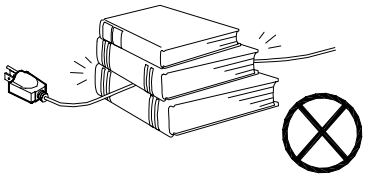
Do not plug in the power cord if you are wet.



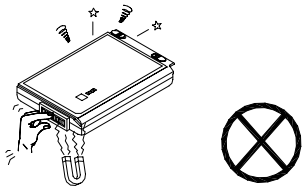
Do not use the power cord if it is broken.



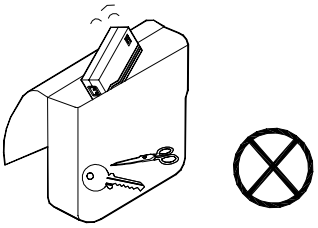
Do not place heavy objects on the power cord.



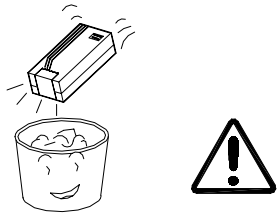
Do not touch the battery contacts with your hands or any metal objects.



Keep the battery away from any metal appliances.

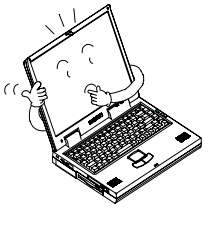


Affix tape to the battery contacts before disposing of the battery.

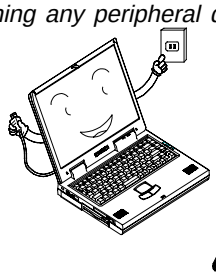


Handling of Peripheral Devices

Use only approved brands of peripheral devices.

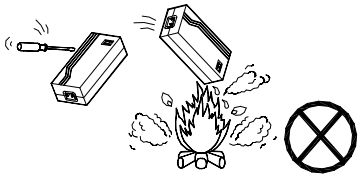


Unplug the power cord before attaching any peripheral devices.



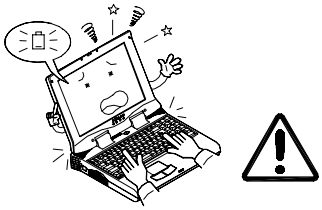
Other reminders

Do not throw the computer or accessories into a fire.



Do not touch the poisonous liquid if the LCD panel breaks.

Remember to periodically save your data. Data may be lost if the battery is depleted.



Take periodic breaks if you are using the computer for long periods of time.

Developing Good Work Habits

Developing good work habits are important if you need to work in front of the computer for long periods of time. Improper work habits can result in discomfort or serious injury from repetitive strain to your hands, wrists or other joints. The following tips should help reduce the strain:

- Adjust the height of the chair and/or desk so that the keyboard is at or slightly below the level of your elbow. Keep your forearms, wrists, and hands in a relaxed position.
- Your knees should be slightly higher than your hips. Place your feet flat on the floor or on a footrest if necessary.
- Use a chair with a back and adjust it to support your lower back comfortably.
- Sit straight so that your knees, hips and elbows form approximately 90 degree angles when you are working.

Remember to:

- Alter your posture frequently.
- Stretch and exercise your body several times a day.
- Take periodic breaks when you work at the computer for long periods of time. Frequent and short breaks are better than fewer and longer breaks.

Lighting

Proper lighting and comfortable display viewing angle can reduce eye strain and muscle fatigue in your neck and shoulders.

- Position the display to avoid glare or reflections from overhead lighting or outside sources of light.
- Keep the display screen clean and set the brightness and contrast to levels that allow you to see the screen clearly.
- Position the display directly in front of you at a comfortable viewing distance.
- Adjust the display viewing angle to find the best position.

Table of Contents

Chapter 1. Getting Started

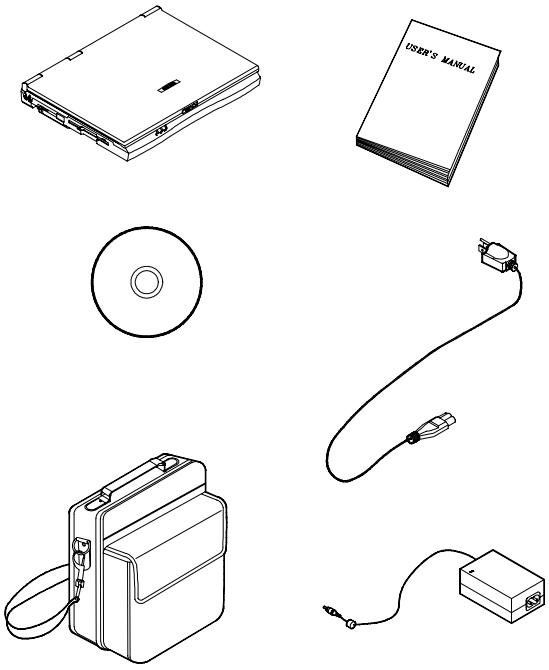
This chapter provides you with the basic introduction about the computer and its features, just like a guide tour. Now lets take a look at the computer from different views.

The chapter includes:

- Checking the Items
- Opening the LCD Display
- Top View with Display Open
- Right Side View
- Rear View
- Left Side View
- Bottom View

Checking the Items

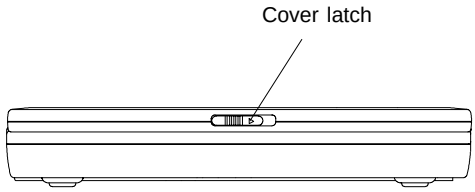
Carefully remove everything from the shipping box and check the items one by one. If any item is missing or damaged, contact your dealer immediately.

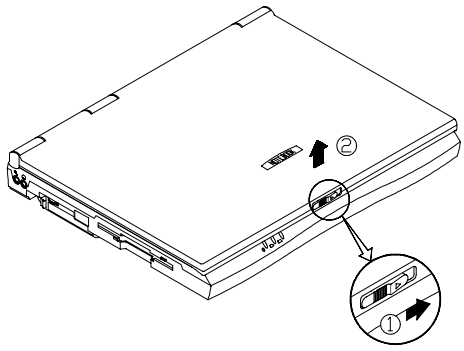


1 Notebook Computer
2 Carrying Bag
3 Power Adapter
4 Power Cord
5 User's Manual
6 Battery Pack (installed inside the computer)
7 Driver Utilities (CD-ROM disk)

Opening the LCD display

1) Move the cover latch to the right to release the top cover.
2) Lift the top cover to reveal the LCD panel and keyboard.
3) Adjust the LCD panel to a comfortable viewing angle.
4) Press the power button to power up the system.





Top View with Display Open

LCD Display

The Notebook comes with a TFT LCD (Liquid Crystal Display) display. Depending upon the model you have purchased, the display can be either a 13.3"/14.1" XGA TFT color panel.

Power Button

Pressing this button turns your notebook computer on or off. The Power Button can also be used as a Suspend/Resume button when pressed less than four seconds (if configured appropriately in System Configuration Utility).

> ***Note:*** *After turning your notebook computer off, wait 5 seconds at least before turning it on again.*

Three Hot-key Buttons

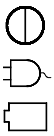
The computer provides you with three friendly hot keys allowing easy access to internet, e-mail and an application frequently used by yourself.

TrackPad and Buttons

The pointing device features a sensitive glide pad for precise movements. It functions the same way as a two-button mouse: the right touch pad button is the same as the right mouse button; the left touch pad button is the same as the left mouse button.

Stereo Speakers

Two built-in speakers provide rich, stereo sound.



LED Power Indicators

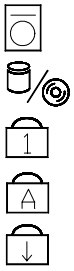
These indicators display the current power source and status of the computer. For more information please refer to Chapter 2 LED Power Indicators.

Keyboard

This A4-Sized Win98 keyboard has an embedded numeric keypad. It also has many of the same features as a full-sized desktop keyboard and can easily be replaced with a non-English keyboard.

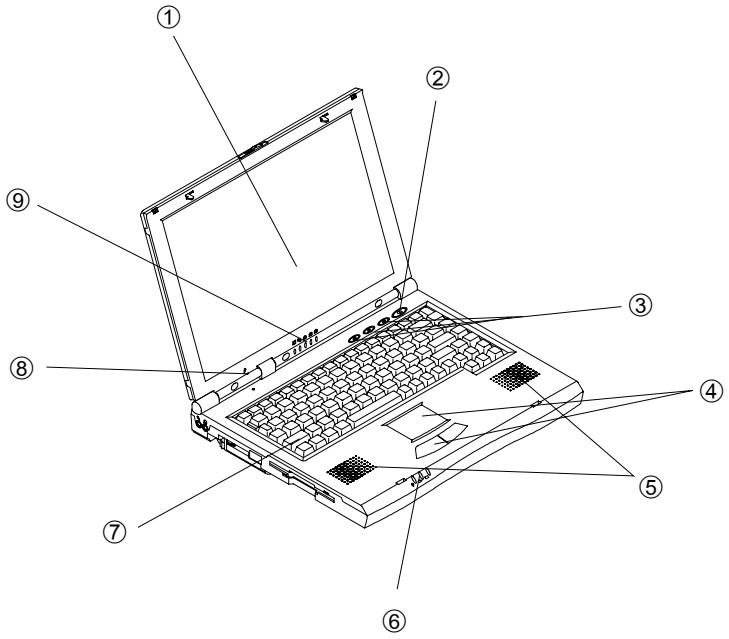
Microphone

With the built-in microphone you can proceed any recording task through an appropriate application on your notebook computer.



LED Status Indicators

These LED indicators display the system's operational status. Refer to Chapter 2 LED Status Indicators for more information.



1. LCD dispaly
2. Power button
3. Three hot-key buttons
4. TrackPad and buttons
5. Stereo speakers (built-in)
6. LED power indicators
7. Keyboard
8. Microphone (built-in)
9. LED status indicators

Right Side View

5.25" CD-ROM or DVD-ROM Drive

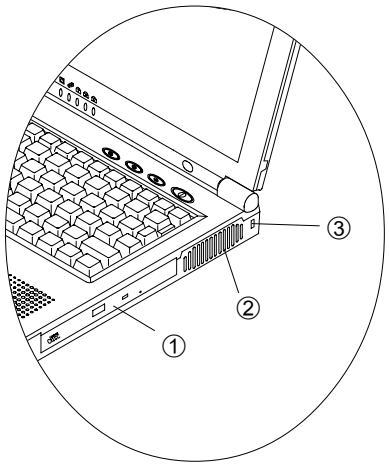
The notebook comes standard with a 24X-speed 5.25” CD-ROM drive or a DVD-ROM drive (12.7mm height) depending on the model you purchased. (Please refer to Chapter 2 for more information on using the CD-ROM or DVD-ROM.)

Vent

It enables airflow to prevent the notebook from overheating.

Security Slot

A lock for your computer can be attached to this slot to prevent possible theft.



1. CD-ROM/DVD-ROM
2. Vent
3. Security Slot

Rear View

DC-in Jack

The AC adapter is plugged into this jack to power on your notebook.

External Monitor (CRT) Port

The D-sub port uses a 15-pin connector allowing you to connect an external CRT monitor. Simultaneous display on the LCD display and an external CRT monitor is possible.

Parallel Port

The Parallel Port uses a 25-pin female connector for connection of a parallel printer or other parallel devices. This parallel port supports ECP (Extended Capabilities Port) and EPP (Enhanced Parallel Port) 1.7/1.9 modes.

Vent

It enables airflow to prevent the notebook from overheating.

Serial Port

The RS-232C 16550A compatible serial port (COM1) uses a 9-pin male connector to connect an external serial device, such as a serial mouse, printer or fax/modem.

Dual USB Ports

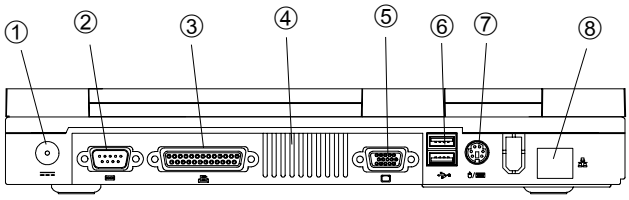
The dual USB (Universal Serial Bus) ports make adding peripheral devices easier.

PS/2 Type Port

The PS/2 type port uses a 6-pin connector and enables you to connect an external PS/2 type mouse or keyboard.

LAN Jack/Phone Jack (optional)

The jack is used to support the integrated LAN function and an optional built-in modem. Depending on the model you purchased, the feature of using the jack as a phone jack might be or might not be available. For more information on the LAN/Phone jack please refer to Chapter 4.



1. DC-in jack
2. Serial port
3. Parallel port
4. Vent
5. External monitor (CRT) port
6. Dual USB ports
7. PS/2 type port
8. LAN jack/Phone jack (optional)

Left Side View

Microphone-in Jack

A microphone can be connected to your notebook via this jack. Besides, the jack also supports a S/P-DIF (Sony/Philips Digital Interface Format) output, which allows you to connect your DVD-capable PC to a Dolby AC-3 compatible receiver. In that way, the digital audio data from the DVD-ROM will be transported to the surround sound system and offers you a spacious sound effect. Please note this S/P-DIF output feature is available only in Windows 98 after the Audio driver is installed. Refer to Chapter 6 for instructions of installation and settings.

Speaker-out Jack

Headphone or speakers can be attached to the computer through this jack.

Audio Volume Control

To increase/decrease the volume, adjust the audio volume control.

PC Card Slot

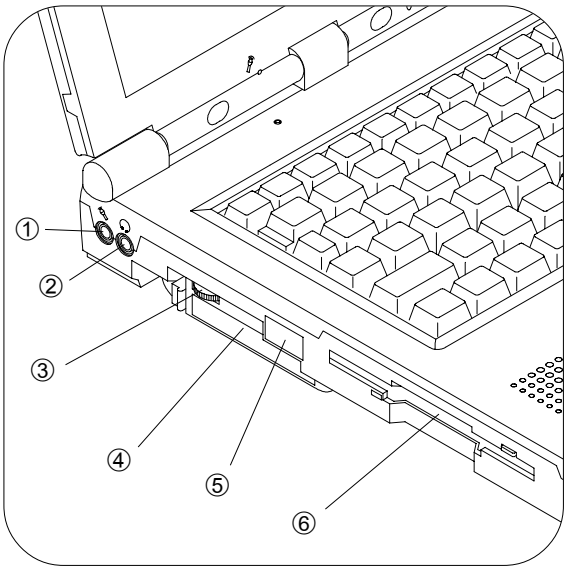
The notebook provides one Type-II PC card slot. The slot also supports CardBus mode.

Infrared Port

This port allows wireless communications with an infrared-compatible device. The Infrared port supports IrDA (HPSIR) 1.1 and ASKIR (Sharp standard) mode. For further information, please refer to the manual of the infrared device you wish to connect.

3.5" FDD (Floppy Disk Drive)

The drive is a 3.5”, 3-mode, 1.44 MB fixed floppy disk drive. For more information on using the floppy disk drive, please refer to Chapter 2.



1. Microphone-in jack
2. Speaker-out jack
3. Audio volume control
4. PC card slot
5. Infrared port
6. Floppy disk drive

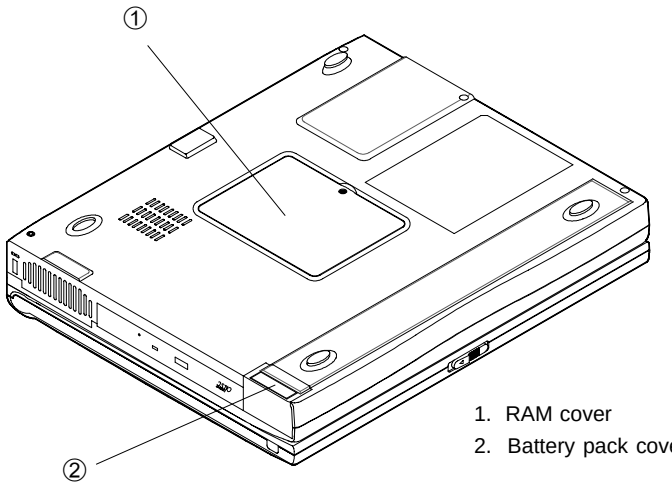
Bottom View

RAM Cover

The cover secures the installed RAM modules. For further information on removing or inserting the RAM modules, please refer to Chapter 4.

Battery Pack Cover

The cover secures the battery pack in its bay.



1. RAM cover
2. Battery pack cover

Chapter 2. Using the Computer

Your notebook computer can be used almost anywhere, in the home, office, or on the road. To learn about how to power your computer, how to operate your computer and the features available, please read this chapter.

The chapter includes:

- The Power Sources
- Turning on the Computer
- The Hard Disk Drive
- The Floppy Disk Drive
- The CD-ROM/DVD-ROM
- The PC Card Slot
- The Hot Key
- The Numeric Keypad

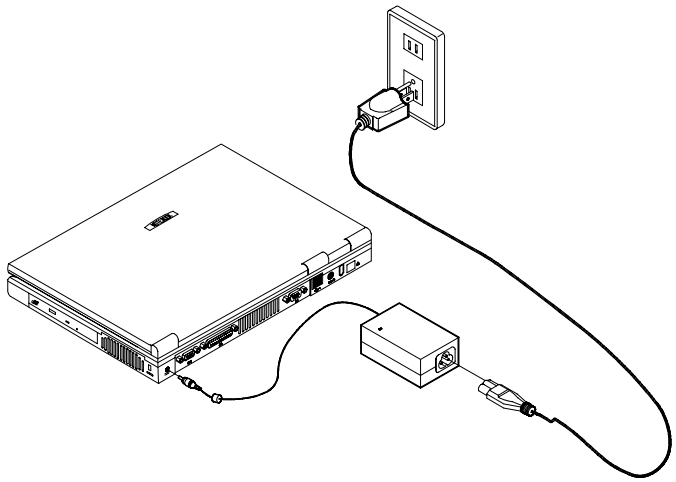
The Power Sources

The computer can be powered by either an AC adapter or a battery pack depending on where you want to use it.

AC Power Adapter

Use only the power adapter that comes with your computer. An incorrect type of power adapter will cause damages to the computer and its components.

1) Plug the power adapter cord into the DC-in jack on the rear panel of the computer.
2) Connect the power adapter with the power cord.
3) Plug the power cord into a properly grounded outlet.



Battery Pack

The battery pack allows you to use your notebook computer while you are on the road or an electrical outlet is unavailable. The battery life differs based on the applications and the configuration you're using. To increase battery life, let the battery discharge completely before recharging.

Please don't remove the battery pack from the computer. If it is necessary to remove the battery pack, please contact your dealer for help.

Recharging by AC Power

The battery pack automatically recharges when it is installed into the computer that is plugged with an AC power supply. You can still use the computer when it is recharging. To fully recharge the battery will take several hours and may be slightly longer if the computer continues to be used while the battery is recharging. (Please refer to LED Power Indicators in this chapter for more information on the battery charge status.)

Proper Handling of the Battery Pack

DO NOT disassemble the battery pack under any circumstances.

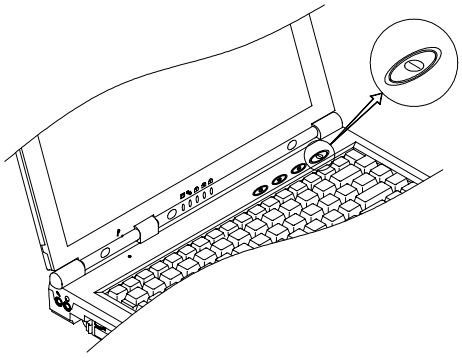
DO NOT expose the battery to fire or high temperatures, it may explode.

DO NOT connect the metal terminals (+, -) together.

(For more information on how to maintain the battery pack, refer to Appendix B.)

Turning on the Computer

Now you are ready to begin using your new notebook computer. To turn it on simply press the power button in the right top of the front panel.



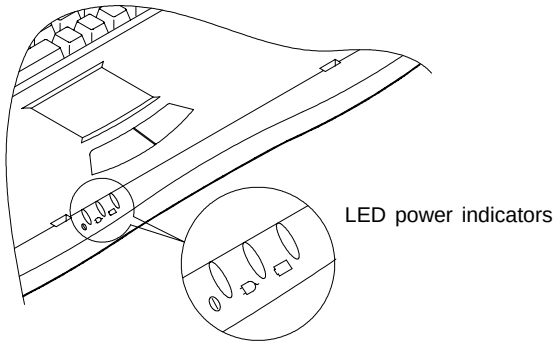
The Power Button can also be used as a Suspend/Resume hot-key button if pressed less than four seconds after appropriately configured in the SCU. (Please refer to Chapter 5, BIOS Utilities, for more information.)

LED Indicators

There are two sets of LED indicators (LED Power Indicators/LED Status Indicators) on your computer that will show you helpful information about the current status of the computer.

LED Power Indicators

The LED power indicators located on the front side display the power status.

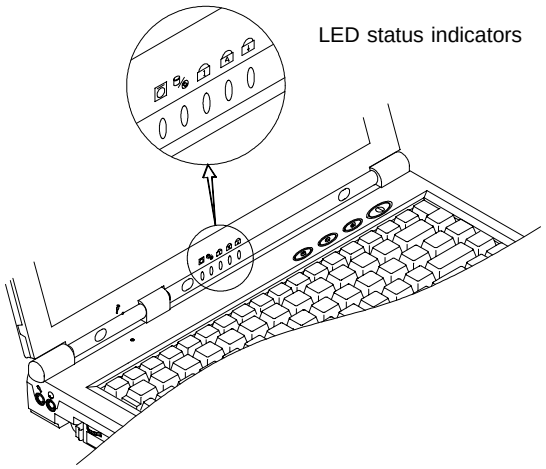


Icon	Color	Description
	Green	The computer is turned on.
	Blinking Green	The system enters the configured suspend mode.
	Yellow	The AC power is plugged in or battery power is full.
	Blinking Yellow	The battery is being charged.
	No light	The AC power is being used or battery power is not critically low.
	Blinking Yellow	Battery power is critically low.

Note: When the battery is critically low, immediately connect the AC adapter to the computer or save your work; otherwise, the unsaved data will be lost when power is depleted.

LED Status Indicators

Once your computer is on and in use, the LED status indicators will display the system's operational status.



Icon	Color	Description
	Green	Scroll Lock is activated.
	Green	Caps Lock is activated.
	Green	Num Lock is activated.
	Green	The hard disk/CD-ROM/DVD-ROM drive is being accessed.
	Green	Floppy disk drive is being accessed.

Note: To enable/disable the Scroll Lock feature, press the **Fn** and **Scr Lk** key simultaneously.

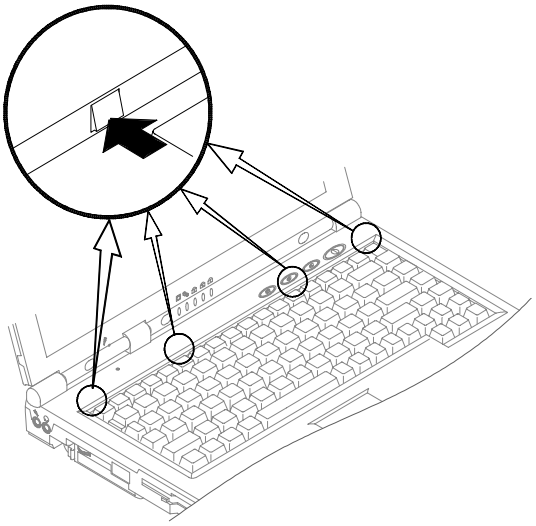
The Hard Disk Drive (HDD)

The hard disk drive is used to store your data internally in the notebook computer. It is mounted in a removable case and can be taken out to accommodate other 2.5" IDE hard disk drives with a height of 12.7 mm or 9.5 mm. The system supports DMA mode 2, PIO mode 4, and ATA-33/ATA-66/ATA-100 IDE HDD.

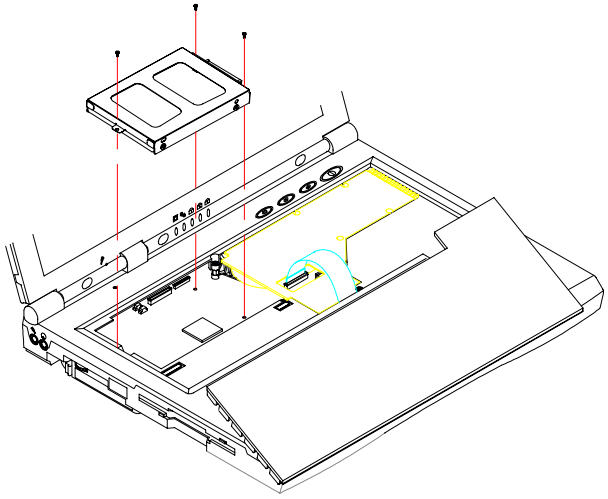
Note: Before removing the HDD, please check your dealer if this will VOID your warranty.

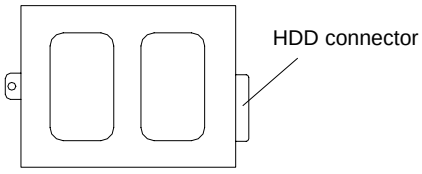
Removing the HDD

1) Turn off the computer.
2) Press the four keyboard latches at the top of the keyboard to elevate the keyboard from its normal position.



3) Carefully raise and set the keyboard aside.
4) Locate and unscrew the HDD.
5) Disconnect the HDD connector gently from the mainboard.
6) Lift the HDD out of the computer.





HDD Top View

Inserting the HDD

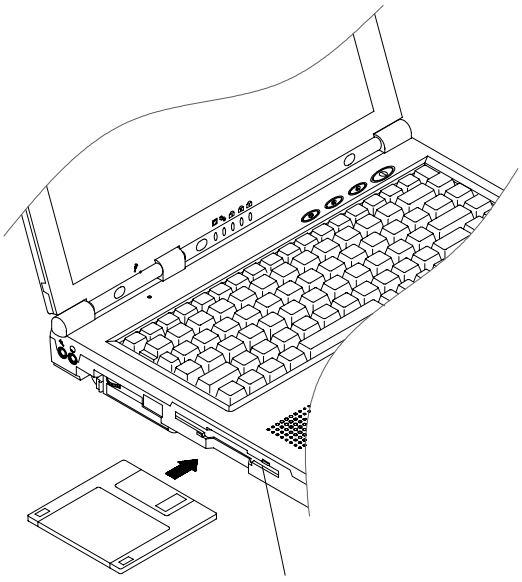
1) Turn off the computer.
2) Press the four keyboard latches at the top of the keyboard to elevate the keyboard from its normal position.
3) Carefully raise and set the keyboard aside.
4) Place the HDD into the computer.
5) Connect the HDD connector securely to the mainboard by gently pressing the HDD.
6) Screw up the HDD.
7) Reinstall the keyboard.

The Floppy Disk Drive (FDD)

The computer is equipped with a fixed 1.44 MB, 3.5” floppy disk drive module. It is usually designated drive A by default and can be used as a boot device if properly set in the SCU (please refer to Chapter 5, BIOS Utilities).

Inserting/Removing Diskettes

When using the floppy drive, always insert your floppy diskette with label-side facing up. To remove the inserted diskette, press the eject button on the top-right corner of the floppy drive.



Eject button

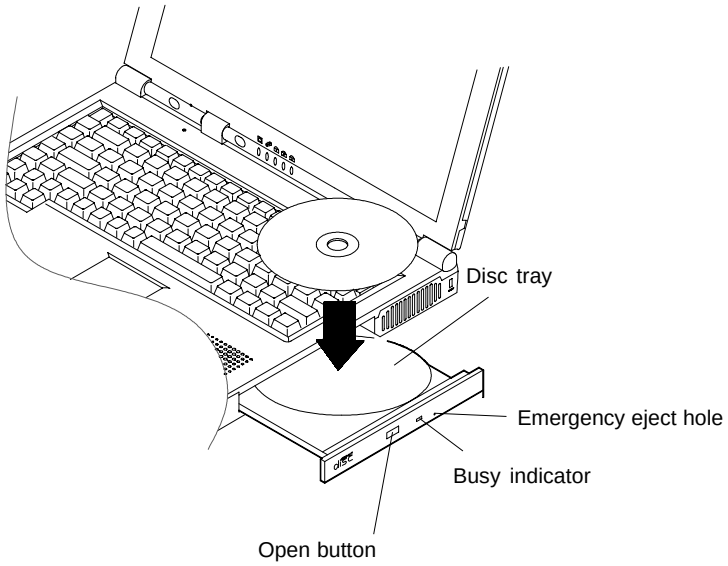
The CD-ROM/DVD-ROM

The notebook computer comes standard with a 24X speed 5.25" CD-ROM drive or a DVD-ROM (depending on the model you purchased). It is usually labeled drive D and may be used as a boot device if properly set in the SCU (please refer to Chapter 5, BIOS Utilities).

Loading Compact Discs

To insert a CD disk, press the Open Button and carefully place a CD disk onto the Disc tray with label-side facing up (see below). Push the CD tray in and you are ready to start. The Busy Indicator will light up while data is being accessed or while an audio CD is playing. If power is unexpectedly interrupted, insert an object such as a straightened paper clip into the Emergency Eject hole to open the tray.

Note: When manually ejecting a CD disk, DO NOT use a sharpened pencil or similar object that may break and become lodged in the hole.



Handling Compact Discs

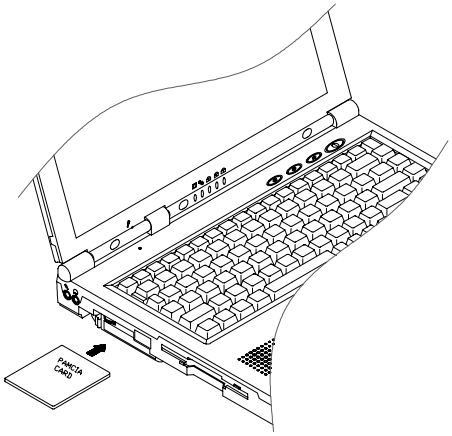
Proper handling of your CDs will prevent them from being damaged. Please follow these advices listed below to make sure that the data stored on your CD-ROM disks can be accessed.

Remember to:

- Hold the CD by the edges; do not touch the surface of the disc.
- Use a clean, soft, dry cloth to remove dust or fingerprints.
- Do not write on the surface with a pen.
- Do not attach paper or other materials to the surface of the disk.
- Do not store or place the CD in high-temperature areas.
- Do not use benzene, thinners, or other cleaners to clean the CD.
- Do not bend the compact disc.
- Do not drop or subject the CD to shock.

The PC Card Slot

The computer is equipped with one PC card slot (previously referred to as PCMCIA). The slot supports one 3.3V/5V type II PC card and one 3.3V CardBus card (PC Card 95).

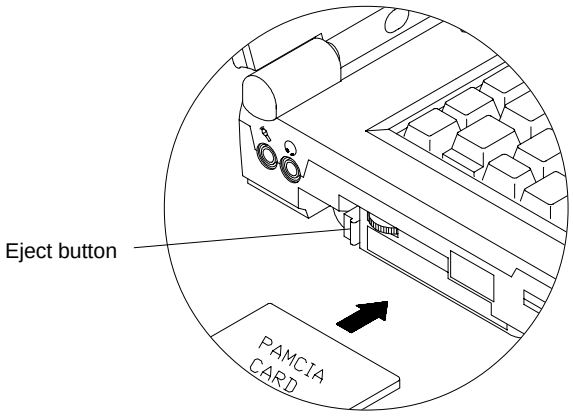


Inserting PC Cards

Align the PC card with the slot and push the card in until it locks into place.

Removing PC Cards

To remove a PC card, simply press the eject button next to the slot.



PC Card Problem in Windows 98

After installation of Windows 98 or Windows 98 Second Edition, you probably will find PC cards work abnormally and has one or a few of the following situations:

- An exclamation mark appears in the PC card driver in **Device Manager**
- PC cards don't work at all
- PC card controllers are not enumerated
- PC card controllers are disabled on power-up
- PC card controllers are disabled when you resume the computer from Suspend mode

This is a problem caused by Microsoft Windows 98 (Second Edition) product. **To resolve the problem, please contact your computer dealer for a program file (PCI.vxd) to update your system driver.** For more information on this, refer to Microsoft's article "CardBus Device Not Enumerated with TI 14xx or 44xx CardBus Controllers" (Article ID: Q233017) which can be found on Microsoft's web site.

Note: After installation of Windows 98 (Second Edition), please install the PCMCIA update file PCI.vxd immediately.

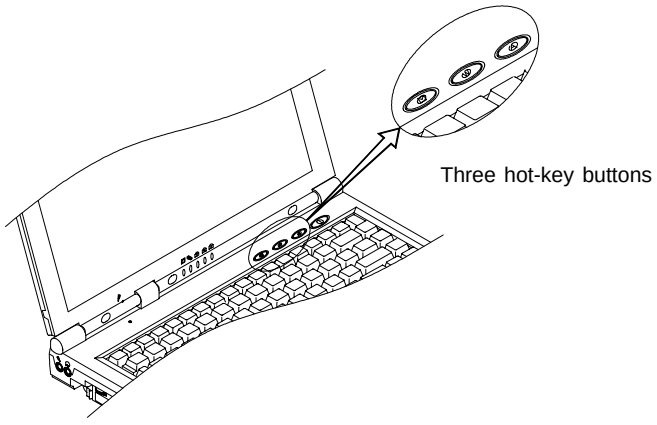
The Hot Key

The computer provides you with two sets of hot keys: three hot-key buttons on the computer and the function key combinations on the keyboard.

Three Hot-Key Buttons

The computer offers three hot-key buttons for you to access the internet functions or an user-defined application quickly. You can activate the www browser, an e-mail application and one application that you often use by pressing the appropriate hot-key button. To use the user-defined hot key , you need to install the Hot-Key driver. Refer to Chapter 6 for driver installation steps.

- Activate the e-mail box.
- Activate the internet browser.
- Activate the user-specified application, for example, the Microsoft Word or Excel.



Note: After installing the hot-key driver, you may have to configure or change the settings of the driver. To configure the driver, click the Hot-key driver's icon  on the task bar with the right button, the following menu will appear.

Hot-key Driver Menu

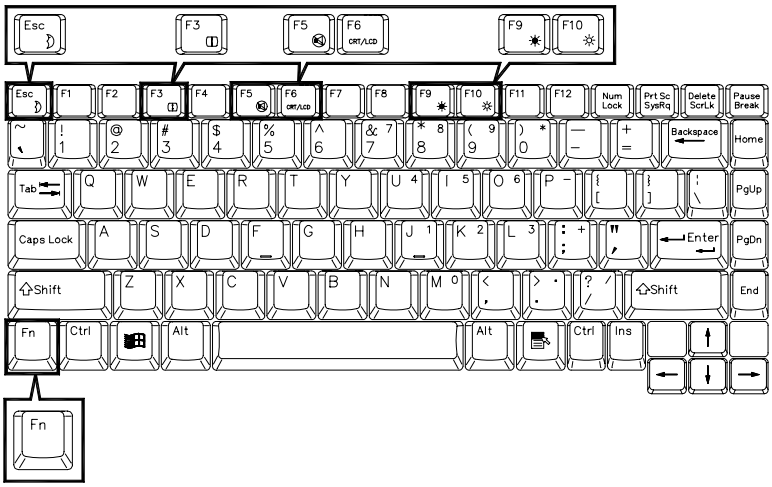
To use the user-defined hot key , you must configure "Application 1."

To specify an application for Application 1, follow these steps:
Select **Application 1** and press **Enter**. A dialog box will appear on the screen. Go to the directory where the desirable application program exists, click on the program file, and then choose **Open**.

Function Keys

Located on the bottom-left of the keyboard is the Fn key or Function key. The Fn key allows you to change operational features instantly (Hot Keys).

When you use the following functions, press and hold the Fn key; then press the appropriate function key (F3, F9, F10, etc....) located at the top of your keyboard.



Keys	Description
Fn + F3	Expand LCD display
Fn + F5	Turn audio on/off
Fn + F6	Toggle between CRT/LCD/LCD+CRT
Fn + F9	Decrease LCD brightness
Fn + F10	Increase LCD brightness
Fn + Esc	Toggle between suspend / resume

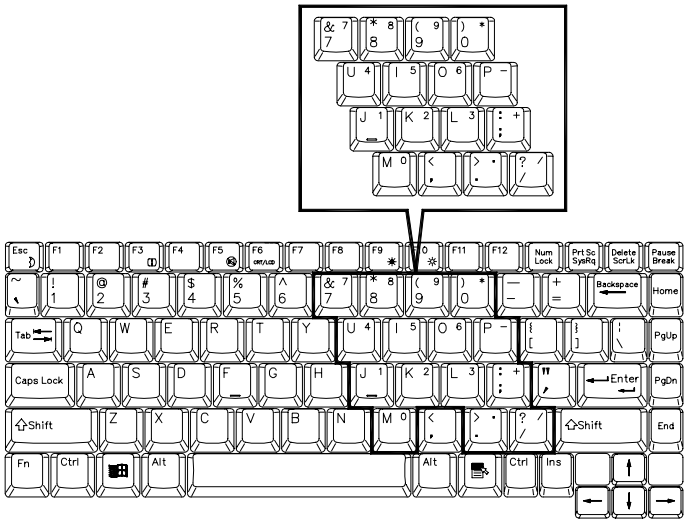
Note: *The keyboard showed here is for American-English version only. For Germany, French, Japanese and Chinese versions, please refer to Appendix C.*

The Numeric Keypad

A numeric keypad is integrated into the keyboard for easy numeric data input. The keypad stands out by its blue typeface.

To use the keypad simply:

- Activate the Num Lock feature by pressing the **Num Lock** key.
- Press the desired number keys.



The Numeric Keypad

Chapter 3. Attaching Peripherals

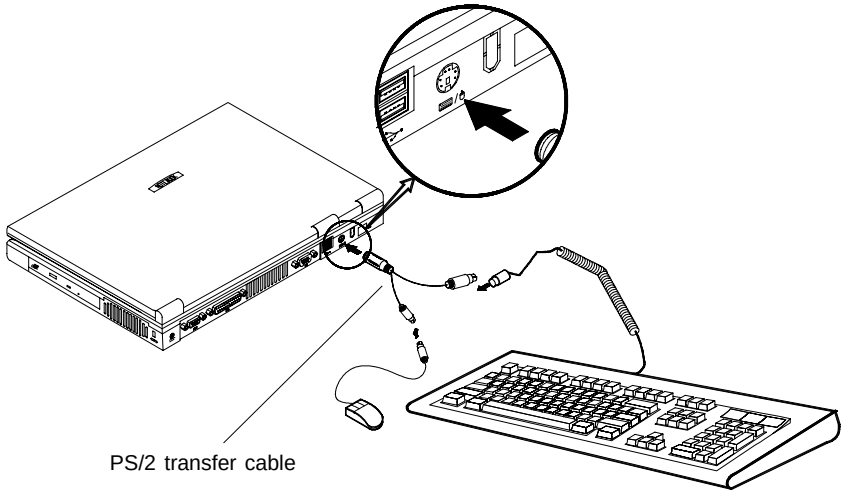
To enhance your computer's capabilities, you can attach peripheral devices to the computer using the ports or jacks located on the rear or side panel of the computer. The chapter instructs you to connect diverse external devices to the computer.

The computer supports:

- PS/2 Keyboard or Mouse
- Parallel Printer
- Serial Mouse or Device
- External Monitor
- USB Compatible Device
- Network Cable or Phone Line (Optional)
- Security Lock

PS/2 Keyboard or Mouse

The computer allows you to use a PS/2 keyboard or mouse connected to your notebook computer. However, if the PS/2 device uses a 5-pin connector, you should get a 5- to 6-pin PS/2 transfer cable to attach the device to the computer. (For more information about a PS/2 transfer cable, contact your dealer.) Attach the external keyboard or mouse to the PS/2 port as shown below.

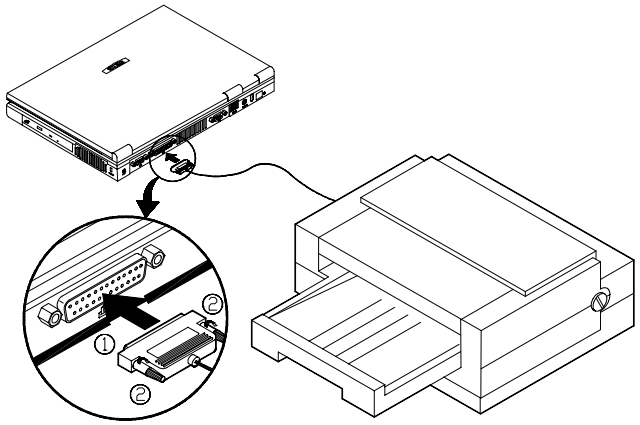


Parallel Printer

You can connect any standard Centronics parallel printer to your computer through the parallel port.

To connect a printer simply:

1) Turn off the computer.
2) Connect the cable to the parallel port on the rear of the computer (①).
3) Tighten the screws that fasten the cable to the parallel port (②).
4) Insert the other end of the cable to the printer's connector.
5) Fasten the cable's connector.
6) Turn on both the printer and computer.



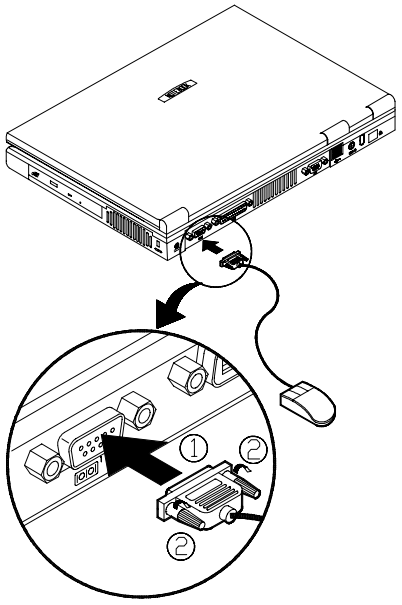
Note: *You may also need to install the manufacturer-supplied driver for the printer. Refer to the device's user guide for more information. If the connected printer supports Enhanced Parallel Port (EPP) or Extended Capabilities Port (ECP) mode, please enter the System Configuration Utility (SCU) to configure the required setting.*

Serial Mouse or Device

The serial port features a 9-pin connector. You can connect any serial device such as a serial mouse to this port.

To connect a serial device you must:

1) Turn off the computer.
2) Connect the cable to the serial port on the rear of the computer (①).
3) Tighten the screws that fasten the cable to the serial port (②).
4) Turn on the computer.



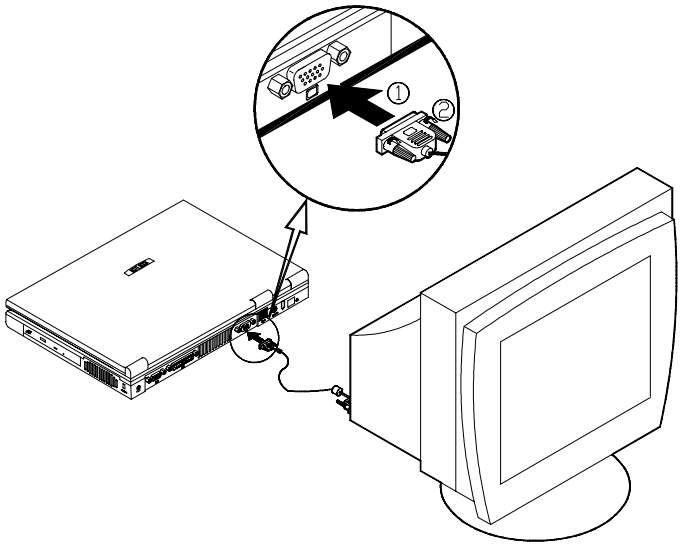
Note: *In addition, you may need to install the manufacturer-supplied driver for the serial mouse. Refer to the device's user guide for more information.*

External Monitor (CRT)

The computer can support an external monitor up to 1600 x 1200 x 16M. The external monitor can be used simultaneously with the LCD display turned on or off. You can set your computer to use an external monitor by pressing Fn + F6 key combination. For more information, refer to Function Keys in Chapter 2.

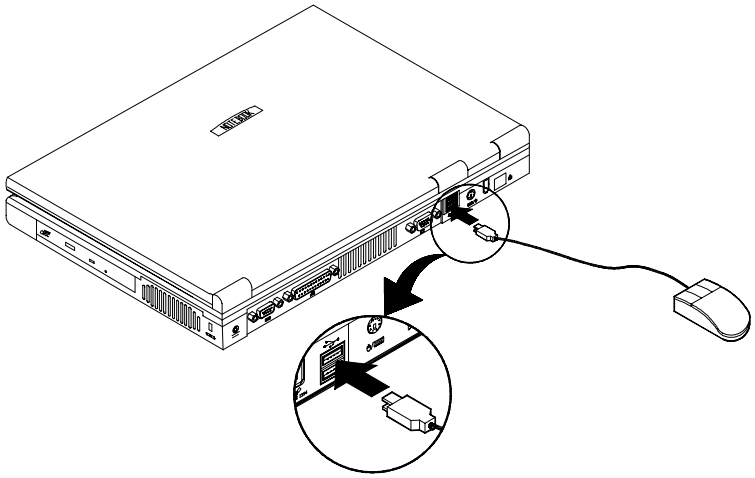
To install an external monitor you simply:

1) Turn off the computer.
2) Connect the cable to the CRT port on the rear of the computer (①).
3) Tighten the screws that fasten the cable to the CRT port (②).
4) Insert the other end of the cable to the external monitor.
5) Turn on both the monitor and the computer.



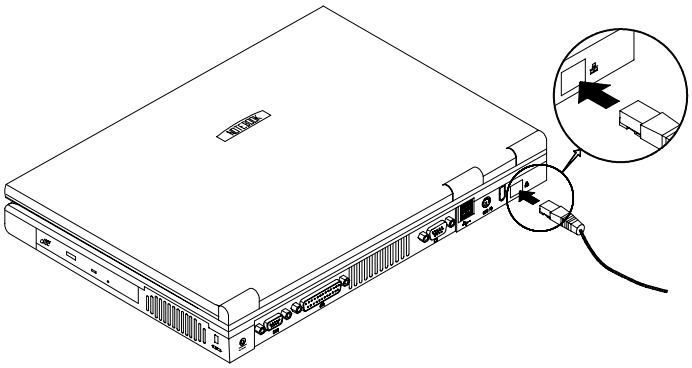
USB Compatible Device

The computer offers dual USB ports for attaching one or two USB compatible devices such as an USB keyboard, mouse, or other USB devices. Plug the USB device into the USB port as shown below.



Network Cable or Phone Line (Optional)

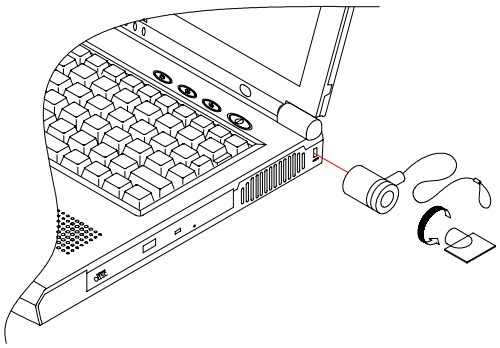
The notebook, which integrates the 10M/100Mbps LAN solution, comes standard with a LAN (Ethernet) jack for connection of a local area network (LAN). With the on-board 10/100Mbps LAN support, you simply attach a network cable to the LAN jack. This jack can also connect a phone cord to proceed modem communications if the model you purchased comes with an internal modem card already installed. For detailed information on the optional built-in modem please check your dealer.



Note: *To use the integrated LAN function and optional internal modem, you need to install the supplied LAN and modem driver in the computer. Refer to Chapter 6 for driver installation.*

Security Lock

A security lock can be installed onto your notebook computer to help prevent theft. To install the security lock, wrap the cable around a desk or other immovable object, then insert the locking device into the jack located on the right side of your notebook computer.



Chapter 4. Upgrading the Computer

This chapter contains the information about how to upgrade the notebook computer or enhance its functions. Please follow the steps to upgrade your computer, if you have any troubles or problems, you can contact your dealer for further help. Before you upgrade the computer, you will need:

- A small crosshead or Phillips screwdriver
- A small regular screw driver.
- An antistatic wrist strap

Note: *If you plan on replacing the processor or upgrading the memory you will need to remove the heat sink. Anytime the heat sink is removed you will need to replace the heat sink pad. Before proceeding make sure you have a replacement pad available which you will need when you reinstall the heat sink. A replacement pad can be obtained from your vendor. Refer to the* ***Installing the processor*** *section of this chapter for heat sink pad installation instructions.*

Also make sure you wear an antistatic wrist strap to ground yourself before working with or repairing the internal components. Static electricity may damage the components.

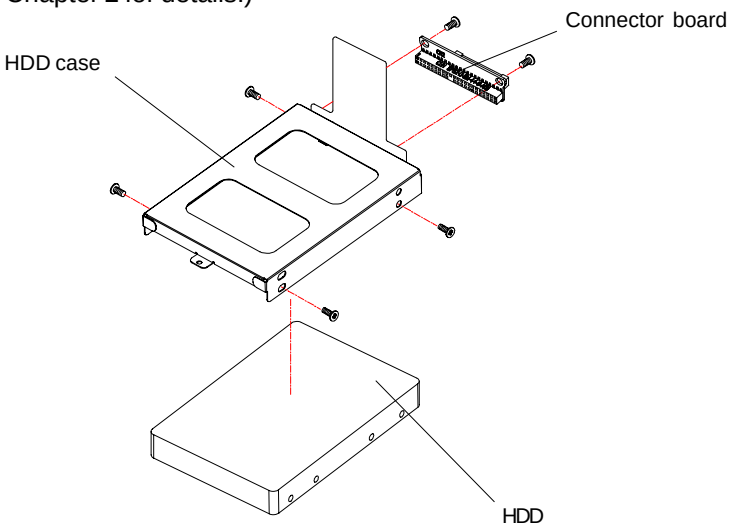
The chapter includes:

- Replacing the HDD
- Updating the Memory
- Adding or Replacing the Processor
- CPU Clock Jumper Setting
- CPU Voltage Jumper Setting

Replacing the HDD

Note: Before replacing, please check you dealer if this will VOID your warranty.

1) Remove the HDD along with its case from the computer (refer to **Removing the HDD** in Chapter 2 for details).
2) Remove the two screws on the HDD connector board.
3) Gently disconnect the HDD connector board from the HDD being careful not to bend any pins.
4) Remove the two screws on each side of the case.
5) Slowly remove the HDD from the case.
6) Place a new HDD into the case.
7) Hold the HDD firmly in place with two screws on each side.
8) Attach the HDD to the HDD connector board being careful not to bend any pins.
9) Screw up the HDD connector board.
10) Place the HDD into the computer (refer to **Inserting the HDD** in Chapter 2 for details.)



Upgrading the Memory

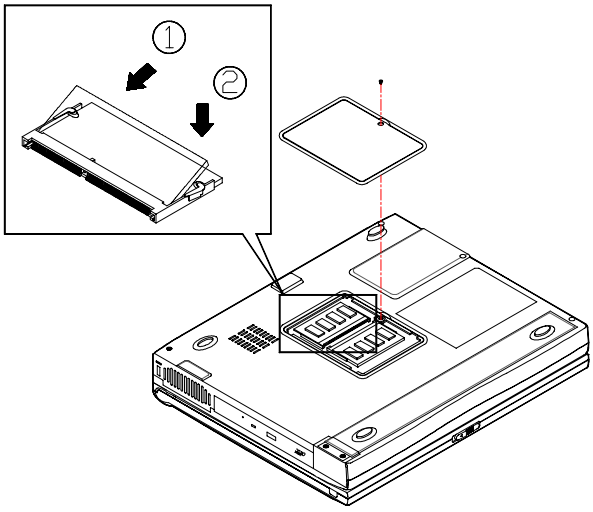
The computer has two memory sockets for 144-pin Small Outline Dual In-line Memory Modules (SO-DIMM) and supports both PC-100/PC-133 SDRAM. The main memory can be expanded up to 512MB based on 32/64/128/256MB types with different combinations as below chart:

Bank A (64-bit)	Bank B (64-bit)	Power	Total Size
32 MB	32 MB	3.3V	64 MB
64 MB	Empty		64 MB
64 MB	32 MB		96 MB
64 MB	64 MB		128 MB
128 MB	Empty		128 MB
128 MB	32 MB		160 MB
128 MB	64 MB		192 MB
128 MB	128 MB		256 MB
256 MB	Empty		256 MB
256 MB	32 MB		288 MB
256 MB	64 MB		320 MB
256 MB	128 MB		384 MB
256 MB	256 MB		512 MB

The total memory size is automatically detected by the POST routine once you turn on your computer.

Installing a Memory Module

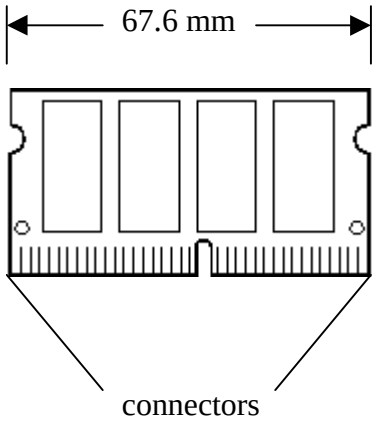
1) Turn off the computer.
2) Turn the computer upside down.
3) Unscrew and remove the RAM cover.
4) Insert the memory module at a slight angle about 45° and fit its connectors firmly into the bank (①).
5) Press down the two edges of the memory module and lock it into place (②).
6) Reinstall the RAM cover.



Note 1:

The memory socket near the rear side of the computer can only accept a memory module up to around one inch wide, *so insert the memory module that is wider than one inch into the socket near the front side.*

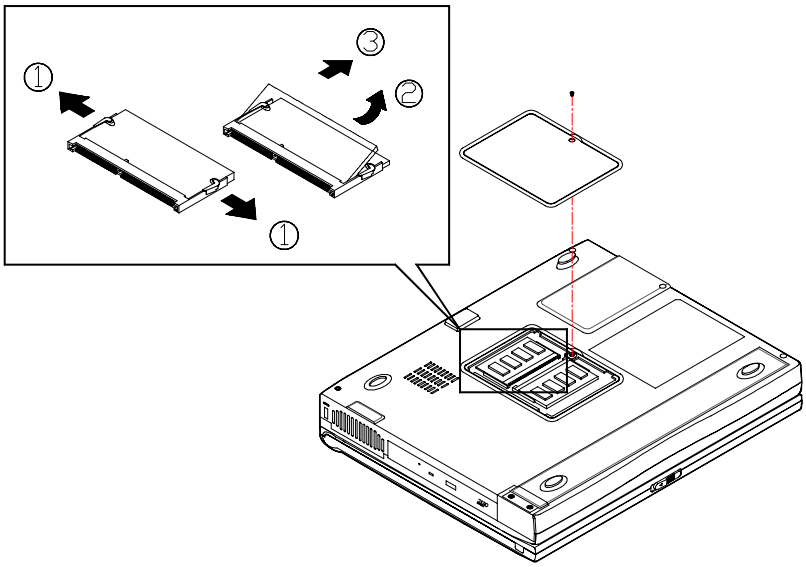
Note 2:
Make sure the memory connectors go into the bank when you are installing the memory modules.



Note 3:
If you upgrade your memory modules from PC-100 to PC-133 or vice versa, you should also configure the CPU Clock jumper switch. Refer to "CPU Clock Jumper Setting" later in this chapter for more information.

Removing a Memory Module

1) Turn off the computer.
2) Turn the computer over.
3) Remove the screw from the RAM cover.
4) Locate the memory sockets.
5) Gently pull the two latches outward on both ends of the module (①).
6) The module will pop up (②).
7) Remove the memory module (③).
8) Install a new memory module if desired (refer to Installing a Memory Module).
9) Reinstall the RAM cover.



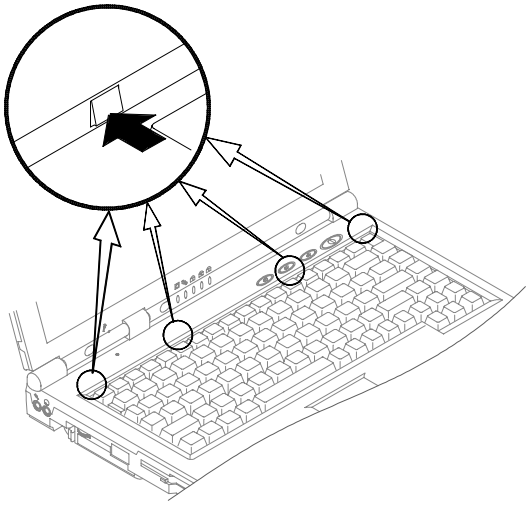
Adding or Replacing the Processor

The mainboard can support a Intel® Celeron 500/550/600/650/700 MHz processor or a Intel® Mobile Pentium !!! 600/650/700/750/800/850 MHz processor with **SpeedStep**® technology. The technology will lower power consumption by lowering the processor's clock speed and voltage when battery power is being used. That way, the battery life will be much longer.

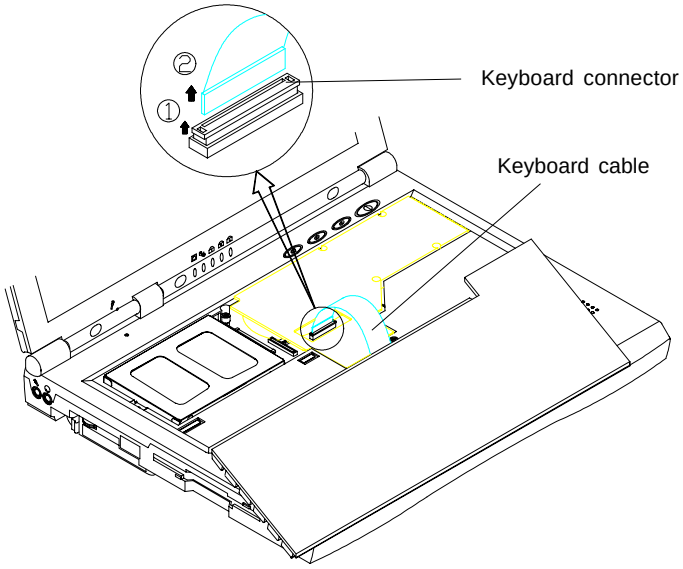
Since the computer uses µPGA2 package for the CPU type, you will need a screw driver to open or lock the CPU into the motherboard. Please see below for instructions:

Removing the Processor

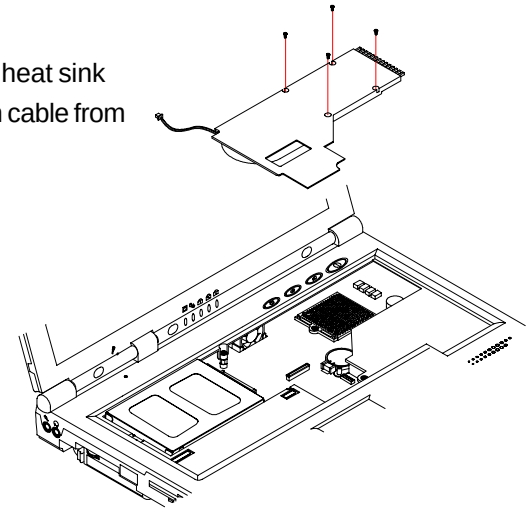
1) Turn off the computer.
2) Press the four keyboard latches at the top of the keyboard to elevate the keyboard from its normal position.



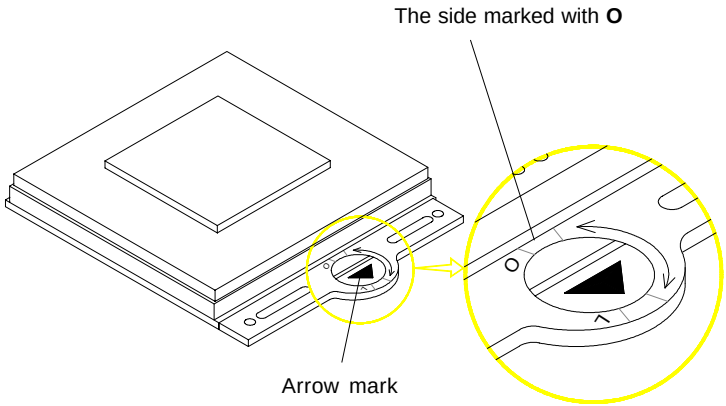
3) Carefully raise and set the keyboard aside.
4) Disconnect the keyboard cable from the computer: push the upper part of the keyboard connector upward (①) and then take the cable out of the connector (②).

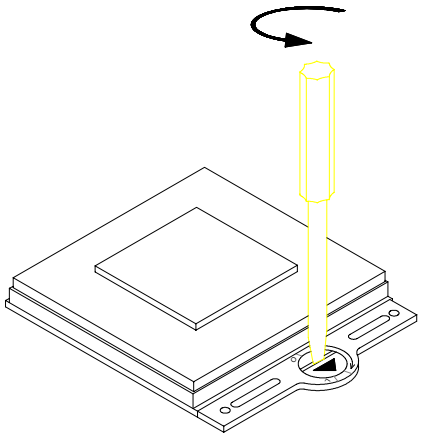


5) Unscrew, remove the heat sink and disconnect the fan cable from the motherboard.



6) Locate the processor and use a screw driver to rotate the arrow mark until it aims at the side marked with the O letter. (O stands for “OPEN”.)

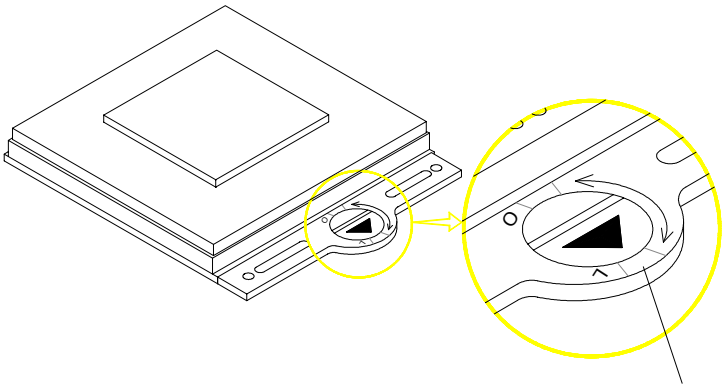




7) Lift up the processor carefully.

Installing the Processor

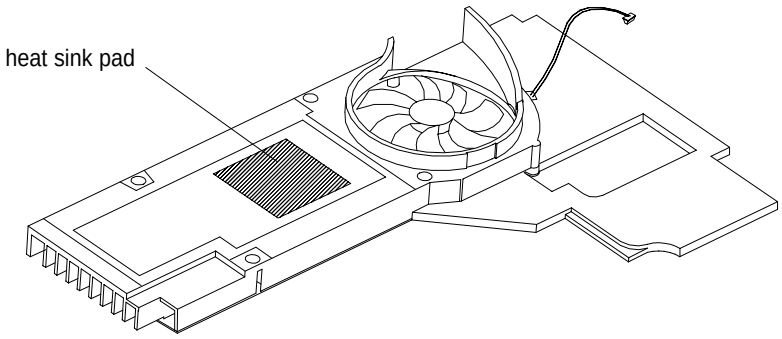
1) Turn off the computer.
2) Remove the keyboard and heat sink from the computer. (Please see Removing the Processor for details.)
3) Align the samll triangle mark on the CPU corner with the one on the corner of CPU socket and then place the CPU onto the CPU socket.
4) Use a screw driver to rotate the arrow mark until it aims at the side marked with the L letter. (L stands for "LOCK".)



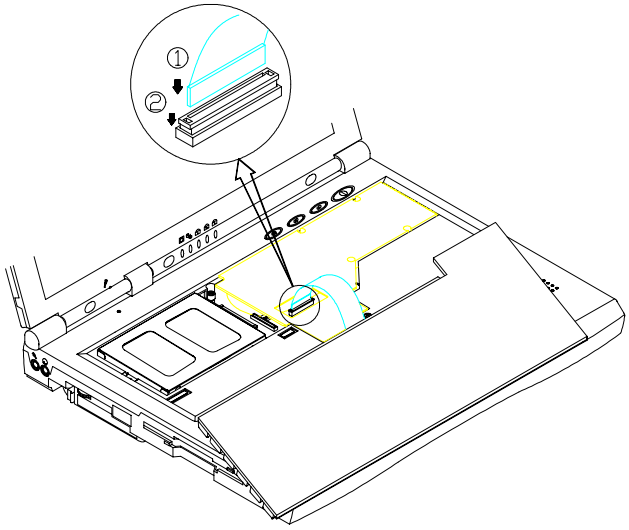
5) Adjust the CPU Clock and Voltage jumper switches if necessary. (Please see "CPU Clock Jumper Setting" and "CPU Voltage Jumper Setting" later in the chapter for details.)

Note: *When reinstalling the heat sink, you will also have to replace the heat sink pad. A heat sink pad can be obtained from your dealer. To replace the pad, just peel off the old one and put on a new one.*

.



6) Install back the heat sink and keyboard. When you are installing the keyboard, *make sure the keyboard cable goes into the keyboard connector (①) and then press down the upper part of the connector to securely hold the cable (②).*



CPU Clock Jumper Setting

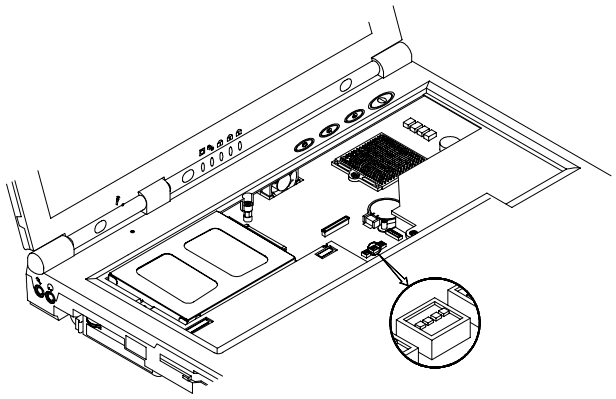
After replacing the processor or upgrading the memory module, you may need to configure the CPU clock jumper setting. The setting is listed below:

CPU Clock Setting Table

CPU	SDRAM	SW7-1	SW7-2	SW7-3	SW7-4
Pentium !!! PSB=100MHz	**PC-100**	ON	OFF	OFF	OFF
Pentium !!! PSB=100MHz	**PC-133**	ON	OFF	ON	OFF

Accessing the CPU Clock Jumper Switch (SW7)

1) Turn off the computer.
2) Remove the keyboard and heat sink from the computer. (Please see Removing the Processor for details.)
3) Locate and adjust the CPU Clock jumper switch.



CPU Voltage Jumper Setting

If your new processor which will be installed into the computer is with **SpeedStep**® technology, you must configure the CPU voltage jumper setting. The setting is listed below:

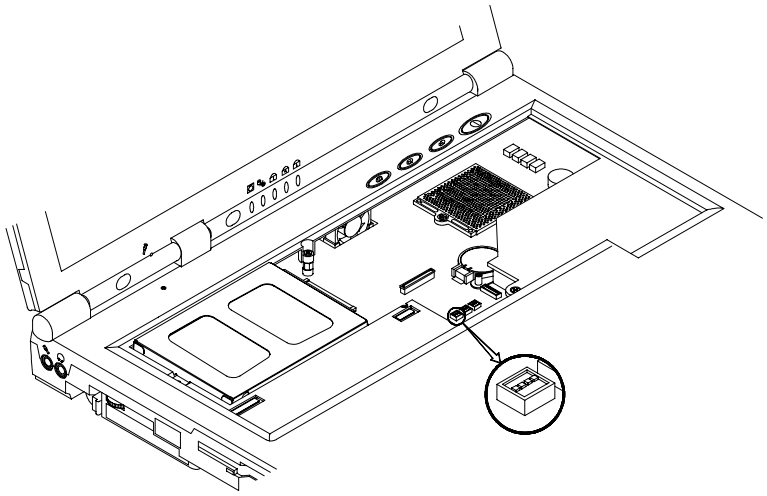
CPU Voltage Setting Table (Performance Mode)

Voltage	SW6-1	SW6-2	SW6-3	SW6-4
2.00V	ON	ON	ON	ON
1.95V	OFF	ON	ON	ON
1.90V	ON	OFF	ON	ON
1.85V	OFF	OFF	ON	ON
1.80V	ON	ON	OFF	ON
1.75V	OFF	ON	OFF	ON
1.70V	ON	OFF	OFF	ON
1.65V	OFF	OFF	OFF	ON
1.60V	ON	ON	ON	OFF
1.55V	OFF	ON	ON	OFF
1.50V	ON	OFF	ON	OFF
1.45V	OFF	OFF	ON	OFF
1.40V	ON	ON	OFF	OFF
1.35V	OFF	ON	OFF	OFF
1.30V	ON	OFF	OFF	OFF
NO CPU	OFF	OFF	OFF	OFF

Caution: You can adjust the jumper switches SW6 and SW7 if necessary, but don't change any setting of jumper switch SW8.

Accessing the CPU Voltage Jumper Switch (SW6)

1) Turn off the computer.
2) Remove the keyboard and heat sink from the computer. (Please see Removing the Processor for details.)
3) Locate and adjust the CPU Voltage jumper switch.



Chapter 5. BIOS Utilities

In this chapter you will learn about the Power On Self Test (POST) and how to configure the system parameters using the System Configuration Utility (SCU).

The chapter includes:

- Power On Self Test (POST)
- System Configuration Utilities
- Features of the SCU
  - Startup Menu
  - Memory Menu
  - Disks Menu
  - Components Menu
  - Power Menu
  - Exit Menu
- Power Management

Power On Self Test (POST)

The system BIOS (Basic Input/Output System) performs a series of tests on the system memory and key computer components every time the computer is powered on. These tests are called the Power On Self Test (POST). Should an error exist, the POST routine may halt execution (depending on the problem). If no error exists, the POST will initialize the BIOS configuration, and boot (start) the operating system.

POST Message: Normal Operation

You will see the following message if no error exists after the POST is performed:

```
SystemSoft MobilePRO BIOS Version 1.01 (2482-00)-(R1.XX.prXX)
Copyright 1983-1996 SystemSoft Corp. All Rights Reserved

500 MHz Celeron with MMX CPU
CPU Microcode Update Rev 007h Complete
L2 Cache: 128 KB Installed
8 MB Video RAM
SystemSoft Plug-n-Play BIOS ver 1.17.01

Base Memory          000640 KB
Extended Memory      056320 KB
Total Memory         057344 KB
Shared Memory        008192 KB

Auto Detecting IDE Devices[Done]
<CTRL-ALT-S> to enter System Configuration Utility

INITIALIZING BOOT CD-ROM - CD-224E
INITIALIZING 2nd ATAPI - None
```

Note: *You may press the* ***Spacebar*** *key to skip the memory test.*

POST Message: Error Detected

If an error is detected, you will see the following WARNING message. You may press the **F1** key to continue, or press the **Ctrl**-**Alt**-**S** keys simultaneously to enter the System Configuration Utility.

```
SystemSoft MobilePRO BIOS Version 1.01 (2482-00)-(R1.XX.prXX)
Copyright 1983-1996 SystemSoft Corp. All Rights Reserved

500 MHz Celeron with MMX CPU
CPU Microcode Update Rev 007h Complete
L2 Cache: 128 KB Installed
8 MB Video RAM
SystemSoft Plug-n-Play BIOS ver 1.17.01

Base Memory                 000640 KB
Extended Memory             056320 KB
Total Memory                057344 KB
Shared Memory          008192 KB

WARNING - FLOPPY DISK TRACK 0 FAILED
Auto Detecting IDE Devices[Done]

<CTRL-ALT-S> to enter System Configuration Utility
INITIALIZING BOOT CD-ROM - CD-224E
INITIALIZING 2nd ATAPI - None

<CTRL-ALT-S> to enter System Configuration Utility
Press F1 to Continue
```

System Configuration Utility

The System Configuration Utility (SCU) can be used to set your notebook's system parameters. Things like the system date and time or what your computer will do if it is turned on but not used are what you set in the SCU.

The settings are stored in a nonvolatile battery-backed CMOS RAM. This simply means that your settings are saved even when the notebook is turned off.

Information in the System Configuration Utility

Here is a list of the system settings which may be changed within the System Configuration Utility.

Menu	Menu items
Startup	Date and Time, Fast Boot, Boot Device, Display, Enable Battery Low Beep, Enable LCD expand Mode, Enable Power On Beep, Enable PNP OS Support, Display OEM logo, Enable S/PDIF digital output, Boot Password, SCU Password.
Memory	Cache Systems, VGA Shared Memory
Disks	Diskette Drives, IDE Settings.
Components	COM Ports, LPT Port, PS/2 Mouse Port, Keyboard Numlock, Keyboard Repeat
Power	Enable Power Saving, Low Power Saving, Medium Power Saving, High Power Saving, Customize, Suspend Controls, Resume Timer, Enable MODEM Ring Resume, Enable Battery Low Suspend, CPU SpeedStep Control.
Exit	Save and Exit, Exit (No Save), Default Settings, Restore Settings, Version Info.

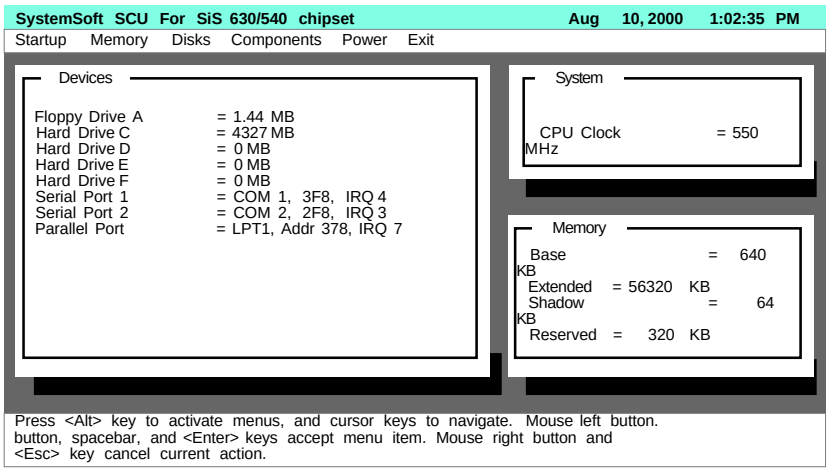
Initiating the System Configuration Utility

The System Configuration Utility (SCU) can be accessed by pressing the **Ctrl**, **Alt**, and **S** keys simultaneously when you turn on your computer and see this message:

<CTRL-ALT-S> to enter System Configuration Utility

This message lasts only a few seconds and if you don't respond in time, the computer will initiate the boot process. If you were unable to enter the SCU, you must reboot the system and try again.

Note: *During startup, if your computer has a logo screen or picture appear instead of the POST screen, wait until a cursor appears in the top right corner before hitting <CTRL-ALT-S> to enter the SCU.*



Working with the Menu Bar

Use these keys to begin working in the SCU.

Keys	Action
Alt	Highlights the menu bar.
Left arrow (←) Right arrow (→) Highlighted letters	Selects a menu bar option.
Left mouse button Down arrow (↓) Spacebar Enter	Opens the menu bar option.
Right mouse button Esc	Cancels current action.

Working with the Pull-down Menu

Once your desired menu bar item is highlighted, press **Enter** or the down arrow to see the pull-down menu items. You move about the pull-down menu with these keys:

Keys	Action
Down/Up arrows (↓) (↑) Highlighted letters	Selects a pull-down menu item.
Enter	Enables/disables the specified function. A (√) indicates the function is on.
Esc	Closes the pull-down menu and saves the changes.

Some pull-down menu options have an arrow (▸) to the right of the entry. Choose these options by pressing **Enter** and another screen will be displayed. Navigate the new screen with the following keys:

Keys	**Action**
Tab	Moves from one record to another.
Down/Up arrows (↓)(↑)	Changes the value of a field.
Spacebar	Selects a field.
Enter	Chooses <OK> to save any changes. <Cancel> to ignore any changes.
Esc	Quits.

Features of the System Configuration Utility

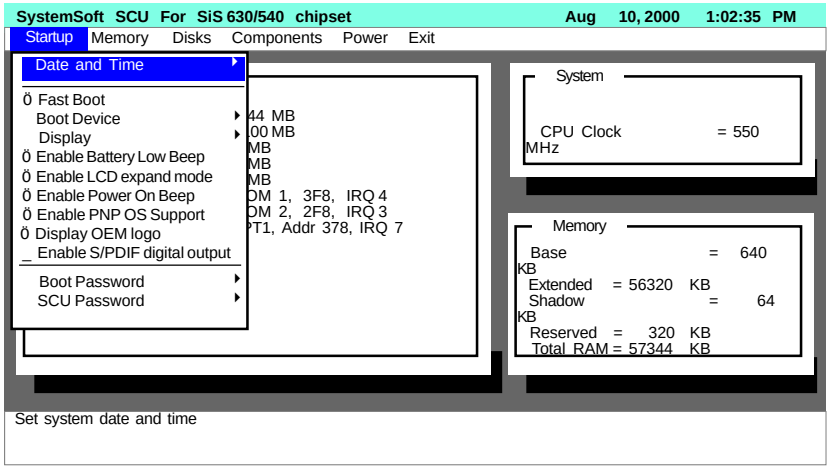
Startup Menu

Item	Setting/Option		Function
Date and Time	Day/Month/Year Hour/Minute/Second		Set the date and time.
Fast Boot	Enable		Initialize and quickly boot the system by skipping certain diagnostic tests.
	Disable		Disable the Fast Boot.
Boot Device	1st Boot Device	Hard Disk C	Specify the system s 1st choice for the boot drive.
		CD-ROM Drive	
		Diskette A	
	2nd Boot Device	Hard Disk C	Specify the system s 2nd choice for the boot drive.
		CD-ROM Drive	
		Diskette A	
	3rd Boot Device	Hard Disk C	Specify the system s 3rd choice for the boot drive.
		CD-ROM Drive	
		Diskette A	
Display	LCD		Activate the system s LCD panel.
	CRT		Activate an external monitor.
	LCD + CRT		Activate both the LCD and the CRT.
Enable Battery Low Beep	Enable		A series of warning beeps will sound when the battery power is low.
	Disable		Disable the above.
Enable LCD Expand Mode	Enable		Stretch the display to fill the entire screen of the LCD panel.
	Disable		Disable the above.

Startup Menu (continued)

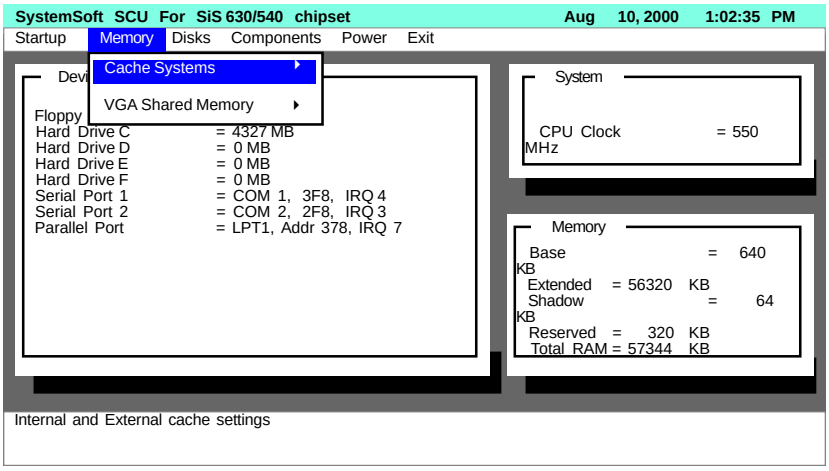
Item	Setting/Option	Function
Enable Power On Beep	Enable	Enable or Disable Power On Beep.
	Disable	
Enable PNP OS Support	Enable	Enable or Disable PNP OS Support.
	Disable	
Display OEM logo	Enable	Enable or Disable the feature of displaying the OEM logo at boot.
	Disable	
Enable S/PDIF digital output	Enable	Enable or Disable the S/P-DIF output feature.
	Disable	
Boot Password	Enter old Power-On Password	Set a password for booting the computer. Only users who enter a correct password can boot the system.
	Enter new Power-On Password	
	Verify new Power-On Password	
	Enable Password to Power-On	
SCU Password	Enter old Setup Password	Set a password for modifying the SCU. Only users who enter the correct password can change the SCU.
	Enter new Setup Password	
	Verify new Setup Password	
	Enable Setup Password	

***Caution**: If you choose to set a boot password, NEVER forget your password, the consequences could be serious. If you cannot remember your boot password you must contact your vendor and you may lose all of the information on your HDD.*



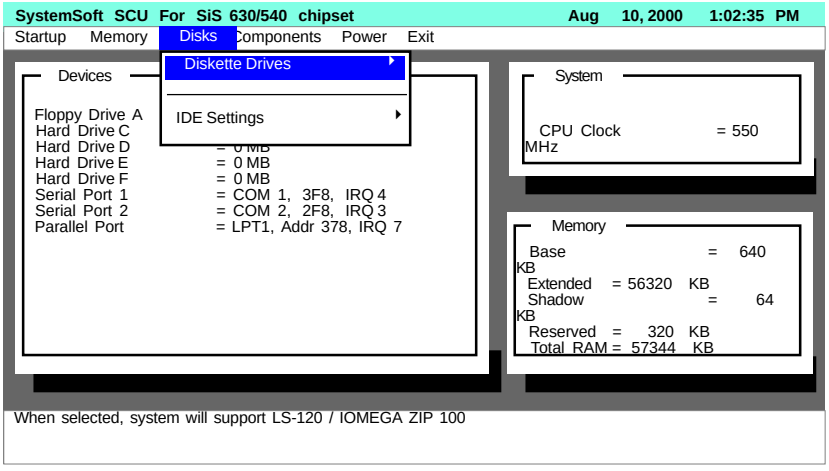
Memory Menu

Item	Setting/Option		Function
Cache Systems	L1 Cache	Disabled	Disable the processor s internal cache.
		Write Back	Enable the Processor s internal write-back cache. Write back cache improves performance, because a write to the high-speed cache is faster than to normal RAM.
	L2 Cache	Disabled	Disable the L2 cache controller.
		Write Back	Enable the L2 write-back cache. Write back cache improves performance, because a write to the high-speed cache is faster than to normal RAM.
VGA Shared Memory	8 MB		Select the VGA shared memory size.
	16 MB		
	32 MB		


SystemSoft SCU For SiS 630/540 chipset
Aug 10, 2000 1:02:35 PM
Startup
Memory
Disks
Components
Power
Exit
Cache Systems
VGA Shared Memory
Floppy
Hard Drive C = 4327 MB
Hard Drive D = 0 MB
Hard Drive E = 0 MB
Hard Drive F = 0 MB
Serial Port 1 = COM 1, 3F8, IRQ 4
Serial Port 2 = COM 2, 2F8, IRQ 3
Parallel Port = LPT1, Addr 378, IRQ 7
System
CPU Clock = 550 MHz
Memory
Base = 640 KB
Extended = 56320 KB
Shadow = 64 KB
Reserved = 320 KB
Total RAM = 57344 KB
Internal and External cache settings

Disks Menu

Item	Setting/Option		Function
Diskette Drives	Drive A	None	Specify the drive type for the diskette drive A.
		1.44 MB	
IDE Settings	Primary HDD	Drive Enabled	Enable enhanced IDE settings.
		Multiple Sector Mode	
		PIO Mode	
	CD-ROM / DVD-ROM	Drive Enabled	
		PIO Mode	
	IDE UDMA-33/66/100 Function	Enable	Enable or Disable IDE Ultra DMA-33/66/100 (ATA-33/66/100) function.
		Disable	
	IDE 32Bit I/O	Enable	Enable or Disable 32-bit communications between CPU and IDE controller.
		Disable	

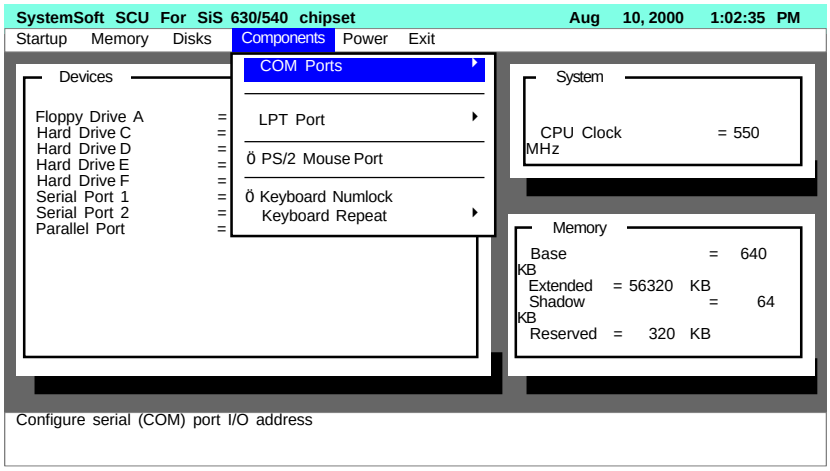


Components Menu

Item	Setting/Option		Function
COM Ports	COM A I/O Settings	None	Specify the COM A configuration. (COM3 & COM4 only for DOS mode and Non-PnP OS.)
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
	COM B I/O Settings	None	Specify the COM B configuration. (COM3 & COM4 only for DOS mode and Non-PnP OS.)
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
	Mode Setting For COM B	Normal (16550)	Define the COM B hardware.
		IrDA (HPSIR)	
		ASK IR	
		FAST IR	
	DMA Setting For Fast IR	DMA 0	Specify the Fast IR DMA configuration.
		DMA 1	
		DMA 3	
LPT Port	Port Address	None	Specify the LPT port and IRQ configuration.
		LPT1, Addr 378, IRQ7	
		LPT2, Addr 278, IRQ5	
		LPT3, Addr 3BC, IRQ7	
	Port Definition	Standard AT (Centronics)	
		Bi-directional (PS-2)	
		Enhanced Parallel (EPP)	
		Extended Capabilities (ECP)	
	DMA Setting For ECP Mode	DMA 1	Specify the ECP DMA configuration.
		DMA 3	
	EPP Type	EPP 1.7	Specify the EPP type.
		EPP 1.9	

Components Menu (continued)

Item	Setting/Option		Function
PS/2 Mouse Port	Enable		Enable the system s Trackpad or an external PS/2 mouse.
	Disable		Disable the Trackpad or PS/2 mouse if an external mouse is connected to COM A port.
Keyboard Numlock	Enable		Specify whether Num Lock is on or off at system boot time.
	Disable		
Keyboard Repeat	Key Repeat Rate	2 cps	The rate (characters per second) at which a key repeats while pressed.
		6 cps	
		10 cps	
		15 cps	
		20 cps	
		30 cps	
	Key Delay	1/4 sec	The amount of time (seconds) that will pass after a pressed key starts to repeat.
		1/2 sec	
		3/4 sec	
		1 sec	


SystemSoft SCU For SiS 630/540 chipset
Aug 10, 2000 1:02:35 PM
Startup
Memory
Disks
Components
Power
Exit
Devices
Floppy Drive A =
Hard Drive C =
Hard Drive D =
Hard Drive E =
Hard Drive F =
Serial Port 1 =
Serial Port 2 =
Parallel Port =
COM Ports
LPT Port
Ö PS/2 Mouse Port
Ö Keyboard Numlock
Keyboard Repeat
System
CPU Clock = 550 MHz
Memory
Base = 640 KB
Extended = 56320 KB
Shadow = 64 KB
Reserved = 320 KB
Configure serial (COM) port I/O address

Power Menu

Item	Setting/Option		Function
Enable Power Saving	Enable		Enable/Disable all power saving features.
	Disable		
Low Power Saving	Enable		This setting gives maximum performance but the shortest battery life.
	Disable		
Medium Power Saving	Enable		This setting results in moderate performance and battery life.
	Disable		
High Power Saving	Enable		This setting results in minimum performance and the longest battery life.
	Disable		
Customize	Disk Standby	5 Sec	The hard disk will enter standby mode if it is not accessed within the specified period. Hard disk power will be restored when the disk drive is accessed.
		10 Sec	
		20 Sec	
		30 Sec	
		1 Min	
		5 Min	
		10 Min	
		Always On	
	Global Standby	1 Min	System power will be reduced if the system has been idle over the specified period. System power will be restored when any system activity is detected.
		2 Min	
		4 Min	
		6 Min	
		8 Min	
		12 Min	
		16 Min	
		Always On	

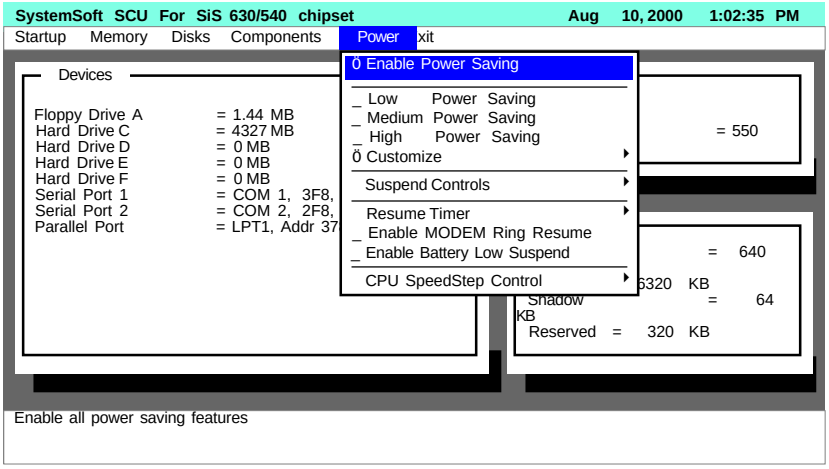
Power Menu (continued)

Item	Setting/Option		Function
Suspend Controls	Power Button Function	Power On/Off	The power button is used to turn the system on or off.
		Suspend/ Resume	The power button acts as a suspend/resume button for switching the system between a working state and the suspend mode.
			Pressing the power button for more than four seconds will generate a power button over-ride event to switch the system from a working state to the Soft-Off state.
	Suspend Type	Suspend to Disk	Specify the suspend mode for power management.
		Powered On Suspend	
Resume Timer	Alarm Resume	Enable	System resumes from the configured suspend mode when the resume alarm timer expires.
		Disable	Disable the above.
	Resume Month/Day/Hour/Minute		The system will resume at the specified time (month, day, hour and minute).

Power Menu (continued)

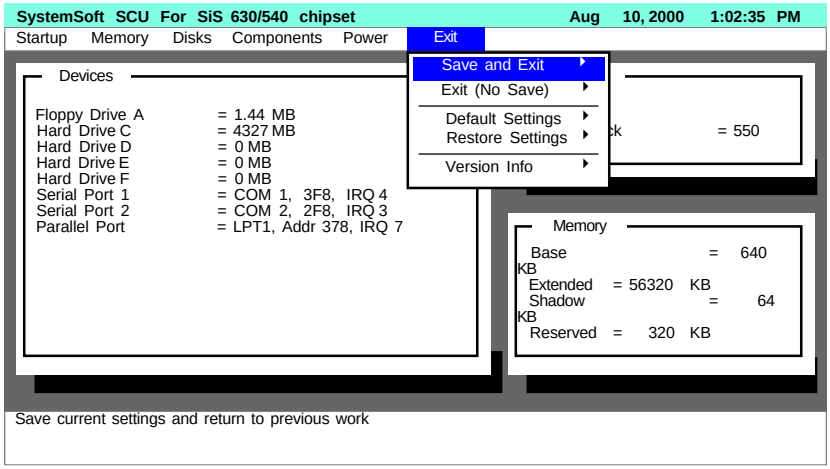
Item	Setting/Option	Function
Enable MODEM Ring Resume	Enable	Resume the system from STR or POS mode when a modem ring (an incoming call to the modem) is detected.
	Disable	Disable the above.
Enable Battery Low Suspend	Enable	Automatically suspend the system to disk when the battery is low.
	Disable	Disable the above.
CPU SpeedStep Control	Maximum Performance Mode always	Enable/disable the feature of automatically lowering CPU clock speed and voltage when the system detects battery power is being used. (This setting is for CPU with Intel SpeedStep technology only.)
	Battery Optimized Mode always	
	Automatically Switch	

Note: *For more detailed information on the different types of power management, please refer to the Power Management section at the end of this chapter.*



Exit Menu

Item	Function
Save and Exit	Save the current settings and reboot the system.
Exit (No Save)	Exit without saving any changes.
Default Settings	Restore the default settings (the original ones found in ROM).
Restore Settings	Restore the current setup to the previous ones.
Version Info	Show the current BIOS version information.



Power Management

You can manage power consumption while maintaining system performance by setting your computer to one of the available power management modes. Information on the various types of power management are listed below. If you want information on how to set the power management options, please refer to the Power Menu in this chapter.

Advanced Power Management (APM 1.2)

To reduce power consumption, the system provides built-in Advanced Power Management (APM 1.2). The APM function varies depending on your operating system (OS). Some operating systems, such as Windows NT do not support APM.

Advanced Configuration and Power Interface (ACPI)

The ACPI interface provides the computer with enhanced power saving techniques and gives the operating system (OS) direct control over the power and thermal states of devices and processors. For example, it enables the OS to set devices into low-power states based on user settings and information from applications.

Global Standby

In Global Standby mode, the CPU clock will stop and most controllable peripheral devices will be powered off. If the idle timer expires before any system activity is detected, the system will change from Standby mode into Suspend mode.

Hard Disk Standby

The computer's hard disk drive motor will be turned off if the hard disk drive has not been accessed for a specified period of time. If the system reads or writes data, the hard disk motor will be turned back on.

Suspend and Resume

With this function you can stop an operation and restart where you left off. The hard disk is turned off, and the CPU is made to idle at its slowest speed. All open applications are retained in memory. This system features two suspend mode levels: Powered On Suspend (POS) and Suspend To Disk.

Caution: *Do not enter suspend mode when you are:*
1. Accessing any of the disk drives, such as the HDD, FDD or CD-ROM drive.
2. Using any audio or video applications.
3. Playing a DOS game.

Powered On Suspend (POS)

Powered On Suspend saves the least amount of power, but takes the shortest time to return to full operation. When you are not using your computer for a certain length of time, which you specify in the SCU power menu, it will enter POS mode to save power.

Resume from POS Mode

The system can resume from POS mode by:

- Pressing any keyboard key
- Pressing the power button (if configured as a Suspend/Resume function under SCU)
- An incoming call to your modem
- Alarm resume is enabled and expires

Suspend To Disk

Suspend To Disk uses no power and saves all of your information on a part of the HDD. It saves the maximum power but takes the longest time to return to full operation. You can set your notebook to automatically enter Suspend To Disk mode when the battery power is almost depleted. This prevents losing any data due to loss of power. To set this feature, go to the SCU Power Menu and choose Enable Battery Low Suspend.

In order to use Suspend To Disk, you must partition your Hard Disk Drive, the instructions are as follows:

1) Use your operating system's FDISK program to delete all hard disk partitions if any already exists on the target drive.
2) Boot the system and run the 0VMAKFIL.EXE utility to create the Suspend To Disk partition on the hard disk. The size of the Suspend To Disk partition will be the installed DRAM (n) plus 8 MB integrated video RAM.

```
:\>0VMAKFIL -Pn
```

For example, if the system DRAM is 64 MB, 0VMAKFIL will create a partition size of approximately 72 MB.

```
:\>0VMAKFIL -P64
```

***Note**:* If you need to partition the hard disk again, rewrite the sector signatures by entering the command "`:\>0VMAKFIL -PW`". Use FDISK utility of your operating system to partition the hard disk.

Resume from Suspend To Disk Mode

The system will resume from Suspend-To-Disk mode by:

- Pressing the power button
- Alarm resume (month/day/hour/minute)

Chapter 6. Installing Drivers

This chapter provides step-by-step instructions for installing device drivers and utilities, for more detailed information please refer to your operating system's manual or the product manual supplied with the device you wish to install. The information here has been designed for users with basic computer knowledge though inexperienced users may also find this section helpful. (In this chapter, we assume the CD-ROM drive as drive D.)

Preparation for a New Notebook

1. *Use a bootable floppy disk to start the system.*
2. *Run FDISK utility from DOS to create a bootable partition.*
   (See DOS manual for the operation detail.)
3. *Format hard disk. Follow the command "Format C: /S" to create a bootable hard disk and make the boot system files.*
   (C: /S copies system files to the formatted disk)
4. *Copy the file "MSCDEX.exe" from the floppy disk to drive C.*
5. *Insert the disk of the CD-ROM/DVD-ROM driver. Type "Install" after the A prompt.*
6. *Restart the system.*

***Note 1**: You can copy the CD-ROM/DVD-ROM driver from the CD-ROM disk into a floppy disk using another computer.*

***Note 2**: If the supplied CD-ROM/DVD-ROM driver does not offer an install program, you can copy the driver to the drive C, and then configure the Config.sys and Autoexec.bat files.*

Installing Windows 98 SE (For Reference Only)

1. Start DOS.
2. Insert the Windows 98 CD-ROM.
3. Type “setup”, then press **Enter**.
4. When the “Windows 98 Setup” program initializes, click **Continue**.
5. The “License Agreement” dialog box appears. Select “I accept the Agreement” and click **Next**.
6. For “Windows Product key”, enter the product’s ID number and press **Next**.
7. The “Select Directory” dialog box appears. Select the path of “C:\Windows”, or type another path if you pefer. Then click **Next**.
8. When you see “Setup Options”, select “Portable” and click **Next**.
9. Follow the on-screen instructions and choose the recommended options.
10. Restart your computer.

***Note**: If your Windows 98 SE CD-ROM disk is bootable, you can change the BIOS Setup Utility to boot from the CD-ROM and install Windows 98 SE accordingly.*

Installing Windows 2000 (For Reference Only)

***Note**: The installation steps could be a bit different depending on your system's status. For details, refer to your Windows 2000 manual.*

1. Start DOS.
2. Insert the Windows 2000 Installation CD-ROM disk.
3. Change the directory to I386 or where the file "WINNT.exe" is located.
4. Type "WINNT", and press **Enter**.
5. The "Windows 2000 Setup" appears, press **Enter** to continue.
6. "Windows 2000 Professional Setup" starts copying files to your HDD.
7. After copying, press **Enter** to restart your computer.
8. After entering "Windows 2000 Professional Setup", press **Enter** to "set up Windows 2000 now".
9. Press **F8** for "Windows 2000 Licensing Agreement".
10. Select the partition (drive) where you want to install Windows 2000, and press **Enter**.
11. Choose the file system you want and press **Enter**. (Usually choose the "FAT" file system.)
12. To format the drive (partition),press **F**. (Please note all data on the formatted drive will be lost.)
13. Setup will proceed with formatting, file-copying, and reboot the system.
14. When the system enters Windows 2000, follow the on-screen instructions and press **Next**.
15. When Windows asks for Your Product Key, type the product's ID number and then press **Next**.
16. Continue to press **Next** until Setup starts to install various components, and performs its final tasks.
17. Click **Finish** to complete Windows 2000 Setup Wizard.
18. The computer will restart Windows 2000 automatically.

Installing Drivers in Windows 98 SE

Step 1: Installing the VGA Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Video\Win9X\Setup.exe
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

For more information on the driver, refer to the Readme file.

Step 2: Installing the Audio Driver

A: Installing the Audio Driver without S/P-DIF output support

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Audio\Win98SE\Setup.exe
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

For more information on the driver, refer to the Readme file under the directory.

B: Installing the Audio Driver with S/P-DIF output support

- Remove the previous audio driver if already installed.
- Reboot the computer and go to the SCU by pressing **Ctrl**+**Alt**+**S**.
- Enable S/PDIF digital output feature (Startup menu) and exit SCU.
- Start Windows, and insert the DVD driver disk to install DVD driver and application. The installation program automatically runs when you insert the DVD disk into the DVD-ROM drive.
- After completing installing DVD driver and player, click **Start** and select **Settings** and **Control Panel**.

- Double click the **System** icon.
- Click the **Device Manager** tab.
- Select the DVD-ROM type device located under "CDROM.".
- Click the **Properties** button.
- Click the **Settings** tab, and enable DMA mode.
- Restart the computer.
- Click **Start** and select **Run**.
- Type **D:\Audio\Win98SE\Setup.exe -vxd** and press **OK** to install the audio driver.
- After the computer restarts, open the DVD application, and choose either **Properties** or **Configuration** option to enable S/PDIF output feature.

Step 3: Installing the Hot Key Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Ap-key\CNK001.exe
- Run CNK001.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

Step 4: Installing the LAN Driver

- Click **Start**.
- Select **Run**.
- Open the path to D:\Lan\Win98\Setup.exe.
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart the computer now.

For more information on the driver, refer to the Readme file under the directory.

Step 5: Installing the PCMCIA Driver (Optional)

Note: *The driver is required only when your computer uses EnE chip for PCMCIA adapter instead of TI chip.*

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Locate the "Generic Card Bus Controller" under "PCMCIA socket".
- Select "Generic Card Bus Controller."
- Choose **Remove** and click **Refresh**.
- The "Add New Hardware Wizard" dialog box appears. Press **Next**.
- Select "Search for the better driver for your device" and press **Next**.
- Select "Specify a location" and choose **Browse** to specify the location to D:\Pcmcia\Win98. Press **OK**. *You should now see the driver EnE Tech CB1410 Card Bus Controller being loaded.*
- Follow the on-screen instructions and press **Next**.
- Click **Finish** to complete the setup.
- Restart your computer.

Step 6: Installing the Modem Driver (Optional)

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Locate the "PCI Communication Device" under "Other devices".
- Double click "PCI Communication Device."
- Click the **Driver** tab and choose **Update Driver**.
- Press **Next**.
- Select "Search for a better driver than the one your device is using now" and press **Next**.

- Select "Specify a location" and choose **Browse** to specify the location to D:\Mdc\Win98. Press **OK**.
- Follow the on-screen instructions and press **Next**.
- Click **Finish** to complete the setup.
- Click **Close** to close the Properties window and restart your computer.

Installing Drivers in Windows 2000

Step 1: Installing the SiSIDE Utility

- Click **Start**.
- Select **Run**.
- Open the path to D:\SiSIDE\Win2000\SISIDE.EXE
- Run Siside.exe and then restart Windows.

For more information on this, refer to the Readme file under the directory.

Step 2: Installing the VGA Driver

- Click **Start**.
- Select **Run**.
- Open the path to D:\Video\Win2000\Setup.exe.
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart the computer now.

For more information on the driver, refer to the Readme file.

Step 3: Installing the Audio Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Audio\Win2000\Setup.exe
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

For more information on the driver, refer to the Readme file under the directory.

Step 4: Installing the Hot Key Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Ap-key\CNK001.exe
- Run CNK001.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

Step 5: Installing the LAN Driver

- Click **Start**.
- Select **Run**.
- Open the path to D:\Lan\Win2000\Setup.exe.
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart the computer now.

For more information on the driver, refer to the Readme file under the directory.

Step 6: Installing the PCMCIA Driver (Optional)

Note: *The driver is required only when your computer uses ENE chip for PCMCIA adapter instead of TI chip.*

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Hardware** tab and choose **Device Manager**.
- Locate "Generic Card Bus Controller" under "PCMCIA adapters".
- Click "Generic Card Bus Controller" with the right button.
- Choose **Properties**.
- Click the **Driver** tab and choose **Update Driver**.
- Press **Next** to continue the installation.
- Select "Search for a suitable driver for my device" and press **Next**.

- Select “Specify a location” and press **Next**.
- Choose **Browse** to specify the path to D:\Pcmcia\Win2000. Press **Open**.
- Click **OK**.
- Click **Next** to insall the driver. *You should now see the driver EnE Tech CB1410 Card Bus Controller being loaded.*
- Click **Finish** to end the installation.
- Close the Properties window and restart your computer.

Step 7: Installing the Modem Driver (Optional)

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Hardware** tab and choose **Device Manager**.
- Locate “PCI Simple Communications Controller” under “Other devices”.
- Click “PCI Simple Communications Controller” with the right button.
- Choose **Properties**.
- Click the **Driver** tab and choose **Update Driver**.
- Press **Next** to continue the installation.
- Select “Search for a suitable driver for my device” and press **Next**.
- Select “Specify a location” and press **Next**.
- Choose **Browse** to specify the path to D:\Mdc\Win2000. Press **Open**.
- Click **OK**.
- Click **Next** to install the driver.
- Click **Finish** to complete the setup.
- Close the Properties window and restart your computer.

For more information on the driver, refer to the Readme file under the directory.

Installing Drivers in Windows NT4.0

Note: *After installing Windows NT4.0, please install the Service Pack 3 or above to enhance the function. Download the latest Service Pack version from the Microsoft web site.*

Step 1: Installing the VGA Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **Display** icon.
- Click the **Settings** tab.
- Click **Display Type**.
- Click **Change**.
- Click **Have Disk**.
- Choose **Browse** and specify the path to D:\Video\Nt40. Press **Open**.
- Choose **OK**.
- Press **OK** again.
- If a "Third-party Drivers" dialog box asking if you want to install the driver appears, click **Yes**.
- Close the Properties window and restart your computer.

For more information on the driver, refer to the Readme file.

Step 2: Installing the Audio Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Audio\Nt40\Setup.exe
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

For more information on the driver, refer to the Readme file under the directory.

Step 3: Installing the Hot Key Driver

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Ap-key\CNK001.exe
- Run CNK001.exe.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to restart your computer.

Step 4: Installing the LAN Driver

Note: Before installing the driver, go to SCU by pressing **CTRL**+**ALT**+**S** on boot, and disable PNP OS Support (Startup menu) and set COM B to “None” (Components menu).

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **Network** icon.
- Click **Yes** when asked if you want to install Networking.
- Click **Next**.
- Click **Select from list**.
- Click **Have Disk**.
- Specify the path to D:\Lan\Nt40. Press **OK**.
- Click **OK** again to accept the driver.
- Follow the on-screen instructions and continue to click **Next**.
- If you are prompted for Windows NT Setup, insert the Windows NT CD disk and specify to the CD-ROM drive. Then follow the on-screen instructions, and continue to press **Continue**.
- When prompted whether you wish to use DHCP, choose **No**.
- When the “Microsoft TCP/IP Properties” window appears, configure the setting according to your PC’s status and click **OK**.
- Follow the on-screen instructions and continue to press **Next**.
- Click **Finish** and restart the computer.

For more information on the driver, refer to the Readme file under the directory.

Step 5: Installing the Modem Driver (Optional)

Note: Before installing the driver, go to SCU by pressing **CTRL**+**ALT**+**S** on boot, and disable PNP OS Support (Startup menu) and set COM B to "None" (Components menu).

- Click **Start**.
- Select **Run**.
- Specify the path to D:\Mdc\Nt40\Setup.exe.
- Run Setup.exe.
- Press **Next**.
- Select an appropriate Comm Port for the modem and click **Next**.
- Press **Next**.
- Select "Don't detect my modem; I will select it from a list", and press **Next**.
- Click **Have Disk**.
- Choose **Browse** and specify the path to D:\Mdc\Nt40. Press **Open**.
- Choose **OK**.
- Press **Next**.
- Select the same port you choose in the earlier step, and click **Next**.
- Follow the on-screen instructions, and press **Next**.
- Click **Finish** to complete the setup.
- Close the Properties window and click **Finish** to restart your computer.

Fore more information on the driver, refer to the Readme file under the directory.

Chapter 7. Troubleshooting

Should you have any problems with your computer, before consulting the computer vendor, you may want to solve the problem yourself. This chapter lists some common problems and their possible solutions.

The chapter includes:

- Battery
- Power
- Hard Disk Drive
- Floppy Disk Drive
- Hardware Installation
- LCD Panel
- Memory Module
- PC Card
- Boot Password
- Audio
- CD
- Printer

Audio

Problem: The speaker cannot be heard.
Solution: The volume might be set too low, please check the volume control.

Problem: The volume is too high (or too low).
Solution: The volume is not correctly set, please check the volume control.

Problem: The headphone doesn't work.
Solution 1: The volume level is not correctly set, please check the volume control.
Solution 2: The headphone is plugged into the wrong jack.
Solution 3: There is no audio source.

Battery

Problem: The battery pack will not charge.
Solution 1: The battery pack is exposed to an excessively hot or cold environment. Place the battery in a suitable environment and after it returns to normal temperature try again.
Solution 2: The battery may be bad and may need to be replaced, call your vendor for more details.

Problem: The battery pack will not charge and the charge indicator light is off.
Solution 1: The battery is already fully charged and the indicator light is broken.
Solution 2: The battery pack is exposed to an excessively hot or cold environment. Place the battery in a suitable environment and after it returns to normal temperature try again.

Solution 3: The battery may be bad and may need to be replaced, call your vendor for more details.

Problem: A beeping sound is heard and the low-battery indicator is on.
Solution: The battery power is nearly used up. Connect the AC adapter to your computer or press the Fn + F3 key combination to enter suspend mode.

Problem: A beep isn't heard when the low-battery indicator turns on, or the gauge indicates power is less than 10%.
Solution: The battery power is nearly used up and the volume control may be turned down. Please adjust the volume control and connect the computer with the AC adapter.

Problem: Actual battery operating time is shorter than expected.
Solution 1: The battery is exposed to excessively high or low temperatures. Suitable operating conditions are between 32°F and 113°F (0°C and 45°C) while the ideal temperature for battery operation is between 50°F and 95°F (10°C and 35°C).
Solution 2: Make sure the battery is fully discharged and recharge it completely before reusing.
Solution 3: Power management has been turned off, turn the power management back on.
Solution 4: A peripheral device or PC card is consuming a lot of power. Turn off the unused device to save power.
Solution 5: Previously the battery was given only a partial charge. Always fully charge the battery after it has been totally used up.

Note: *Make sure the battery is totally used up before recharging and make sure you recharge the battery to full capacity each time you recharge it.*

Boot Password

Problem: You forget the boot password.
Solution: If you forget the password, you may have to discharge the battery of the CMOS. Call your vendor for help.

CD

Problem: The compact disk tray will not open when there is a disk in the tray.
Solution: The compact disk is not correctly placed in the tray, gently try to remove the disk using the eject hole.

Problem: The compact disk cannot be read.
Solution 1: The compact disk is not correctly placed in the tray.
Solution 2: The compact disk is dirty. Please clean it with a CD-ROM cleaner kit.

Problem: A music compact disk can be read while a data disk can not.
Solution: There may be a problem with the disk hardware or software. Refer to your operating system manual for more information on the software and make sure you have the correct software installed for running video compact disks. If the proper software is properly installed and a problem still exists, contact your vendor about a possible hardware problem.

Problem: All compact disks cannot be read.
Solution 1: The Windows system does not recognize the CD-ROM drive or the CD-ROM drive is not compatible with other devices. Make sure you have the CD-ROM drive properly installed and configured.
Solution 2: The CD-ROM drive is dirty, please clean it with a CD-ROM cleaner kit.

Solution 3: There may be a problem with the disk hardware or software. Refer to your operating system manual for more information on the software and make sure you have the proper software installed for using compact disks. If the correct software is properly installed, contact your vendor about a hardware problem.

Floppy Disk Drive (FDD)

Problem: The floppy disk drive will not write data to disk.
Solution 1: The floppy disk is not formatted. Format the disk.
Solution 2: The floppy disk is write-protected. Undo the protection.
Solution 3: You specified an incorrect disk drive.
Solution 4: There is not enough unused space available on the disk. Please use a new disk or delete any unneeded data.

Problem: ***The disk drive will not read the disk.***
Solution 1: The disk is not formatted.
Solution 2: The disk is damaged.
Solution 3: An incorrect disk type is used.

Problem*: *The message "Invalid-system disk" appears.
***Solution*:** The computer is trying to boot from an incorrect floppy disk. Please remove the floppy and insert a correct one before restarting the computer.

Hard Disk Drive (HDD)

Problem: **The computer takes longer during START UP.**
Solution 1: Data saved on the hard disk drive may be lost or damaged. Please operate the disk scan or disk defragmenter to check for any lost or damaged data.
Solution 2: As in low battery status, the computer is waking up from the suspend mode.

Hardware Installation

Problem: The computer will not recognize the device as part of the system.

Solution 1: The new device is not powered on, please power on the device, then restart the computer.

Solution 2: You did not properly configure the system for the new device or install the device. Try reconfiguring the device or reinstalling the device using the device manual and drivers.

Solution 3: The computer is not properly connected to the device. Please make sure the device is properly connected with the computer.

Solution 4: You did not properly configure the system for the new device. Please reconfigure the system according to the instructions which came with the new device.

LCD Panel

Problem: The fonts are too dark.

Solution: The brightness or contrast is not correctly set. Press the Fn + F7 or Fn + F8 key combinations (only with a DSTN panel) to adjust the contrast. Use Fn + F9 or Fn + F10 to adjust the brightness.

Problem: The screen is blank.

Solution 1: The panel may be set for an external monitor, please reset to normal display using the hot keys.

Solution 2: The screen saver is activated, please press any key or touch the trackpad to return to your display.

Solution 3: The brightness or contrast needs to be adjusted.

Solution 4: The system is in suspend mode. Please press any key or touch the trackpad to wake up the computer.

Problem: The LCD panel displays incorrect fonts or blinks when the computer is connected with an external monitor.

Solution: The external monitor resolution exceeds what the LCD panel can support. Please disconnect the external monitor and restart the computer.

Memory Module

Problem: The computer will not boot.
Solution: An incorrect type of memory module is installed. Make sure a correct module is installed.

Problem: The memory capacity is insufficient.
Solution: The memory is not correctly configured for the application. Maksure the memory is correctly configured for the application.

Problem: The detected memory capacity is not correct.
Solution: A memory module is not correctly installed or not compatible with your computer.

Problem: The message "out of memory" is displayed.
Solution: The memory configuration is not correctly set or the memory is not enough to run the application.

Problem: The message "insufficient memory" is displayed.
Solution: The application cannot be operated since all the memory is used up.

PC Card

Problem: The PC card cannot be configured.
Solution: The PC card is not supported.

Problem: The system cannot recognize the PC card.
Solution 1: The PC card is not inserted into the socket or inserted incorrectly.
Solution 2: The PC card driver is not installed.
Solution 3: The PC card or card driver is not compatible with the computer.

Problem: A beep sound is not heard while the PC card is inserted.
Solution: The beep sound control is closed.

Power

Problem: ***The computer will not boot when the battery pack is not inserted.***
Solution 1: The power cord is not correctly connected with the AC adapter. Make sure the power cord is firmly plugged into a grounded outlet and the computer.
Solution 2: The outlet does not work, use another outlet.

Problem: ***The system has automatically entered suspend mode***.
Solution 1: The system's temperature is too high, let it cool before using.
Solution 2: The system has entered suspend mode after a specified period of time. Press any key or touch the trackpad to wake up the computer.

Printer

Problem: The printer cannot be added to the system.
Solution: The printer power is off or the printer is not correctly connected to the computer.

Problem: The printer will not work.
Solution 1: The printer is not turned on, please turn on the printer.
Solution 2: The printer is not properly connected. Please make sure the printer is properly connected.
Solution 3: There is no paper in the printer. Please put more paper in the printer.
Solution 4: The printer driver is not installed or is configured incorrectly. Please check to see that the printer is properly installed and configured.
Solution 5: The printer is a network printer and it is not properly connected to the network.

Problem: The printer prints incorrect data.
Solution 1: The printer driver is not installed or configured correctly.
Solution 2: The printer connector is not correctly connected.

Appendix A. Specification

Processor

- Intel Celeron 500/550/600/650/700 MHz
- Intel Pentium !!! 600/650/700/750/800/850 MHz with SepeedStep technology
- CPU Package: £gPGA2

Memory

- Two 144-pin SO-DIMM sockets
- Support PC-133/PC-100 SDRAM (3.3V)
- Expandable up to 512MB, depending on 32/64/128/256 MB SO-DIMM modules

BIOS

- Insyde BIOS with Smart Battery
- One 256KB Flash ROM
- Support ACPI 1.0B compliant
- Plug & Play 1.0a

LCD

- 12.1” SVGA TFT color panel
- 13.3”/14.1” XGA TFT color panel

Display

- UMA Architecture with 8/16/32 System Memory sharable as Display Memory
- Ultra AGP (AGP 4X Performance)
- 128-bit 2D / 3D Graphics Engine
- Motion Compensation and IDCT for DVD Content Playback Accelerator
- Fully DirectX 6 Compliant Graphics Engine

Storage

- One fixed 3.5” 3-mode FDD
- One easy-change bay for DVD-ROM (12.7mm height)/24X-speed CD-ROM
- One easy-change 2.5” 9.5mm/12.7mm (height) HDD
- Support DMA mode 2/ PIO mode 4/ ATA-33/ ATA-66/ ATA-100 IDE HDD

Audio

- AC'97 2.1 Compliant
- Compatible with Sound Blaster PRO/16
- Advanced Wavetable Synthesizer
- DirectSoundô 3D Accelerator
- Full-duplex
- S/P-DIF Output
- Virtual AC3
- Built in microphone
- Built in 2 speakers

PC Card Sockets

- One Type II PCMCIA 3.3V/5V socket
- Support CardBus (PC Card 95)

Pointing Device

- Built in TrackPad (PS/2)

Input/Output

- One serial port (COM 1)
- One parallel port, support ECP/EPP 1.7 and 1.9
- One PS/2 port for external keyboard/mouse
- One external CRT monitor port
- Fast Infrared (FIR) file transfer, IrDA 1.1 or ASKIR (SHARP standard)
- One jack for microphone or S/P DIF output
- One speaker-out jack
- Dual USB ports
- One RJ-45 jack for 100M/10M LAN or 56K MDC Modem (Option)
- DC-in jack

Communications

- Wireless Infrared transfer IrDA 1.1, 1cm~1M operating distance, 4Mbps FIR
- 56K MDC Modem with V.90 compliant (Option) or 100M/10M LAN on board

Power Management

- Support APM 1.2

- Support ACPI 1.0B
- Soft Off by system power button
- Support suspend to disk
- Battery low suspend
- Resume from alarm time
- Resume from modem ring

Power

- Full Range 65 watts AC adapter – AC in 100~240V, 47~63Hz
- Support Smart Lithium-Ion Battery

Size & Weight

- 308mm(w) x 254mm(d) x 37.5mm(h)
- 3.2 kg with Lithium-Ion battery

Keypoard

- A4-Size Win 98 keyboard includes numeric keypad and application hot keys for E-mail, www browser and API

Environment

- Temperature: Operating: 5℃ ~ 35℃
  Non-Operating: -20℃ ~ 60℃
- Relative Humidity: Operating: 20% ~ 80%
  Non-Operating: 10% ~ 90%

Optional

- DVD-ROM Drive (12.7mm height)
- Smart Lithium-Ion Battery Pack
- Car Adapter
- 56K MDC Modem
- Software DVD Player

Appendix B. Battery Information

Please follow these simple guidelines to get the best use out of your battery.

New Battery:

Always use a new battery before recharging it.

Battery Life:

Battery life may be shortened through improper maintenance. To optimize the life and improve the performance of your battery, fully discharge and recharge the battery at least once every 30 days.

Battery Gauge:

The battery has an internal gauge which measures the battery life. The gauge relies on a battery's "memory" to determine the level it must stop charging or discharging the battery. This "memory" will become distorted if you partially charge or partially discharge the battery too often.

To increase the accuracy of the gauge, you must fully discharge and then fully recharge the battery at least once every 30 days or after about 20 partial discharges.

How do I completely discharge the battery ?

Use the computer with battery power until it shuts down due to a low battery. Don't turn off the computer by yourself even when you see a message or hear beeps that indicate the battery is critically low, just let the computer use up all of the battery power and shut down on its own.

How do I fully charge the battery ?

When charging the battery, don't stop until the LED charging indicator light stops flashing.

How do I maintain the battery ?

Completely discharge and charge the battery at least once every 30 days or after about 20 partial discharges.

Conserving Battery Power:

Advanced Power Management:

Your notebook computer has Advanced Power Management (APM) features which slow down the speed of the processor and components when the system is inactive. Using these features will help conserve battery power.

Display brightness:

The LCD display consumes a lot of power, so setting the brightness level to low will save power.

Applications and external devices:

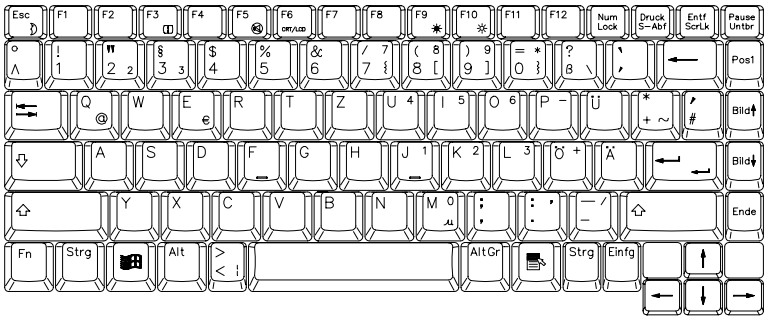
Different applications and external devices consume battery power even when they are not being used.

To conserve battery power we recommend:

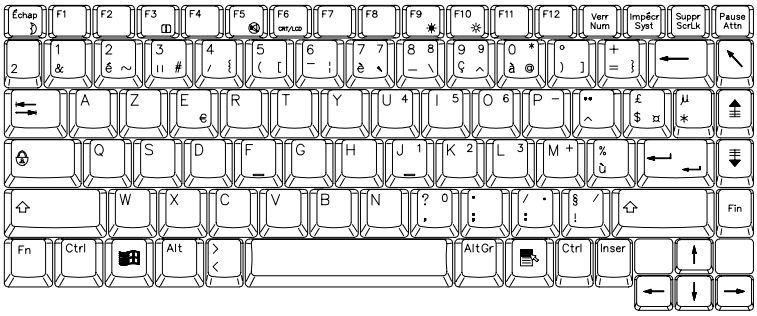
- Closing modem or communication applications when they are not being used.
- Removing any unused PC Cards from the computer.
  PC Cards quickly use up battery power even if the system enters Suspend mode.
- Removing any unnecessary external devices from the computer.

Appendix C. Different Versions of Keyboards

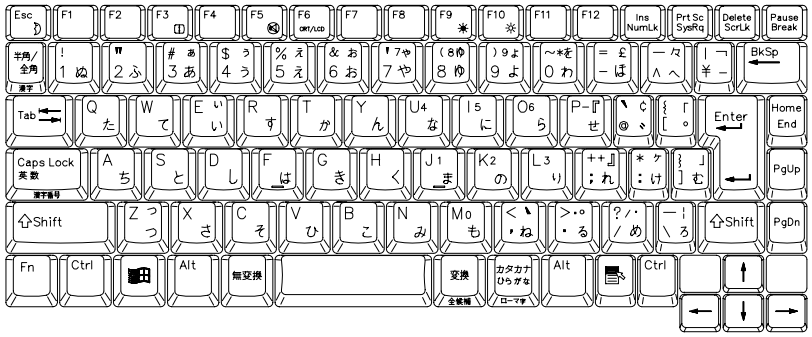
Below are different versions of keyboards for your reference:



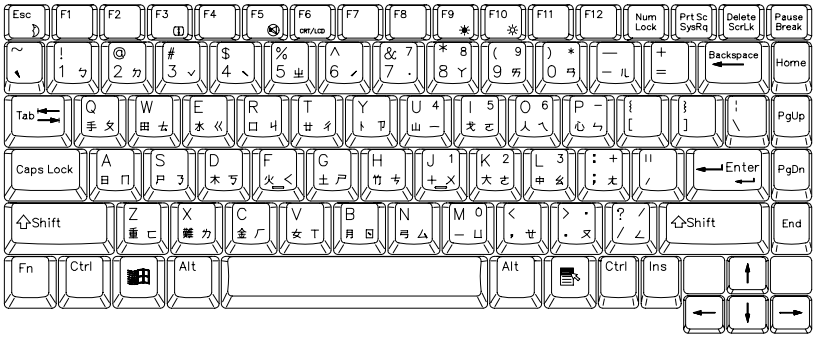
Germany Keyboard



French Keyboard



Japanese Keyboard



Chinese Keyboard

Appendix D. Installing WinDVD Player (Optional)

- Start Windows.
- Insert the DVD player CD disk. The installation program automatically runs and the Main Menu appears.
- Choose **Install InterVideo WinDVD 2000**.
- Click **Install now**.
- Click **Next**.
- When the “Software License Agreement” window appears, press **Yes**.
- Follow the on-screen instructions, and continue to press **Next**.
- Click **Finish** to complete Setup.
- Click **Finish** to restart your computer.

Glossary

A

AC (**A**lternating **C**urrent) ¾ The power from a standard household electrical outlet.
adapter ¾ An AC adapter converts AC current to DC current.
AGP (**A**ccelerated **G**raphics **P**ort) ¾ A high-speed graphics port that provides a direct connection between the display adapter and memory.
application ¾ A program such as a word processor, database or image editor.

B

BIOS (**B**asic **I**nput **O**utput **S**ystem) ¾ An essential set of routines in a PC, which is stored on a chip and provides an interface between the operating system and the hardware.
bit (**b**inary **di**git) ¾ The smallest unit 0f information on a machine.
boot ¾ The loading of the operating system and other basic software which occurs when you start-up the computer.
bus ¾ A collection of wires through which data is transmitted from one part of a computer to another.
byte (**b**inar**y te**rm) ¾ A unit of storage capable of holding a single character. On almost all modern computers, a byte is equal to 8 bits.

C

cache ¾ When you cache something you improve the speed of access to it by moving it one stage closer to the CPU.
CardBus ¾ A 32-bit version of the PCMCIA PC Card standard.
CD-ROM (**C**ompact **D**isc **R**ead **O**nly **M**emory) ¾ A format used to store data such as text, graphics or stereo sound. Also refers to the drive which can read this format.
configuration ¾ The makeup of a system.
CPU (**C**entral **P**rocessing **U**nit) ¾ The computing part of the computer. It controls the interpretation and execution of instructions.

D

DC (**D**irect **C**urrent) ¾ Power which a computer requires for operation.
DIP switch ¾ A series of tiny switches built into circuit boards which enable you to configure a circuit board for a particular type of computer or application.
DRAM ¾ The most common type of computer RAM.

driver ¾ A program that controls a device.
DVD ¾ Originally called Digital VideoDisc since it was used mostly for video, now called Digital Versatile Disc, similar to a CD-ROM only with greater storage capacity.

F

flash BIOS ¾ BIOS which can be updated.
flash memory ¾ A memory chip that keeps its information even when the computer is powered off. Used in BIOS which can be updated, like the system in your computer.
flash ROM BIOS ¾ see flash BIOS.
function key ¾ The keys F1, F2, … which have specific functions assigned to them.

G

GB (**G**iga**b**yte) ¾ A unit of storage, one gigabyte is equal to 1,024 megabytes.

H

Hot key ¾ see **function keys**.

I

interface ¾ Something that connects two separate things. Hardware interface connects the computer to attached hardware such as a printer.
I/O (**I**nput/**O**uput) ¾ Term used when your computer needs data entered (input) or has data to go to another source such as a printer or a floppy disk (output).
IrDA (**I**nfra**r**ed **D**ata **A**ssociation) ¾ IrDA ports allow a laptop to exchange data without a cable connection.

J

jack ¾ A connector used primarily to connect external devices to your computer.

K

KB (Kilobyte) ¾ A unit of storage, one kilobyte is equal to 1024 bytes.

L

LAN (**L**ocal **A**rea **N**etwork) ¾ A communications network within a confined physical area. It is made up of servers, workstations, a network operating system and a communications link.

LCD (**L**iquid **C**rystal **D**isplay) ¾ A display technology that uses rod-shaped molecules (liquid crystals) that flow like liquid and bend light.

LED (**L**ight **E**mitting **D**iode) ¾ An electronic device that lights up when electricity is passed through it. The indicator lights on the computer are LEDs.

load ¾ To copy a program from some source into memory for execution.

Lithium-Ion battery ¾ A type of battery which is ideal for notebook computers because of its light weight and high energy density. The battery does not use poisonous metals.

M

MB (Megabyte) ¾ 1,048,576 bytes, 1024 KB.

memory ¾ Area in the computer where information is stored on chips, an example is RAM.

MHz ¾ One MHz represents one million cycles per second. The speed of microprocessors, called the clock speed, is measured in megahertz.

MMX ¾ A type of microprocessor that can handle many common multimedia operation that are normally handled by a seperate sound or video card.

mode ¾ An operational state that a system has been switched to.

modem (**mo**dulate-**dem**odulate) ¾ A device that adapts a computer to a telephone line by converting the computer's digital pulses into audio frequencies for the telephone when sending. And the reverse when receiving a signal from the telephone line.

module ¾ Referring to hardware, a module is a self-contained component.

N

NiMH battery ¾ Batteries which are common in notebook computers and contain **Ni**ckel-**M**etal **H**ydride.

P

parallel port ¾ A socket on a computer used to connect a printer or other parallel device via the computer's parallel interface.

partition ¾ A reserved part of disk or memory that is set aside for some purpose.

PCMCIA Card ¾ A credit-card sized, removable module for portable computers standard-

ized by PCMCIA. Also known as **PC Cards**.
Plug and Play ¾ The ability to add a new component and have it work without having to perform any technical analysis or procedure.
peripheral ¾ Any external device attached to a computer, such as a printer.
POST (**P**ower **O**n **S**elf **T**est) ¾ A series of built-in diagnostics that are performed when the computer is booted.

R

RAM (**R**andom **A**ccess **M**emory) ¾ The memory available to programs, different programs will need more or less RAM depending on what they are doing.
ROM (**R**ead **O**nly **M**emory) ¾ A memory chip that permanently stores instructions and data. Its contents are created at the time of manufacture and cannot be altered.
resume ¾ To restart your computer from suspend mode.

S

serial port ¾ A socket on a computer used to connect a serial device to the computer.
setup ¾ (1) A utility program which modifies the BIOS.
(2) Assembly and adjustment of a computer's components.
(3) The preparation of the system for normal operation.
suspend ¾ To stop an operation with the hard disk turned off and the CPU idling at its slowest speed.
SDRAM (**S**ynchronous **DRAM**) ¾ A type of DRAM that can run at much higher clock speeds than conventional memory.

T

TFT (**T**hin **F**ilm **T**ransistor) ¾ The term typically refers to active matrix screens on laptop computers.

U

USB (**U**niversal **S**erial **B**us) ¾ A hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices.
utility ¾ A program that provides file management capabilities as well as diagnostic and measurement routines that check the health and performance of the system.

V

VGA (**V**ideo **G**raphics **A**rray) ¾ The minimum standard for PC video display.