

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.

2000

Trademarks

IBM PC, OS/2, PS/2, EGA, and VGA are registered trademarks of International Business Machines Corporation.

Intel, Pentium are trademarks of Intel Corporation.

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

Sound Blaster Pro is a trademark of Creative Labs, Inc.

SystemSoft 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.]

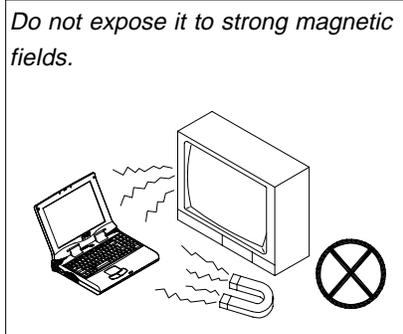
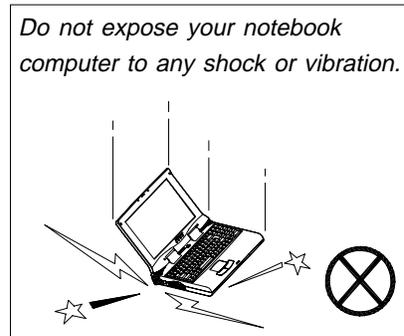
You are cautioned that changes or modifications not expressly approved by the party responsible for compliance could void your authority to operate the equipment.

[]: depend on EUT condition.

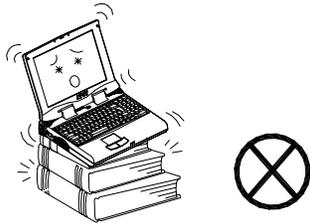
Safety Instructions

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:

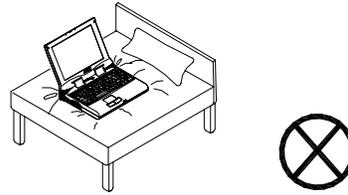
Handling the Computer



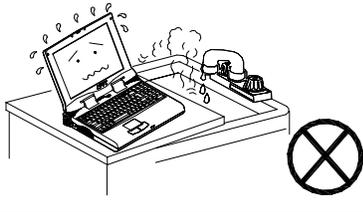
Do not place the computer on an unstable surface.



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



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



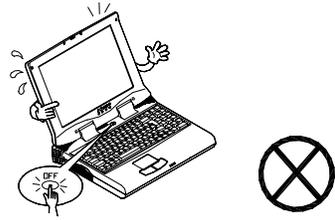
Do not disassemble the computer by yourself.



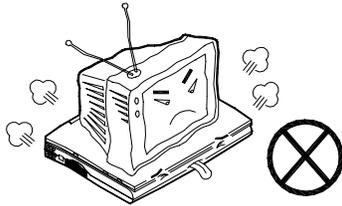
Do not turn off any peripheral devices when the computer power is on.



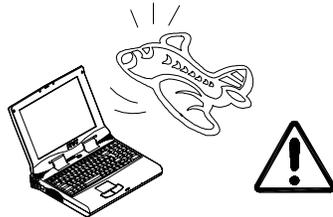
Do not turn off the power until you properly shutdown all programs.



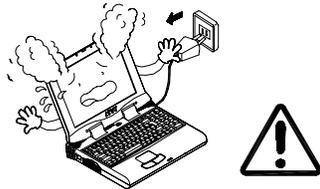
Do not place anything heavy on the computer.



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.

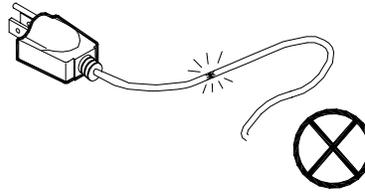


Handling of the Power Cord & Battery

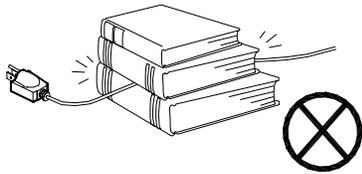
Do not plug in the power cord if you are wet.



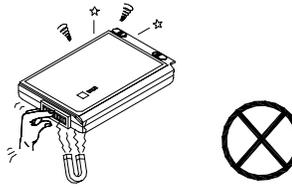
Do not use the power cord if it is broken.



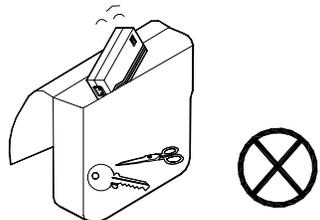
Do not place heavy objects on the power cord.



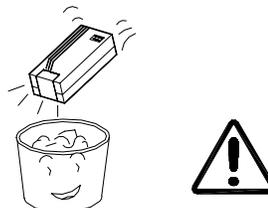
Do not touch the battery contacts with your hands or any metal objects.



Keep the battery away from any metal appliances.

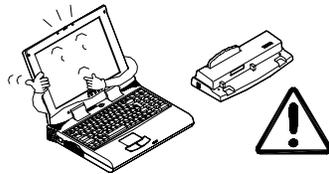


Affix tape to the battery contacts before disposing of the battery.



Handling Peripheral Devices

Use only approved brands of peripheral devices.

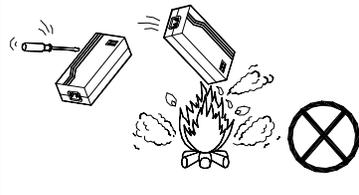


Unplug the power cord before attaching any peripheral devices.

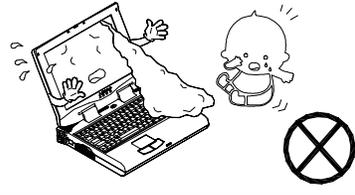


Other reminders

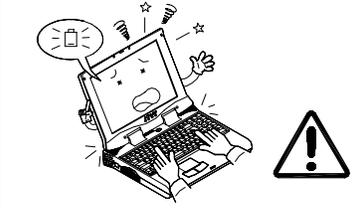
Do not throw the computer or accessories into a fire.



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 are some tips to 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	1-1
Checking the Items	1-3
Opening the LCD Display	1-3
Top View with Display Open	1-5
LCD Display	1-5
Power Button	1-5
Stereo Speakers	1-5
Touchpad and Buttons	1-5
Keyboard	1-5
LED Indicators	1-5
Microphone	1-5
Right Side View	1-7
Phone Jack	1-7
Hard Disk Drive	1-7
PC Card Slot	1-7
Floppy Disk Drive	1-7
Speaker-out Jack	1-7
Audio Line-in Jack	1-7
Microphone Jack	1-7
Vent	1-7
Right Side Stand	1-7
Rear View	1-9
Power Jack	1-9
Locking Device Connector	1-9
Port Replicator Port	1-9
LAN Port	1-9
PS/2 Type Port	1-9
Parallel Port	1-9
S-video Jack	1-11
RCA Jack	1-11
Dual USB Ports	1-11
Serial Port	1-11
External Monitor (CRT) Port	1-11
1394 Port	1-11
Left Side View	1-12
Left Side Stand	1-12
Infrared Port	1-12

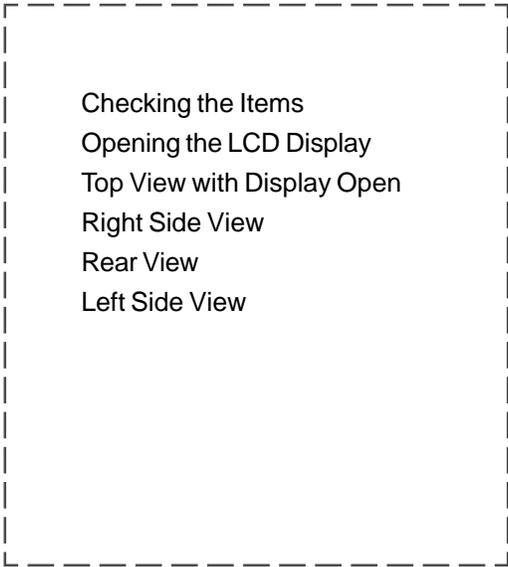
CD-ROM Drive	1-12
Chapter 2. Using the Computer	2-1
The Power Sources	2-3
AC Power Adapter	2-3
Battery Pack	2-3
Turning on the Computer	2-5
LED Indicators	2-5
The Hard Disk Drive (HDD)	2-7
Removing the HDD	2-7
Inserting the HDD	2-7
The Floppy Disk Drive (FDD)	2-9
Inserting/Removing Diskettes	2-9
The CD-ROM	2-9
Loading Compact Discs	2-9
Handling Compact Discs	2-11
The PC Card Slots	2-11
Inserting PC Cards	2-11
Removing PC Cards	2-11
The Hot Key	2-13
The Numeric Keypad	2-14
Chapter 3. Attaching Peripherals	3-1
PS/2 Keyboard or Mouse	3-3
USB Compatible Device	3-3
Serial Mouse	3-5
External Monitor (CRT)	3-5
TV Set	3-7
Parallel Printer	3-7
Phone Line	3-9
Security Lock	3-9
Digital Camera	3-11
Video Input Device	3-11
Local Area Network (LAN)	3-12
Chapter 4. Upgrading the Computer	4-1
Replacing the HDD	4-3
Replacing the FDD	4-3
Replacing the CD-ROM Module	4-5
Removing the CD-ROM	4-5
Inserting the CD-ROM module	4-5

Upgrading the Memory	4-5
Installing a Memory Module	4-7
Removing a Memory Module	4-9
Adding or Replacing the Processor	4-9
Chapter 5. BIOS Utilities	5-1
Power on Self Test (POST)	5-3
POST Message: Normal Operation	5-3
POST Message: Error Detected	5-3
BIOS Setup Utility	5-5
Information in the BIOS Setup Utility	5-5
Initiating the BIOS Setup Utility	5-5
Working with the Menu Bar	5-7
Working with the Menu Items	5-7
Features of BIOS Setup Utility	5-7
Main Menu	5-7
Advanced Menu	5-11
Security Menu	5-13
Power Menu	5-15
Boot Menu	5-17
Exit Menu	5-17
Power Management	5-19
Advanced Power Management (APM 1.2)	5-19
Advanced Configuration and Power Interface (ACPI)	5-19
Global Standby	5-19
Hard Disk Standby	5-19
Suspend and Resume	5-19
Chapter 6. Installing Drivers	6-1
Preparation for a New Notebook	6-3
Installing Windows 98 SE (For Reference Only)	6-3
Installing Windows 2000 (For Reference Only)	6-4
Before Installing Drivers	6-6
Installing Drivers in Windows 98 SE	6-7
Step 1: Installing the VGA Driver	6-7
Step 2: Installing the Audio Driver	6-7
Step 3: Installing the Touchpad Driver	6-8
Step 4: Installing the Modem Driver	6-8
Step 5: Installing the LAN Driver	6-9
Step 6: Installing the DVD driver (optional)	6-10
Installing Drivers in Windows 98 ME	6-12

Step 1: Installing the VGA Driver(ATI)	6-12
Step 2: Installing the Audio Driver	6-12
Step 3: Installing the Touchpad Driver	6-13
Step 4: Installing the Modem Driver	6-14
Step 5: Installing the LAN Driver	6-15
Step 6: Installing the DVD driver (optional)	6-16
Installing Drivers in Windows 2000	6-18
Step 1: Installing the VGA Driver	6-18
Step 2: Installing the Audio Driver	6-18
Step 3: Installing the Touchpad Driver	6-19
Step 4: Installing the Modem Driver	6-19
Step 5: Installing the LAN Driver	6-20
Step 6: Installing the DVD driver (optional)	6-21
Installing Drivers in Windows NT4.0	6-23
Step 1: Installing the VGA Driver	6-23
Step 2: Installing the Audio Driver	6-23
Step 3: Installing the Touchpad Driver	6-24
Step 4: Installing the Modem Driver	6-24
Step 5: Installing the LAN Driver	6-25
Chapter 7. Troubleshooting	7-1
Audio	7-3
Battery	7-3
Boot Password	7-5
CD	7-5
Floppy Disk Drive (FDD)	7-5
Hard Disk Drive (HDD)	7-5
Hardware Installation	7-7
LCD Panel	7-7
Memory Module	7-7
PC Card	7-9
Power	7-9
Printer	7-9
Appendix A. Specification	A-1
Appendix B. Battery Information	B-1
Appendix C. Different Versions of Keyboards	C-1
Glossary	1

Chapter 1. Getting Started

This chapter provides you with the basic introduction about the computer and its features. Now, lets take a look at the computer from the different view.



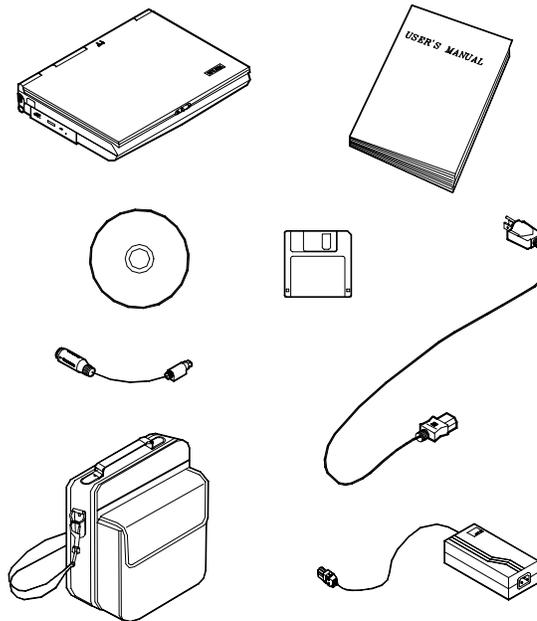
- Checking the Items
- Opening the LCD Display
- Top View with Display Open
- Right Side View
- Rear View
- Left Side View

User's Manual

Checking the Items

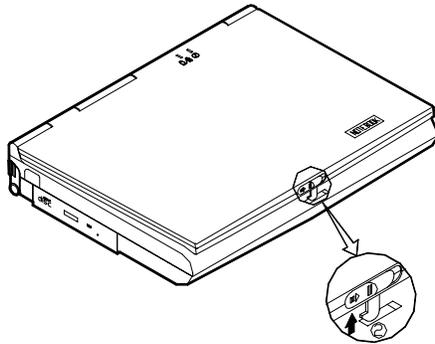
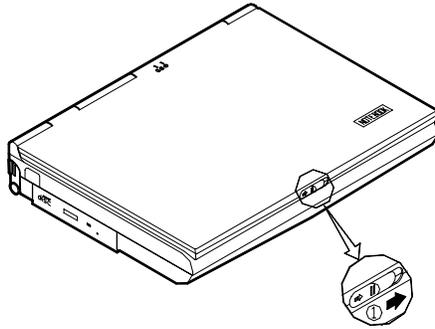
Carefully remove everything from the shipping box and check the items one by one. If any item is missing or damaged, contact your dealer immediately.

- Notebook Computer
- Carrying Bag
- Power Adapter
- Power Cord
- User's Manual
- PS/2 Transfer Cable
- Utilities Diskette(s)
- Battery Pack



Opening the LCD Display

- 1) Move the cover latch to the right to release the top cover (①).
- 2) Lift the top cover to reveal the LCD panel and keyboard (②).
- 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 has a LCD (Liquid Crystal Display) panel. Depending upon the model you have purchased, the display screen can be a 15.0" XGA or SXGA TFT color panel. The LCD panel is driven by a AGP bus video controller with 8 or 16 MB video memory.

Power Button

Pressing this button turns your notebook computer on or off. Power Button can also be used as a Suspend/Resume hot button when pressed less than four seconds.

Note: After turning your notebook computer off, wait a few seconds before turning it on again.

Stereo Speakers

Two built-in speakers provide rich, stereo sound.

Touchpad and Buttons

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

Keyboard

This 102-key keyboard has an embedded numeric keypad and can be used with Windows 95 or Windows 98. It also has many of the same features as a full-size desktop keyboard and can easily be replaced with non-English keyboards.

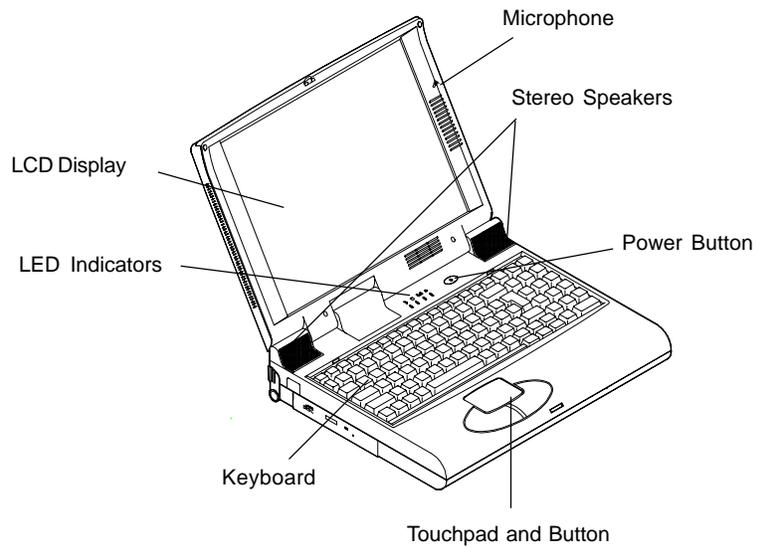
LED Indicators

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



Microphone

With the built-in microphone you can record on your notebook computer.



Right Side View



Phone Jack

The RJ-11 phone jack is used to support a built-in 56K MDC modem. For more information on the phone jack please refer to Chapter 3 "Attaching Peripherals".

Hard Disk Drive

The computer accepts any 2.5" hard disk drive with 9.5mm/12.7mm/17.0mm height. The hard disk drive is removable and can be replaced. For more information please refer to Chapter 2 "Using the Computer".

PC Card Slot

There are two PC card slots (PCMCIA) located on the computer, which accepts two Type II PC cards or one Type III PC card to expand the computer's capability. To remove the PC card, press the PC-Card eject button.

Floppy Disk Drive

The computer comes standard with a 1.44MB floppy disk drive installed. The floppy-disk-drive module can be replaced with other disk-drive units, such as a secondary 2.5" 12.7mm(h)/12.5mm(h) hard disk drive or a 15mm(h) Zip 100/250MB drive. For more information please refer to Chapter 2 "Using the Computer".



Speaker-out Jack

Headphone and speakers can be attached to the system through this jack.



Audio Line-in Jack

An external audio source can be connected to the computer through this jack.



Microphone Jack

This jack is used to connect an external microphone. Besides, the jack also provides 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. To use the S/P-DIF output function, you need to set the feature in the BIOS Setup Utility.

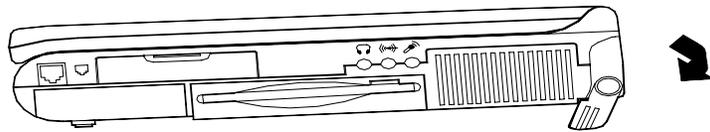
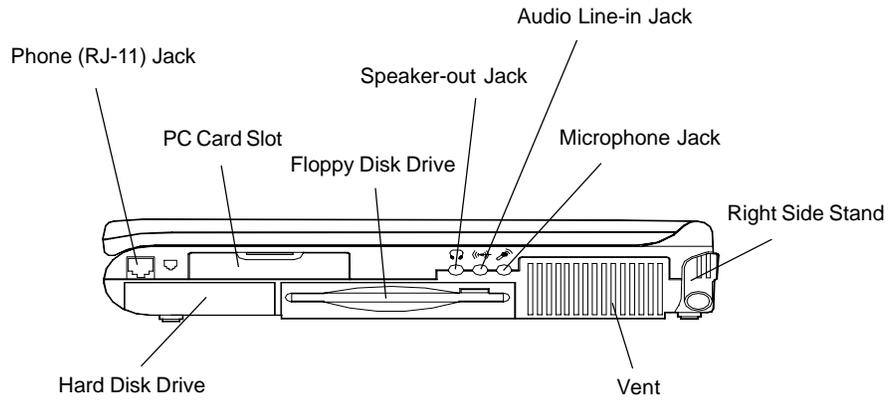
Vent

Prevents the notebook computer from overheating.

Right Side Stand

Position the stand (along with the left one) to adjust the angle of the computer. If a high speed CPU is installed, erecting the stands on both sides is necessary for heat dissipation during operation.

User's Manual



Pull down the stand when operating your computer.

Rear View

Power Jack

Plug the AC adapter into this jack for power supply. To disconnect, pull the adapter away from the jack.

Locking Device Connector

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

Port Replicator Port

Use this port to connect a port replicator to promote the computer's capability. A port replicator may come with a TV-out port or an external diskette drive connector, etc.

LAN Port

The LAN Port is used to connect your notebook to a local area network.

PS/2 Type Port

The PS/2 Type Port uses a 6-pin connector for connecting an external PS/2 type mouse or keyboard.

Parallel Port

The Parallel Port uses a 25-pin female connector for connecting a parallel printer or other parallel devices. This parallel port supports EPP(Enhanced Parallel Port) V1.7/V1.9 and ECP (Extended Capabilities Port) modes.

User's Manual



S-video Jack

Use this jack to transmit a video signal to a TV set.



RCA Jack

This jack allows the computer to receive analog composite signals from external video devices, e.g. camera, CD.



Dual USB Ports

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



Serial Port

The RS-232C serial port uses a 9-pin male connector for connecting an external serial mouse, serial printer or fax/modem.



External Monitor (CRT) Port

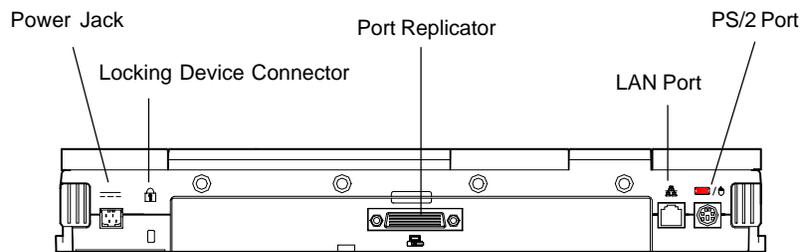
The External Monitor port uses a 15-pin connector for connecting an external CRT monitor. Simultaneous display on the LCD screen and external CRT monitor is possible.



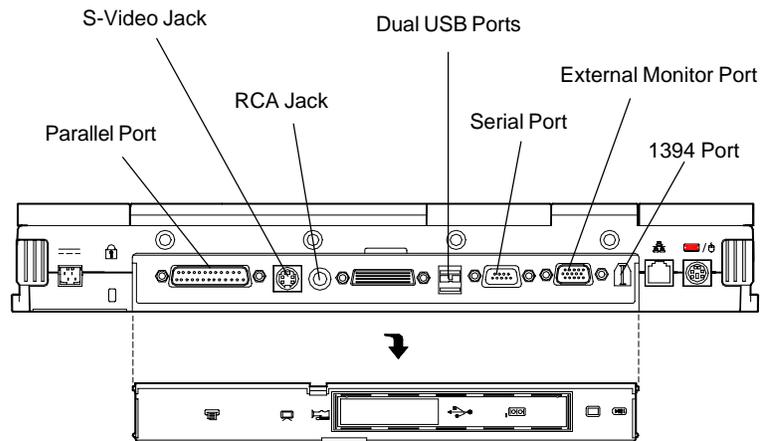
1394 Port

The 1394 Port is used to connect a digital camera.

Chapter 1. Getting Started



Open the back cover to reveal the ports as shown below.



Left Side View

Left Side Stand

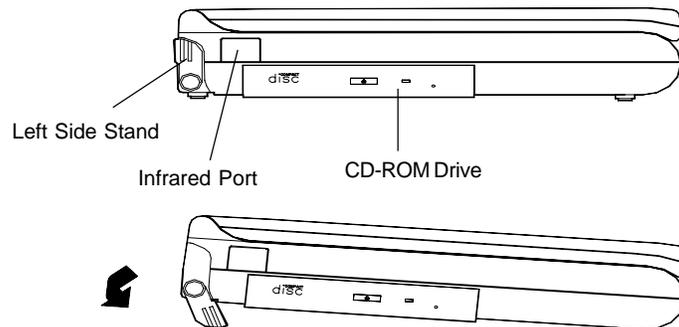
Position the stand (along with the right one) to adjust the angle of the computer. If a high speed CPU is installed in the computer, erect the stands on both sides to help heat dissipation during operation.

Infrared Port

This port allows communication with an infrared-compatible device. The Infrared port supports IrDA (HPSIR) 1.1 mode, Amplitude Shifted Keyed IR (ASKIR) mode, and Fast IR (FIR) mode. For further information, please refer to the manual of the wireless device you wish to connect.

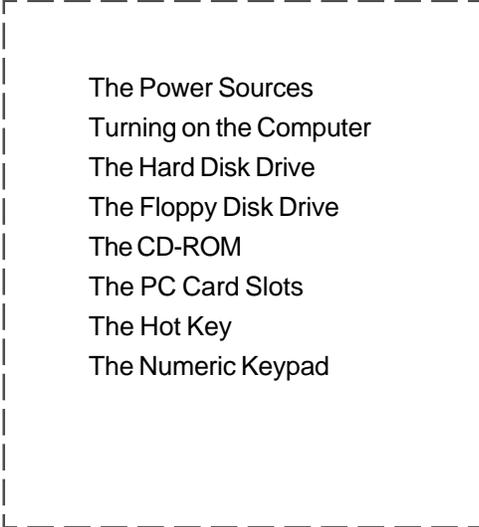
CD-ROM Drive

The notebook comes standard with a 24X speed, 5.25" CD-ROM drive. The removable CD-ROM drive module can be replaced with an optional DVD-ROM or CD-RW.



Chapter 2. Using the Computer

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



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

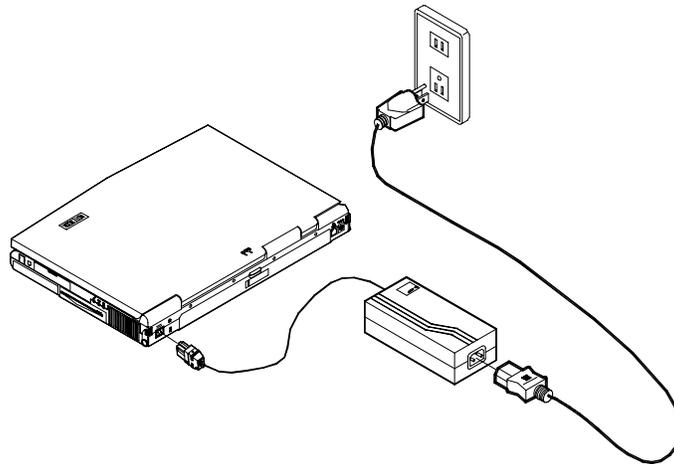
The Power Sources

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 damage the computer and its components.

- 1) Plug the power adapter cord into the power 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

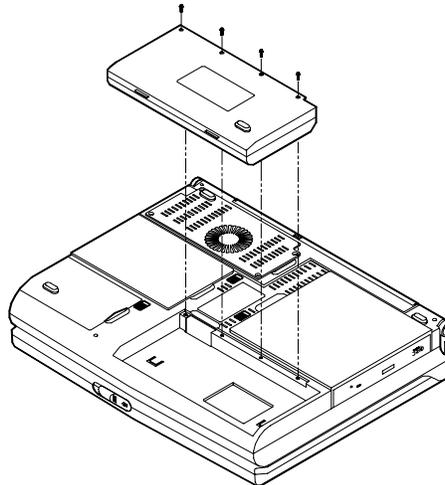
The battery pack allows you to use your notebook computer when you are on the road or an electrical outlet is unavailable. Battery life differs depending on the applications and the configuration you're using.

Inserting the Battery Pack

- 1) Turn the computer over.
- 2) Firmly fit the battery pack into the place at a slight angle.
- 3) Install the four screws to fasten the battery pack.

Removing the Battery Pack

- 1) Turn the computer over.
- 2) Remove the four screws.
- 3) Carefully lift the battery pack out of the computer.



Note: To increase battery life, let the battery discharge completely before recharging.

Recharging by AC Power

The battery pack will automatically recharge when it is in its bay in the computer and the computer is plugged into an AC power supply.

While the battery is recharging, you can still use the computer.

It will take several hours to fully recharge the battery and slightly longer if you are using the computer while the battery is recharging.

(Please refer to LED Indicators in this chapter for more information on the battery charge status.)

Proper Handling of the Battery Pack

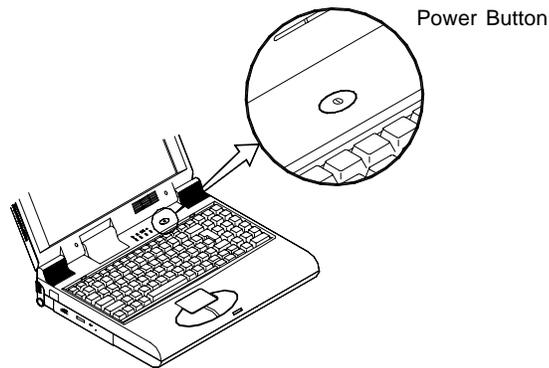
Do not disassemble the battery pack under any circumstances.

Do not expose the battery to fire or high temperatures, it may explode.

Do not connect the metal terminals (+, -) together.

Turning on the Computer

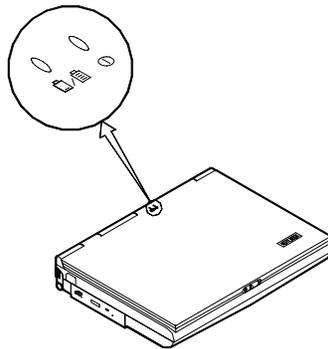
Now you are ready to begin using your new notebook computer. To turn it on simply press the power button.



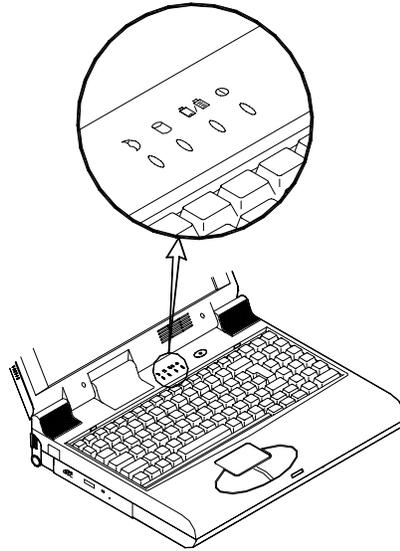
Note: After turning off the computer, wait for a few seconds before you turn it on again.

LED Indicators

The LED indicators on the computer indicate the system's operation status. The indicators are located on two locations: on the top cover and the front panel. Please refer to the next page for the function of each indicator.



User's Manual



Icon	Color	Description
ⓘ	Green	Battery supplies power to the computer.
	Red	AC power adapter is connected to the computer and supplies ac power to it.
🔋	Green	Battery is fully charged.
	Red	Battery is being recharged with the AC adapter connected to the computer.
	Blinking Red	Battery power is critically low.
⌚	Green	The system enters the configured suspend mode. Refer to Chapter 5 for more information on the suspend mode.
🗄️	Green	The hard disk is being accessed.

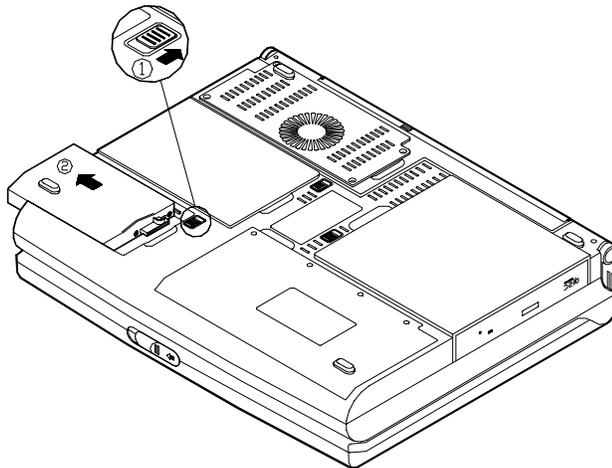
Note: System beeps when battery power is low.

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 9.5mm, 12.7mm or 17.0mm. The system supports PIO mode 4, Master mode IDE and provides a high performance data transfer rate at speeds up to 33 or 66 MBytes/second (ATA-33/66).

Removing the HDD

- 1) Turn the power off.
- 2) Turn the computer over.
- 3) Press the hard disk drive latch to release it (①) and pull the hard disk drive out of the computer (②).



Inserting the HDD

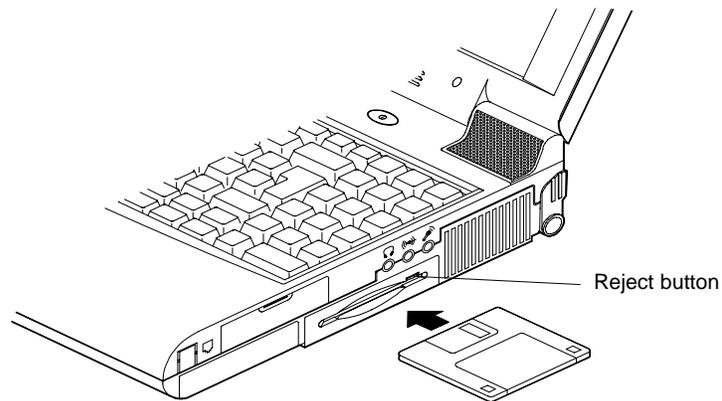
- 1) Turn off the computer.
- 2) Turn the computer over.
- 3) Insert the hard disk drive into the the case. Make sure you hear a click.

The Floppy Disk Drive (FDD)

The computer is equipped with a removable 3.5", 3-mode floppy disk drive module. It is usually designated drive A by default and can be used as a boot device if properly set (refer to Chapter 5, BIOS Utilities). You may replace the floppy disk drive module with a 100/250MB IO MEGA Zip Drive (15mm height) or a 12.7 mm/12.5mm high 2.5" secondary hard disk drive. Contact your dealer for details.

Inserting/Removing Diskettes

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



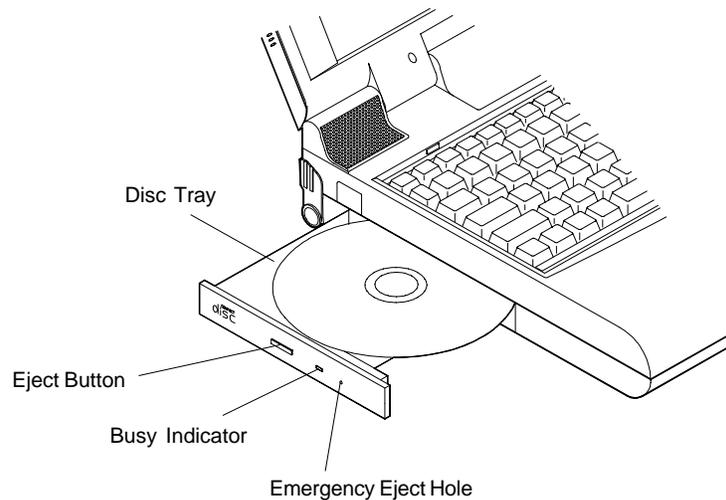
The CD-ROM

The notebook computer comes standard with a 24X speed removable 5.25" CD-ROM drive. It is usually labeled drive D and may be used as a boot device if properly set (refer to Chapter 5, BIOS Utilities). The removable CD-ROM drive can be replaced with optional drive units, such as DVD-ROM or CD-RW.

Loading Compact Discs

To insert a CD, press the Open Button and carefully place a CD into 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. When 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, 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 the advices listed below to make sure that the data stored on your CD-ROMs 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.

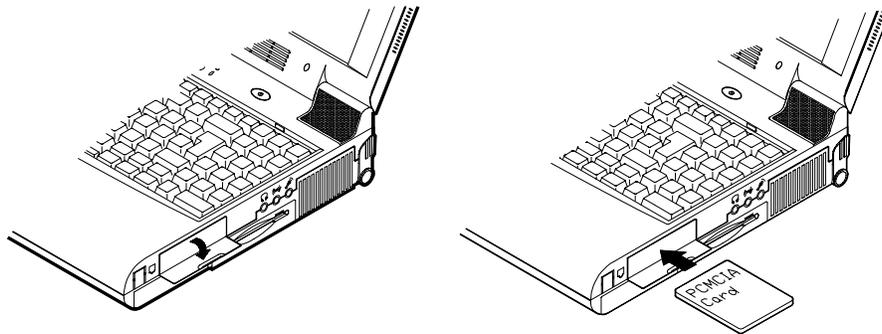


The PC Card Slots

The computer is equipped with two PC card sockets (previously referred to as PCMCIA). Both sockets support two 3.3V/5V type II or one type III PC card or two 3.3V CardBus cards. PC card Slot A is on the top and Slot B is on the bottom. Slot A can also support a Zoomed Video Port.

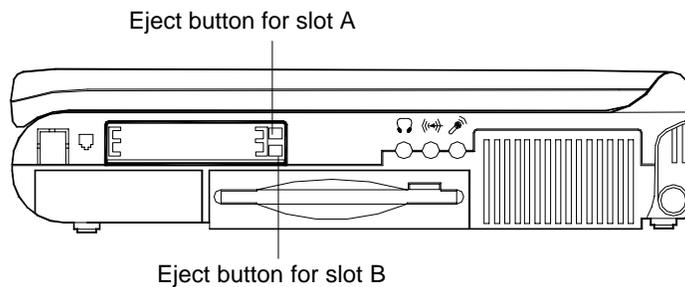
Inserting PC Cards

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

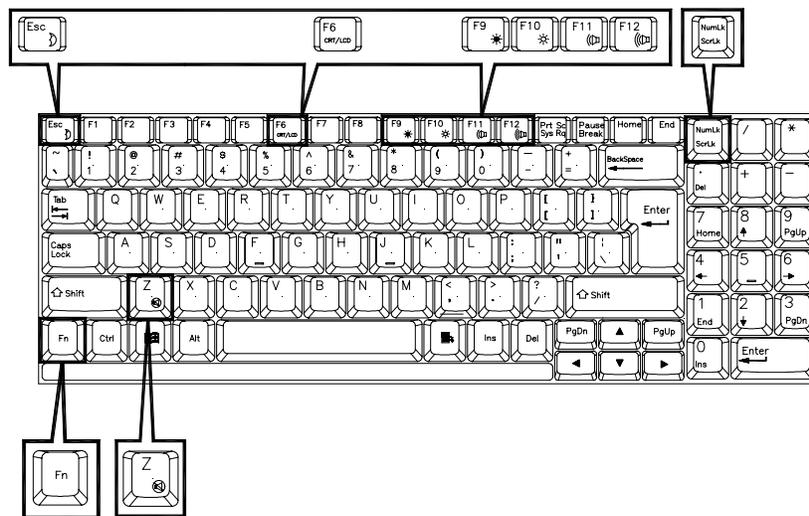
This is a problem caused by Microsoft Windows 98 (Second Edition). To resolve the problem, immediately after installing Windows 98SE install the program file **PCI.vxd** to update your system driver. The PCI.vxd driver is supplied by your computer dealer.

For more information on this, refer to the Microsoft article "CardBus Device Not Enumerated with TI 14xx or 44xx CardBus Controllers" (Article ID: Q233017) which can be found on Microsoft's web site.

The Hot Key

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 (F6, F9, F10, etc....) located at the top of your keyboard.



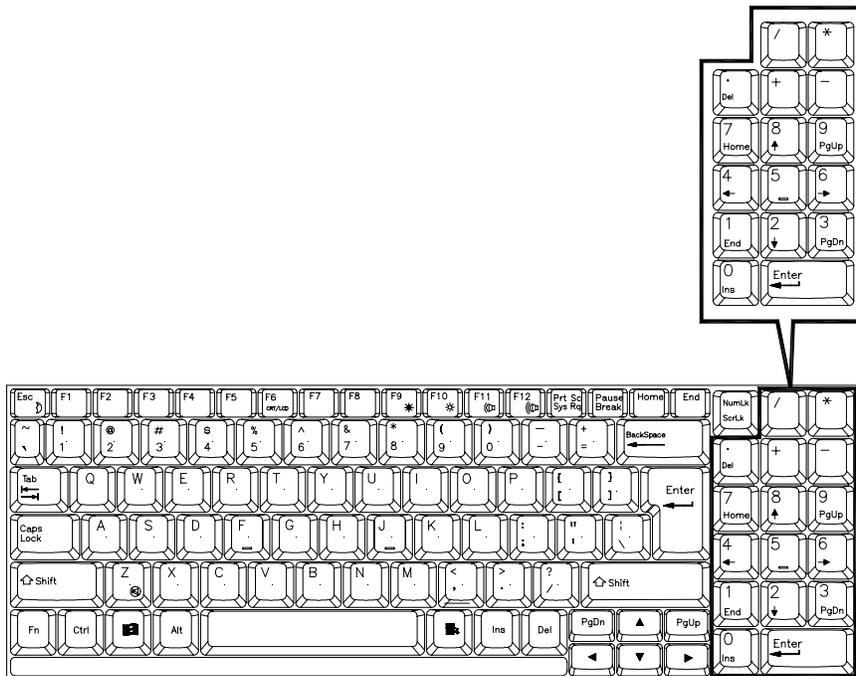
- | | |
|-------------------|--|
| Fn + F6 | Toggle between CRT / LCD / LCD+CRT |
| Fn + F9 | Decrease LCD brightness |
| Fn + F10 | Increase LCD brightness |
| Fn + F11 | Decrease audio volume |
| Fn + F12 | Increase audio volume |
| Fn + Esc | Toggle between the Suspend/Resume mode |
| Fn + Z | Toggle audio on/off |
| Fn + NumLk | Scroll Lock Function |

The Numeric Keypad

A numeric keypad is integrated into the keyboard for easy numeric data input.

To use the keypad simply:

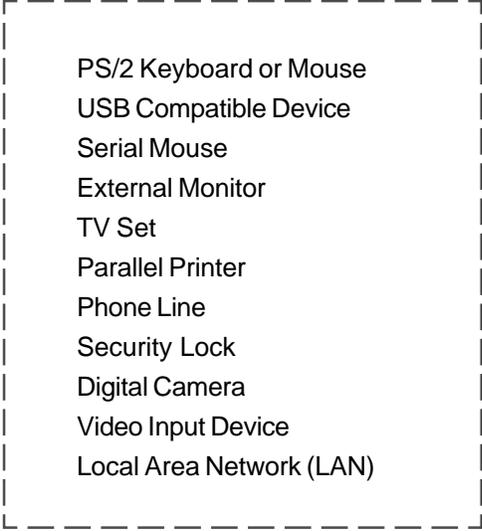
- Activate the Num Lock feature (press the Num Lock key).
- Press the desired number keys.



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

Chapter 3. Attaching Peripherals

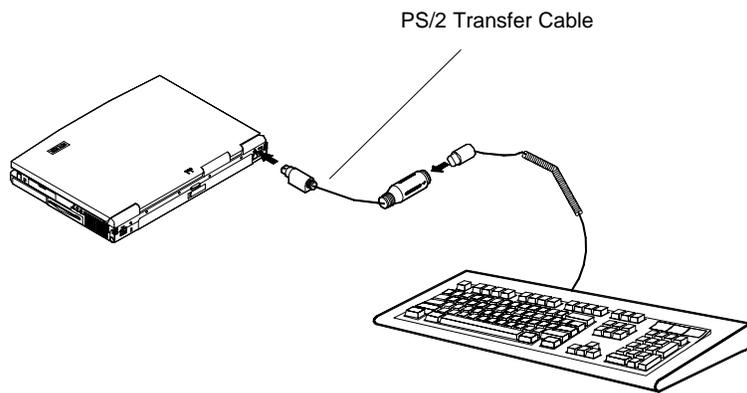
To enhance your computer's capabilities, you can attach peripheral devices to the computer using the ports or jacks located on the rear panel of the computer. The computer can support the following peripheral devices:



- PS/2 Keyboard or Mouse
- USB Compatible Device
- Serial Mouse
- External Monitor
- TV Set
- Parallel Printer
- Phone Line
- Security Lock
- Digital Camera
- Video Input Device
- Local Area Network (LAN)

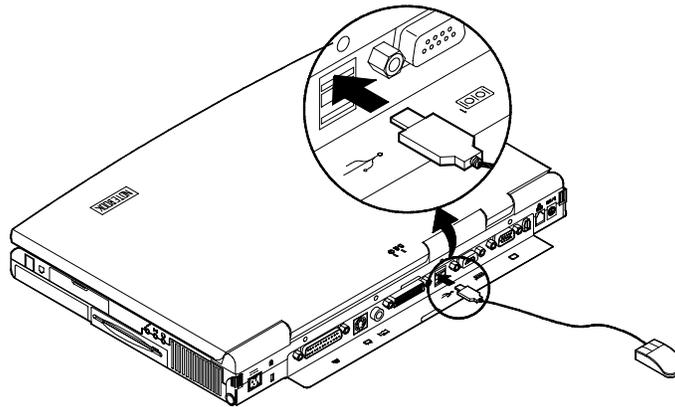
PS/2 Keyboard or Mouse

The computer can use a PS/2 keyboard or mouse attached by a PS/2 transfer cable that comes with your notebook computer. Attach the external keyboard or mouse to the PS/2 port as shown below.



USB Compatible Device

The computer has the dual USB ports for connecting one or two USB compatible devices such as an USB-compatible keyboard, mouse, or other USB device. Simply plug the device into the USB port as shown below.

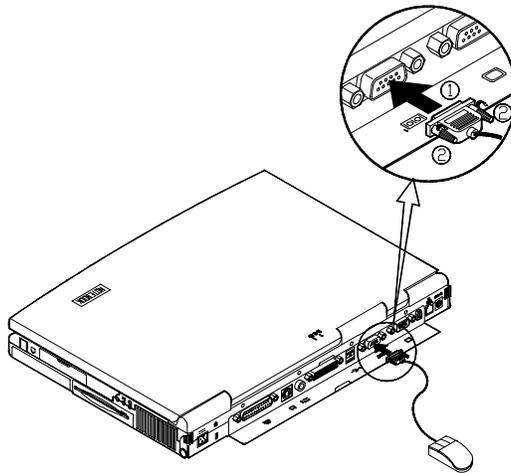


Serial Mouse

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



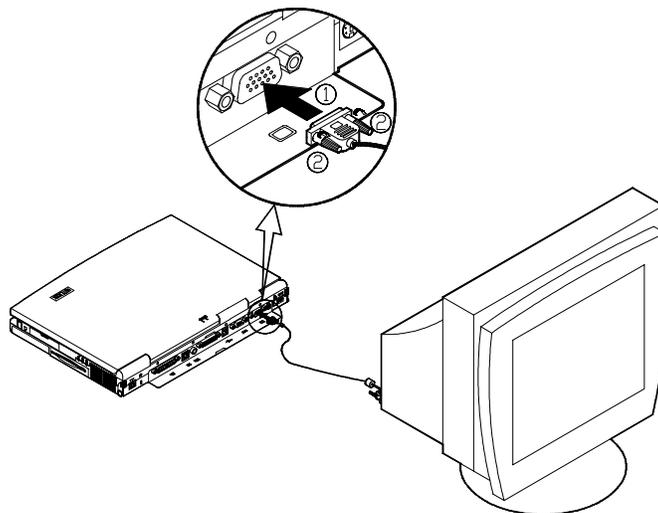
Note: In addition, you may need to install the manufacturer-supplied driver for the serial mouse. Refer to the device's user guide for more information.

External Monitor (CRT)

The computer can support an XGA compatible external monitor up to 1600x1200x16M resolution. The external monitor can be used simultaneously with the LCD display turned on or off. You can setup your computer to use an external monitor by pressing the Fn + F6 keys (refer to The Hot Key in Chapter 3).

To install an external monitor you simply:

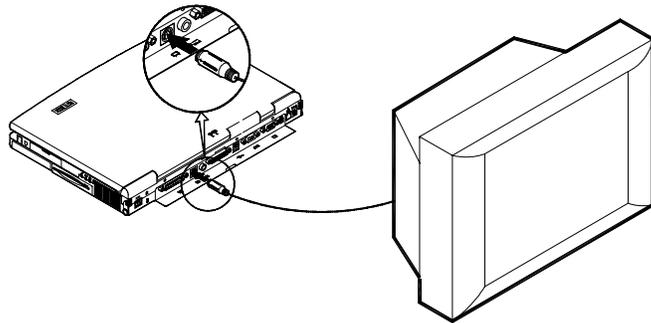
- 1) Turn off the computer.
- 2) Connect the cable to the CRT port on the rear of the computer (①).
- 3) Tighten the screws that fasten the cable to the CRT (②).
- 4) Insert the other end of the cable to the external monitor.
- 5) Turn on the computer.



TV Set

The S-Video jack on the rear panel of the computer is used for transmitting video signals to a TV set. To add a TV set simply plug the TV set cable into the S-Video jack as shown below.

Note: You may need to select the video standard for video display. To do so, enter the Advanced Menu in the BIOS Setup Utility and select the appropriate TV standard. Also with Windows 98 you can display information on your computer display and TV simultaneously.



Using Windows 98 for simultaneous display to a TV

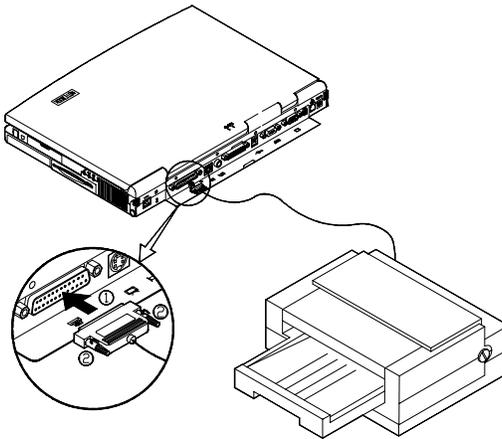
- Click on the START button
- Click Settings
- Click Control Panel
- Double click on the Display icon
- In the Display Properties window select Settings
- Click Advanced
- In the ATI Mobility 128 AGP Properties window select Displays
- Click TV
- Click OK

Parallel Printer

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

To connect a printer simply:

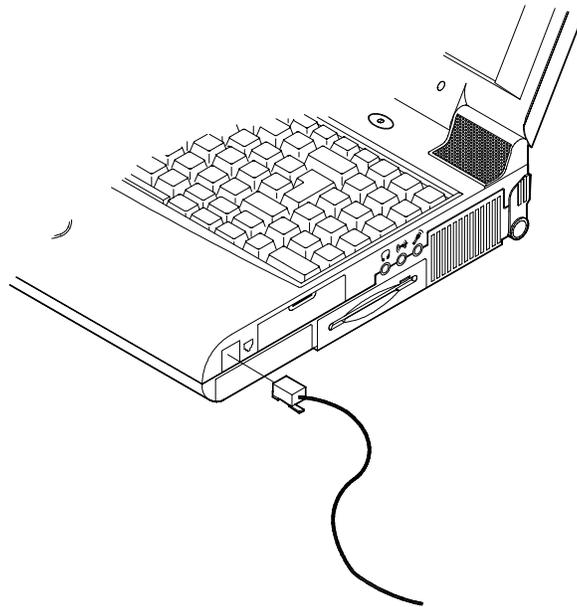
- 1) Turn off the computer.
- 2) Connect the cable to the parallel port on the rear of the computer (①).
- 3) Tighten the screws that fasten the cable to the parallel port (②).
- 4) Insert the other end of the cable to the printer's connector.
- 5) Fasten the cable's connector.
- 6) Turn on the printer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

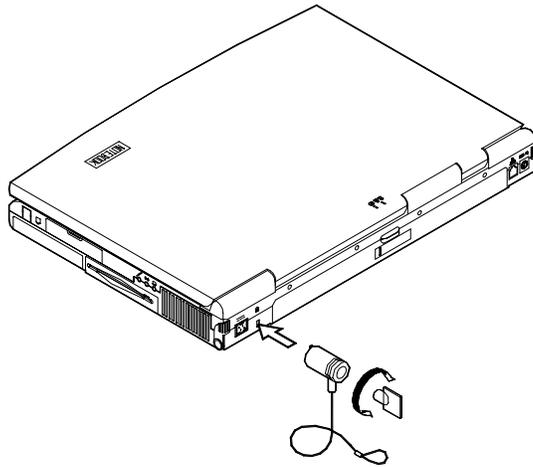
Phone Line

The notebook has a RJ-11 phone jack for connecting to a phone line to proceed modem communications. The notebook comes with a built-in modem, so if you want to use this jack you simply attach a phone cord to the jack.



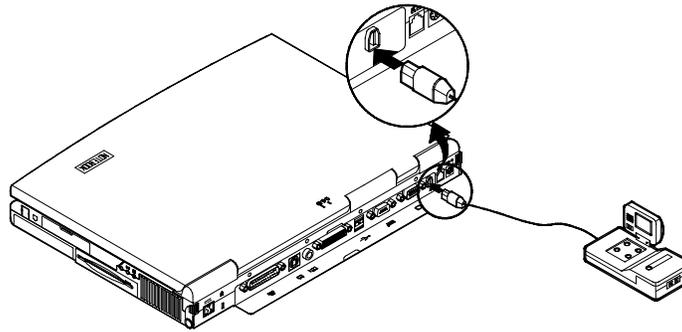
Security Lock

A security lock can be installed on 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 slot located on the left side of your notebook computer.



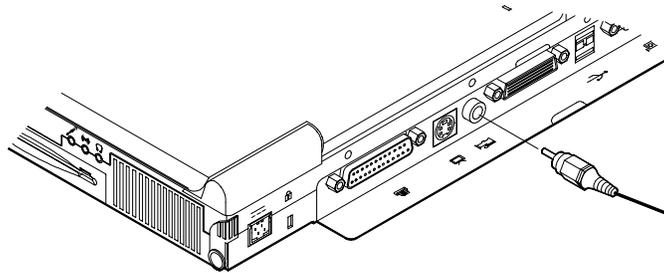
Digital Camera

A digital camera can be connected to the computer through the 1394 port. However, not every type or brand of digital camera can be connected to the computer. Choose the camera that comes with a specially designed plug for 1394 port.



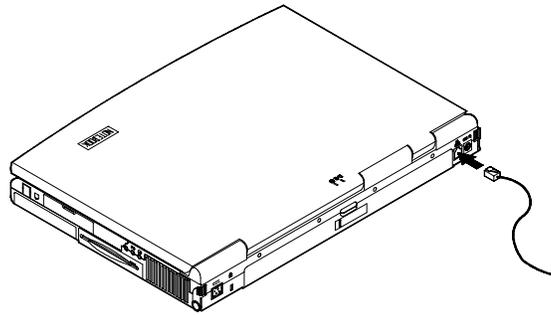
Video Input Device

The RCA jack allows input from various video devices such as VCRs, camcorders and other consumer appliances. Simply attach the device as shown in the picture.



Local Area Network (LAN)

The computer has a LAN port (RJ-45) for connecting to a 100M/10M local area network (LAN). The LAN card is built-in. Simply attach the network cable as shown in the picture.

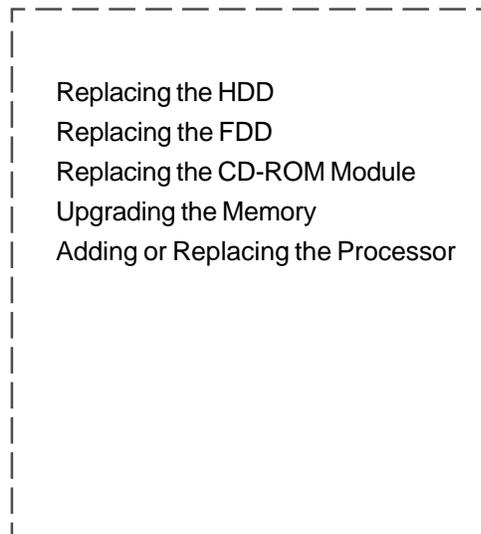


Chapter 4. Upgrading the Computer

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 Philips screwdriver
- A small regular screw driver.
- An antistatic wrist strap

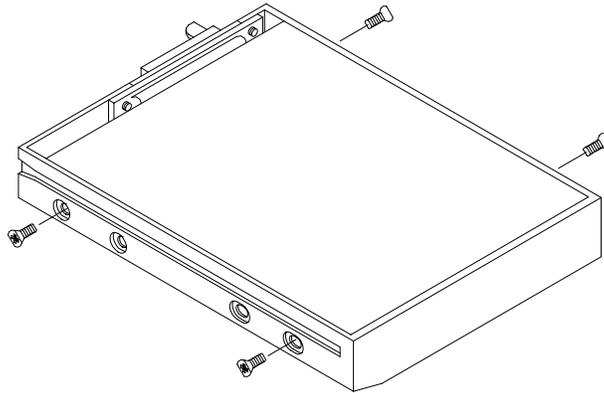
Also make sure you wear an antistatic wrist strap to ground yourself before working with or repairing the internal components. Static electricity may damage the components.



Replacing the HDD

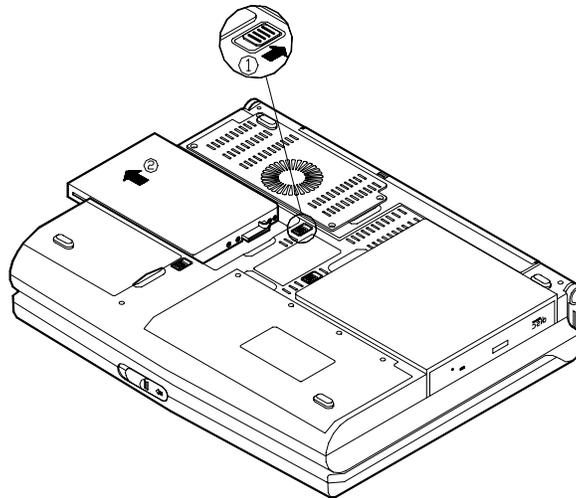
The hard disk drive is contained in a case. Please follow the steps below to replace the drive:

- 1) Remove the two screws on each side of the case.
Note: *The location of the two screws may vary depending on the types of hard disk drive.*
- 2) To separate the drive from the case, gently disconnect the cable connected between the drive and case.
Note: *Be careful not to bend any pins or crimp the cable.*
- 3) Place a new HDD into the case and connect the cable between the drive and case.
- 4) Install back the two screws on each side of the case.



Replacing the FDD

- 1) Turn off the computer.
- 2) Turn the computer upside down.
- 3) Press the latch (①) and pull the floppy disk drive out of the computer (②).
- 4) Insert the replacement drive (100/250MB Zip Drive or secondary HDD) firmly into the computer.

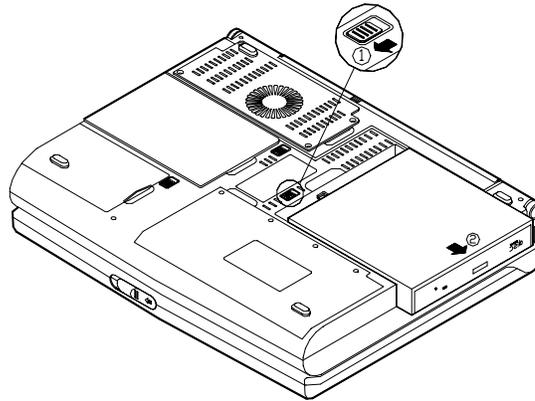


Note: Because the secondary HDD that you replace FDD with is taken as the secondary slave by the system, you need to set the HDD to “Slave” by adjusting the HDD’s jumper. Please refer to the HDD manufacturer-supplied instructions for appropriate jumper configuration.

Replacing the CD-ROM Module

Removing the CD-ROM

- 1) Turn off the computer.
- 2) Turn the computer upside down.
- 3) Press the latch (①) and pull the CD-ROM module out of the computer (②).



Inserting the CD-ROM module

Refer to Removing the CD-ROM and follow the instructions in a reverse order.

Upgrading the Memory

The computer has two memory sockets for PC-100 or PC-133 compliant, 144 pin SODIMM (Small Outline Dual In-line Memory Module) modules. The memory can be expanded up to 512MB with the following combinations:

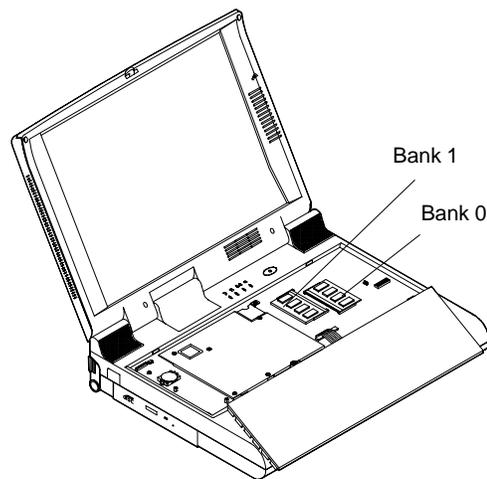
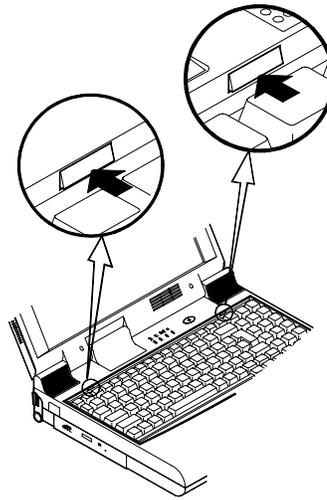
Total Size	Bank 0	Bank 1
32MB	32MB	0MB
32MB	0MB	32MB
64MB	32MB	32MB
64MB	64MB	0MB
64MB	0MB	64MB
96MB	32MB	64MB
96MB	64MB	32MB
128MB	64MB	64MB
128MB	128MB	0MB
128MB	0MB	128MB
160MB	128MB	32MB
160MB	32MB	128MB
192MB	64MB	128MB
192MB	128MB	64MB
256MB	128MB	128MB
256MB	256MB	0MB
256MB	0MB	256MB
288MB	256MB	32MB
288MB	32MB	256MB
320MB	256MB	64MB
320MB	64MB	256MB
384MB	256MB	128MB
384MB	128MB	256MB
512MB	256MB	256MB

Note 1: Once a new module is installed the memory size is automatically detected by the POST routines when you turn on your computer.

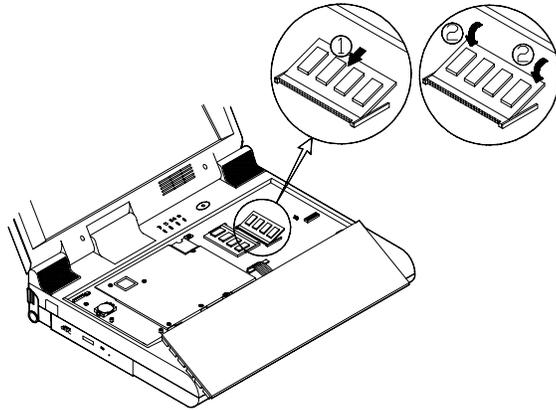
Note 2: You should install the memory modules depending on the CPU clock. For example, install PC-133 for CPU with 133MHz clock and PC-100 for CPU with 100MHz clock.

Installing a Memory Module

- 1) Turn off the computer.
- 2) Press the two keyboard latches at the top of the keyboard to elevate the keyboard from its normal position.
- 3) Carefully lift the keyboard assembly out to expose the mainboard.
- 4) Locate the memory banks. Bank 0 is on the right and bank 1 is on the left.
- 5) Insert the memory module at a slight angle about 45° and fits its connectors firmly into the bank (①).
- 6) Press down the two edges of the memory module and lock it into place (②).
- 7) Put the keyboard back into place.

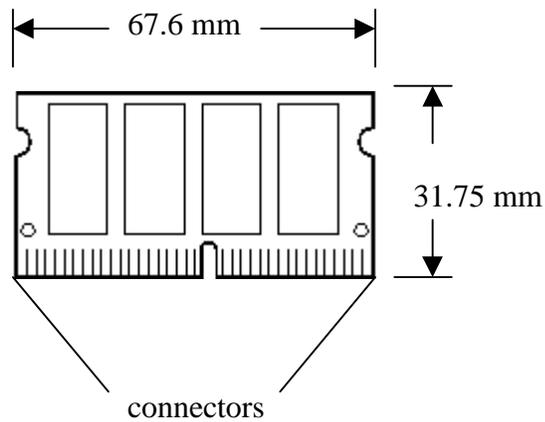


Chapter 4. Upgrading the Computer



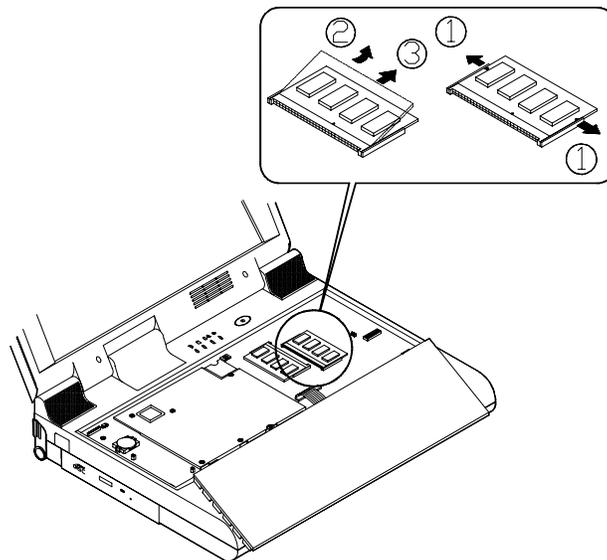
Note:

- The memory socket Bank 1 is a reverse type, make sure you install the memory module with reverse side to fit its connector.
- Please ensure that each edge of the memory module (SDRAM) has no component mounted on (see below). It is recommended to use the RAM module that complies with Intel unbuffered SO-DIMM (67.6mmX31.75mm). Consult your dealer or service representative for detailed information.



Removing a Memory Module

- 1) Turn off the computer.
- 2) Press the two keyboard latches to elevate the keyboard from its normal position (refer to page 4-6).
- 3) Carefully lift the keyboard assembly out to expose the mainboard.
- 4) Locate the memory sockets. Bank 0 is on the right and bank 1 is on the left (refer to page 4-6).
- 5) Gently pull the two latches outward on both ends of the module (①).
The module will pop up (②).
- 6) Remove the memory module (③).
- 7) Install a new memory module if desired (refer to Installing a Memory Module).
- 8) Put the keyboard back into place.



Adding or Replacing the Processor

The mainboard can support a Intel® Pentium !!!/Celeron FC-PGA 370 processor. These processors lock into the mainboard. To open and close the CPU lock you will need a special tool which is not supplied with your notebook computer.

If you would like to upgrade your existing processor, please contact your dealer for the complete upgrade instructions and the necessary tool.

Chapter 5. BIOS Utilities

In this chapter you will learn about the Power On Self Test (POST), power management and how to configure the system parameters using the BIOS Setup Utility.

Power On Self Test (POST)
BIOS Setup Utility
Features of BIOS Setup Utility
- Main Menu
- Advanced Menu
- Security Menu
- Power Menu
- Boot 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 routine is performed.

```
PhoenixBIOS 4.0 Release 6.X
Copyright 1985-1999 Phoenix Technologies Ltd.
All Rights Reserved

NoteBook Computer Version: 02.03

VIA Apollo Pro133AX (02.03H)
CPU = Intel (R) Pentium (R) III processor 750E MHz
640K System RAM Passed
127M Extended RAM Passed
256K Cache SRAM Passed
16M Video RAM Passed
System BIOS shadowed
Video BIOS shadowed
UMB upper limit segment address: EAF5
Mouse initialized
Fixed Disk
ATAPI CD-ROM: CD-224E
System Configuration Data updated

Press <F2> to enter SETUP
```

POST Message: Error Detected

If an error is detected, you will see the following ERROR message. You may press F1 key to continue (resume), or press F2 to enter the BIOS Setup Utility (Setup).

```
PhoenixBIOS 4.0 Release 6.X
Copyright 1985-1999 Phoenix Technologies Ltd.
All Rights Reserved

NoteBook Computer Version: 02.03

VIA Apollo Pro133AX (02.03H)
CPU = Intel (R) Pentium (R) III processor 750E MHz
640K System RAM Passed
127M Extended RAM Passed
256K Cache SRAM Passed
16M Video RAM Passed
System BIOS shadowed
Video BIOS shadowed
UMB upper limit segment address: EAF5
Mouse initialized
ATAPI CD-ROM: CD-224E
System Configuration Data updated
ERROR
0615: Com B configuration changed

Press <F1> to resume, <F2> to Setup
```

BIOS Setup Utility

The BIOS Setup Utility can be used to set your notebook's system parameters. Things like the date and time or what your computer will do are what you set in the BIOS Setup Utility.

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

Information in the BIOS Setup Utility

Here is a list of the system settings which may be changed within the BIOS Setup Utility.

Menu	Menu Items
Main	System Time, System Date, Legacy Diskette A, Primary Master, Primary Slave, Secondary Master, Secondary Slave, Floppy check, System Memory, Extended Memory
Advanced	I/O Device Configuration, PS/2 Mouse, Large Disk Access Mode, Installed O/S, Reset Configuration Data
Security	Set Supervisor Password, Set User Password, Password on Boot
Power	Power Savings, Standby Timeout, Auto Suspend Timeout, Suspend Mode, Hard Disk Timeout, Video Timeout
Boot	Removable Devices, Hard Drive, ATAPI CD-ROM Drive
Exit	Exit Saving Changes, Exit Discarding Changes, Load Setup Defaults, Discard Changes, Save Changes

Initiating the BIOS Setup Utility

The BIOS Setup Utility can be accessed by pressing the **F2** key when you turn on your computer and see this message:

Press <F2> to enter SETUP

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 BIOS Setup Utility you must reboot the system and try again.

PhoenixBIOS Setup Utility		
Main	Advanced	Security Power Boot Exit
System Time:	[13:42:52]	Item Specific Help <Tab>, <Shift-Tab>, or <Enter> selects field.
System Date:	[07/31/2000]	
Legacy Diskette A:	[1.44/1.25 MB 3½"]	
▶ Primary Master	[6945MB]	
▶ Primary Slave	[None]	
▶ Secondary Master	[CD-ROM]	
▶ Secondary Slave	[None]	
Floppy check:	[Enabled]	
System Memory:	640 KB	
Extended Memory:	130048 KB	
F1 Help	-- Select Item	-/+ Change Values
F9 Setup Defaults		
Esc Exit	< Select Menu	Enter Select ▶ Sub-Menu
		F10 Save and Exit

BIOS Setup Utility

Working with the Menu Bar

Use these keys to move between menus in the Setup Utility.

Key Used	Description
Left arrow (←)	Move to a menu on the left.
Right arrow (→)	Move to a menu on the right.

Working with the Menu Items

Once your desired menu is highlighted, the menu items under the menu will be all listed on the screen. You can move about the menu items with these keys:

Key Used	Description
Down/Up arrows (↓) (↑)	<ul style="list-style-type: none">■ Select a menu item.■ Move between a selected item's options when its option list is activated.
Home/End	Select the first/last menu item.
Tab	Move from one field to another field, for example, the three different fields of "System Time" -- Hour:Minute:Second.
Enter	<ul style="list-style-type: none">■ Move from one field to another field.■ Activate a selected item's options list.■ Select an option and exit the options list.
Plus/Minus keys (+/-) Spacebar	Change the value of the selected item or field.
Esc	Exit the options list without making any changes.

Some menu items have an arrow (▶) to the left of the entry. Choose these items by pressing **Enter** and another screen will be displayed. To navigate the new screen, use the same keys as the above table and then quit the screen with the **Esc** key.

Features of BIOS Setup Utility

This section gives a short introduction to the most of the features of BIOS Setup Utility. But you can also find helpful information in the “Item Specific Help” each time when you select and highlight an item in the BIOS Setup Utility.

Main Menu

System Time/Date

Sets the current time (Hour:Minute:Second) and date (Month/Day/Year).

Legacy Diskette A

Selects the type of the installed floppy disk drive or disables the device.

Primary Master

Displays the size of the primary hard disk and configures its parameters such as Type, Cylinders, Heads, Sectors and so on. The default setting of Type is set to “Auto”, which allows the BIOS Setup Utility to set optimum parameters for the hard disk drive. If you have enough knowledge for the hard disk and want to configure it by yourself, you can set Type to “User”, which allows you to set the number for Cylinders, Heads, Sectors etc. The following explains some of the parameters:

Multi-Sector Transfers	Sets how many sectors per block the disk transfers.
LBA Mode Control	Enables or disables the LBA mode. Enables this feature if your hard disk is bigger than 528MB in capacity.
32 Bit I/O	Enables or disables 32-bit communications between the CPU and the IDE controller.
Transfer Mode	Sets the method for data communications between the system and the IDE controller.

User's Manual

Ultra DMA Mode	Sets the Ultra DMA mode for data transfer to and from the drive.
----------------	--

Primary Slave

The way to configure the Primary Slave is the same as the Primary Master hard disk if a Primary Slave device exists.

Secondary Master

Indicates the presence of CD-ROM or DVD-ROM and configures the device. Usually the computer auto-detects the CD-ROM/DVD-ROM drive, and there is no need to configure the device by yourself.

Secondary Slave

Indicates the presence of ZIP or secondary hard disk drive if any.

Floppy check

Enables or disables the floppy drive checking feature on boot.

System Memory

Displays the system memory size.

Extended Memory

Displays the extended memory size.

Chapter 5. BIOS Utilities

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Power	Boot	Exit
System Time:	[11:32:52]	Item Specific Help <Tab>, <Shift-Tab>, or <Enter> selects field.			
System Date:	[07/31/2000]				
Legacy Diskette A:	[1.44/1.25 MB 3½"]				
▶ Primary Master	[6945MB]				
▶ Primary Slave	[None]				
▶ Secondary Master	[CD-ROM]				
▶ Secondary Slave	[None]				
Floppy check:	[Enabled]				
System Memory:	640 KB				
Extended Memory:	130048 KB				
F1 Help	← Select Item	-/+ Change Values	F9 Setup Defaults		
Esc Exit	← Select Menu	Enter Select	▶ Sub-Menu	F10 Save and Exit	

Advanced Menu

I/O Device Configuration

Configures serial and parallel ports. The following explains the parameters of this menu item.

Serial port A/B	Enables or disables the serial ports, or follows the operating system's configuration.
Parallel port	Enables or disables the parallel port or follows the operating system's configuration.
Base I/O address (/IRQ)	Sets up the I/O address and IRQ channel for the configured serial or parallel port.
Mode	Defines the configured serial or parallel port's mode.
Floppy disk controller	Enables or disables the floppy disk controller.
Mic In / Spdif Out	Selects the mode for the Microphone jack.
TV port	Selects the TV standard for the TV port.

PS/2 Mouse

Setting to "Disabled" will disable both the trackpad and the attached external PS/2 mouse. To enable both, just set to "Enabled." "Auto Detect" enables either device if present.

Large Disk Access Mode

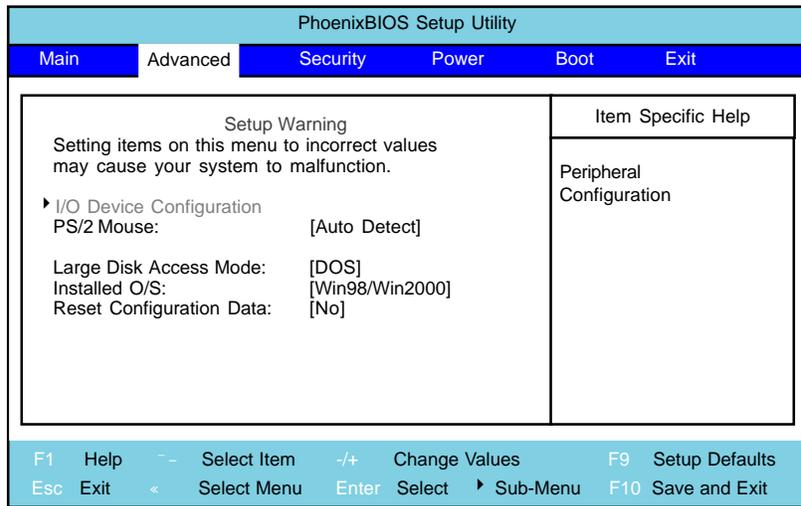
Selects the type of operating system in use. Large Disk Access mode controls how the disk controller accesses the disk volume. Setting to "Other" option may cause the hardware not to recognize DOS, Windows or other DOS-based operating system disk formats.

Installed OS

Selects the operating system you install.

Reset Configuration Data

Enables or disables the feature of resetting configuration data area.



Security Menu

Supervisor (User) Password Is

Displays “Clear” if no password is set or “Set” if a password is already set.

Set Supervisor Password

Sets the supervisor password by pressing **Enter**. The supervisor password allows complete access to the BIOS Setup Utility.

Set User Password

Sets the user password by pressing **Enter**. The user password allows limited access to the BIOS Setup Utility.

Password on boot

Enables or disables the password-checking feature during the system boot time.

Note: To clear a set password, just press Enter in the “Enter/Confirm New Password” fields when a dialog box similar to the following appears on the screen.

Set XXXX Password	
Enter Current Password	[]
Enter New Password	[]
Confirm New Password	[]

Chapter 5. BIOS Utilities

PhoenixBIOS Setup Utility							
Main	Advanced	Security	Power	Boot	Exit		
Supervisor Password Is:		Clear	Item Specific Help				
User Password Is:		Clear					
Set Supervisor Password		[E nter]	Supervisor Password controls access to the setup utility.				
Set User Password		[Enter]					
Password on boot:		[Disabled]					
F1	Help	--	Select Item	-/+	Change Values	F9	Setup Defaults
Esc	Exit	<	Select Menu	Enter	Select	▶	Sub-Menu F10 Save and Exit

Power Menu

Power Savings

Selects the power management mode for the system.

Standby Timeout

If the system is not used or accessed for the specified period of time, the system will enter the standby mode.

Auto Suspend Timeout

If the system has entered the standby mode for the period of time specified in this setting, it will enter the configured suspend mode.

Suspend Mode

Specifies the type of hardware suspend mode for power management.

Hard Disk Timeout

The hard disk motor will stop spinning if it is not accessed within the specified period of time. Accessing the hard disk drive will return the disk motor to normal operation.

Video Timeout

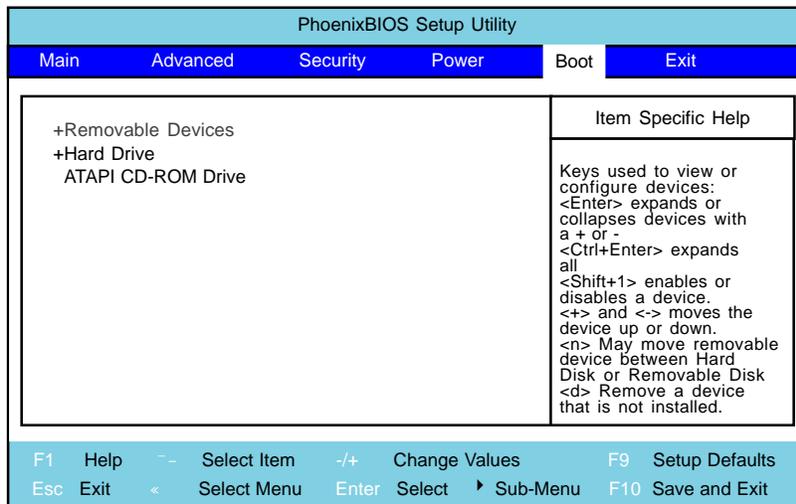
The LCD display panel will be turned off if the input devices are not used for the specified period of time.

Chapter 5. BIOS Utilities

PhoenixBIOS Setup Utility									
Main	Advanced	Security	Power	Boot	Exit				
Power Savings:			[D]Disabled	Item Specific Help					
Standby Timeout:			[Off]	Maximum Power Savings conserves the greatest amount of system power. Maximum Performance conserves power but allows greatest system performance. To alter these settings, choose Customized. To turn off power management, choose Disabled.					
Auto Suspend Timeout:			[Off]						
Suspend Mode:			[Suspend]						
Hard Disk Timeout:			[Disabled]						
Video Timeout:			[Disabled]						
F1	Help	-	Select Item	-/+	Change Values	F9	Setup Defaults		
Esc	Exit	<	Select Menu	Enter	Select	▶	Sub-Menu	F10	Save and Exit

Boot Menu

Boot menu is used to set the priority of the boot devices in the order displayed. The menu lists three items: Removable Devices (usually refers to a floppy disk drive), Hard Drive and ATAPI CD-ROM Drive. A plus (+) mark next to menu items indicates the item can be expanded.



Exit Menu

Exit Saving Changes

Saves the current settings and reboot the system.

Exit Discarding Changes

Exits without saving any current changes.

Load Setup Defaults

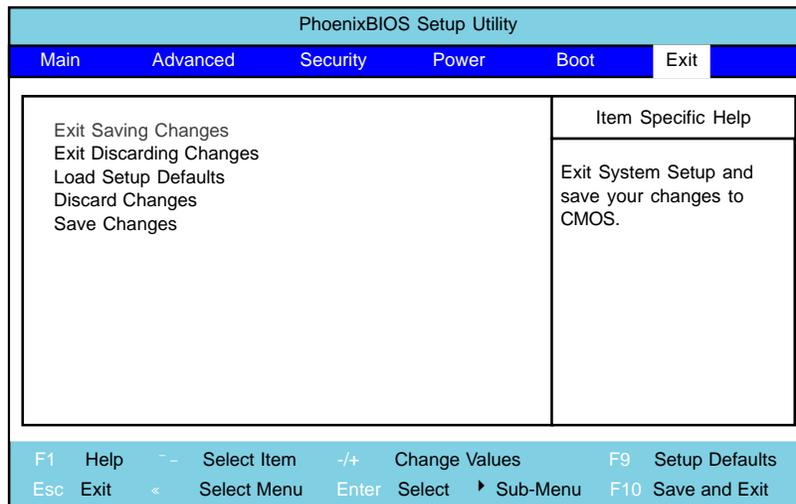
Sets the current setup to default settings (the original ones found in CMOS).

Discard Changes

Restores the current setup changes to the previous custom ones.

Save Changes

Saves the current changes.



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 the Global Standby mode, the CPU clock will stop and various controllable peripheral devices will be powered off. If the idle timer preset in the BIOS Setup Utility expires before any system activity is detected, the system will enter the Suspend mode from the Standby mode.

Hard Disk Standby

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

Suspend and Resume

With these functions you can stop an operation and restart where you left off. The hard disk is turned off, and the CPU is made idle at its slowest speed. All open applications are retained in memory. This system features two suspend mode levels: **Power On Suspend (POS)**, which is called Standby in Windows, and **Suspend to Disk (Save to Disk)**, which is named Hibernate in Windows.

Caution: Do not enter suspend mode when you are:

1. Accessing any of the disk drives, such as the HDD, FDD or CD-ROM drives.
2. Using any audio or video applications.
3. Playing a DOS game.

Power On Suspend (POS)

Power On Suspend saves less power, but takes the shorter time to return to full operation. The system enters the POS mode by:

- Pressing the power button for less than four seconds
- Pressing **Fn + Esc**
- System suspend timer expires
- Low battery power (if set in your operating system)

Resume from POS Mode

The system will resume from Power On Suspend mode by:

- Pressing the power button for less than four seconds
- Pressing any key
- An incoming ring from a modem (if set in your operating system)
- Alarm resume is enabled and expires (if set in your operating system)

Suspend to Disk (Save 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

User's Manual

Disk mode in your operating system when the battery power is almost depleted. But in Windows 98 this feature is available only after you set Suspend mode to "Save To Disk" in BIOS Setup Utility. The feature prevents losing any data due to loss of power. For more information on this, refer to your operating system's manual.

Note: Some operating systems, such as Windows NT4.0, don't support Suspend to Disk mode. Therefore, even you set "Suspend mode" to Save to Disk in BIOS Setup, it always enters (Power on) Suspend mode instead.

In order to use Suspend to Disk, you must create a Suspend-to-disk partition or file on your Hard Disk Drive; otherwise, although your computer is set to enter the Suspend to Disk mode automatically, it will enter the POS mode instead. The recommended size of the Suspend-to-disk partition or file should be calculated based on the following formula:

Save-to-Disk partition or file size = DRAM + Video RAM + 2MB

For example, if the installed DRAM is 64MB and the video RAM is 16 MB, the recommended Save-to-Disk partition or file size is 82MB. The instructions are as follows:

▶ **To create a Save-to-Disk partition:**

1) Use your operating system's FDISK program to delete all hard disk partitions if any already exists on the target drive. (But if your HDD has free available partition bigger than the size of DRAM+Video RAM+2MB, you don't need to delete the existing partitions.)

2) Boot the system and run the Save to Disk Utility to create the Suspend-to-Disk partition on the hard disk. Follow the steps below:

- Boot the computer.
- Insert the floppy disk containing the Save to Disk utility.
- Type **PHDISK41** at the command prompt, and press **Enter**.
- Type **1** to create the partition, then press **Enter**.

- To determine the size of the partition, either press **Enter** to accept the default settings, or type the size you wish to create in kilobytes (e.g. type 83968 for 82MB because 1MB=1024KB), and press **Enter**.
- Choose **3** to reboot the system.

► **To create a Save-to-Disk file:**

1) Use FDISK program to create all necessary hard disk partitions and format your hard disk drive if it is not prepared yet.

2) Boot the system and run the Save to Disk Utility to create the Suspend-to-Disk file on the hard disk. Follow these steps to create the file:

- Boot the computer.
- Insert the floppy disk containing the Save to Disk utility.
- Type **PHDISK41** at the command prompt, and press **Enter**.
- Type **2** to create the file, then press **Enter**.
- To determine the size of the file, either press **Enter** to accept the default settings, or type the size you wish to create in kilobytes (e.g. type 83968 for 82MB because 1MB=1024KB), and press **Enter**.
- Choose **3** to reboot the system.

If you upgrade the amount of DRAM afterwards, run the Save to Disk utility again to change the size of this file.

Note: You can copy the Save to Disk utility from the CD-ROM disk to a floppy disk using another computer.

The system enters Suspend to Disk mode by:

- Pressing the power button for less than four seconds
- Pressing **Fn + Esc**
- System suspend timer expires and system is ready to enter the mode
- Critically low battery power (if set in your operating system)

Caution: During the suspend-to-disk mode, **DO NOT** remove or replace the PC card.

User's Manual

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 E.)

Preparation for a New Notebook
Installing Windows 98 SE (For reference only)
Installing Windows 2000 (For reference only)
Before Installing Drivers
Installing Drivers in Windows 98 SE
Installing Drivers in Windows 2000
Installing Drivers in Windows NT4.0

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 prefer. 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. When the program starts to set up your hardware, follow the on-screen instructions and choose the recommended options.
11. 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. Also remember to check the Microsoft web site for any Service Packs for Windows 2000 correct any problems you may encounter.*

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**.

Chapter 6. Installing Drivers

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.

Before Installing Drivers

Before installing any driver described later in this chapter into your computer, you should always install the 4in1 driver to enhance your computer's functions first. The instructions are as follows:

Installing the 4in1 Driver (VIA Service Pack 4.24)

- Click **Start**.
- Select **Run**.
- Specify the path to where the 4 in 1 driver is located.
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next** or **Yes**.
(When you see the DMA message during installation, we recommend that you should enable DMA mode by clicking on it.)
- Click **Finish** to restart your computer.

After you install the 4in1 driver, we strongly suggest you to install other drivers or applications in the following order:

Windows 98 SE: Microsoft DirectX7 --> PCMCIA Q233017 update file (refer to page 2-12 for more information) --> VGA --> Audio --> Touchpad --> Modem --> LAN --> DVD Software --> Video-in Application (optional)

Windows 2000: VGA --> Audio --> Touchpad --> Modem --> LAN --> DVD Software --> Video-in Application (optional)

Windows NT4.0: VGA --> Audio --> Touchpad --> Modem --> LAN

Windows ME --> VGA --> Audio --> Touchpad --> Modem --> LAN --> DVD Software --> Video-in Application (optional)

Installing Drivers in Windows 98 SE

Note: Before installing the VGA driver, please install Microsoft DirectX 7.0 or later. Download the latest DirectX version from the Microsoft web site.

Step 1: Installing the VGA Driver

- Click **Start**.
- Select **Run**.
- Specify the path to E:\Driver\Video\W98\Setup.exe
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next** or **Yes**.
- Click **Finish** to restart your computer.

Step 2: Installing the Audio Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Locate the "PCI Multimedia Audio Device" under "Other devices".
- Double click "PCI Multimedia Audio 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 E:\Driver\Audio\W98. Press **OK**.
- Follow the on-screen instructions and press **Next**.
- Click **Finish** to complete the setup.
- Close the Properties window and restart your computer.

Step 3: Installing the Touchpad Driver

- Click **Start**.
- Select **Run**.
- Specify the path to E:\Driver\Touchpad\W98\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.

Note: If you install an external PS/2-type wheel mouse, you may have to install the manufacturer-supplied driver to enable some special features of the mouse.

Step 4: Installing the Modem Driver

- 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 E:\Driver\Modem\W98. 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.

Step 5: Installing the LAN Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Locate the “PCI Ethernet Controller” under “Other devices”.
- Double click “PCI Ethernet Controller.”
- 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 E:\Driver\LAN\Win98. Press **OK**.
- Follow the on-screen instructions and continue to press **Next**.
- Click **Finish** to complete the setup.
- Restart your computer.

Step 6: Installing the DVD driver (optional)

- 1) Insert the Win DVD CD-ROM into your drive, The installation program automatically runs when you insert the DVD disk into the DVD-ROM drive.

Note: *If you intend to connect you notebook computer with external speakers when using the DVD you will need to enable S/PDIF.*

To Enable S/PDIF

- 2) Restart your computer.
- 3) During the boot process, press **F2** enter the Setup Utility
- 4) Select Advanced from the Menu Bar at the top of your screen.
- 5) Go down to "I/O Device Configuration " and Press **Enter**
- 6) Go down to "Mic In/ Spdif Out" and Press **Enter**
- 7) A small blue window will appear, then use the down arrow to highlight "SPDIF Out".
- 8) Press **Enter**
- 9) Press **F10** to Save and Exit
- 10) Press **Enter** to exit the Setup Utility while saving your changes.

After Windows restarts:

- 11) Go to the Audio icon located on the task bar.
- 12) Right click the Audio icon and select "Open Volume Controls"
- 13) Click on Options from the Menu Bar
- 14) Click on Advanced Controls.
- 15) An "Advanced" box will appear in the lower right of the Volume Control Window. Click on the "Advanced" box.
- 16) Locate "1 Enable S/PDIF" and click on it to select.
- 17) Select Close

Chapter 6. Installing Drivers

- 18) Close the Volume Control Window.
- 19) Start the WinDVD player
- 20) Go to Properties button on the DVD player (The Properties button is the force one from the left on the bottom left hand side, moving your pointer over the various buttons will display their names).
- 21) Click on the Properties button
- 22) Select the Audio tab
- 23) Click on Enable S/PDIF

S/PDIF is now enabled.

Installing Drivers in Windows 98 ME

Note: Before installing the VGA driver, please install Microsoft DirectX 7.0 or later. Download the latest DirectX version from the Microsoft web site.

Step 1: Installing the VGA Driver(ATI)

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

Step 2: Installing the Audio Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Click on "+" to the left of "Other Devices".
- Double click on "PCI Multimedia Audio Device"
- Click the **Driver** tab and choose **Update Driver**.
- Select "Specify the location of the driver (Advanced)" and choose **Next**.
- Deselect "Removable Media (Floppy, CD-ROM...)", select "Specify a location" and Click on the **Browse** box.
- In the "Browse for Folder" window:
 - Click on the "+" to the left of Drive D or whatever letter your CD-ROM drive is.
 - Click on the "+" to the left of Driver
 - Click on the "+" to the left of Audio
 - Click on the folder ME
 - Select **OK**

Chapter 6. Installing Drivers

- Select **Next** when you see the “The updated driver (recommended)
“ESS AllegroPCI Audio (WDM)”
- Select **Next**
- Select **Next** then wait while the driver is installed
- Click **Finish** to complete the setup.
- Click **Close** then **OK** to return to the Control Panel

Step 3: Installing the Touchpad Driver

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

Step 4: Installing the Modem Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Click on "+" to the left of "Other devices".
- Double click "PCI Communication Device."
- Click the **Driver** tab and choose **Update Driver**.
- Select "Specify the location of the driver (Advanced)" and choose **Next**.
- Deselect "Removable Media (Floppy, CD-ROM...)", select "Specify a location" and Click on the **Browse** box.
- In the "Browse for Folder" window:
 - Click on the "+" to the left of Drive D or whatever letter your CD-ROM drive is.
 - Click on the "+" to the left of Driver
 - Click on the "+" to the left of modem
 - Click on the folder ME
 - Select **OK**
- Select **Next**
- Select **Next** then wait while the driver is installed
- Click **Finish** to complete the setup.
- Click **Close**
- Click **OK** to return to the "Control Panel"

Step 5: Installing the LAN Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Device Manager** tab.
- Click on “+” to the left of “Network adapters”.
- Double click on “Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC”
- Click the **Driver** tab and choose **Update Driver**.
- Select “Specify the location of the driver (Advanced)” and choose **Next**.
- Deselect “Removable Media (Floppy, CD-ROM...), select “Specify a location” and Click on the **Browse** box.
- In the “Browse for Folder” window:
 - Click on the “+” to the left of Drive D or whatever letter your CD-ROM drive is.
 - Click on the “+” to the left of Driver
 - Click on the “+” to the left of LAN
 - Click on the folder WinME
 - Select **OK**
- Select **Next** when you see the “The updated driver (recommended) Realtek RTL8139(A/B/C/8130) PCI Fast Ethernet NIC”
- Select **Next** then wait while the driver is installed
- Click **Finish** to complete the setup.
- Click **Yes to restart your computer for the changes to take effect**

Step 6: Installing the DVD driver (optional)

- 1) Insert the Win DVD CD-ROM into your drive, The installation program automatically runs when you insert the DVD disk into the DVD-ROM drive.

Note: *Currently Windows ME does not support S/PDIF, (S/PDIF allows you to connect external speakers to your notebook computer when using the DVD player) so DON'T follow Steps 2 to 23. In the future when Microsoft makes S/PDIF available for Windows ME, please follow Steps 2 to 23 for proper installation.*

To Enable S/PDIF

- 2) Restart your computer.
- 3) During the boot process, press **F2** enter the Setup Utility
- 4) Select Advanced from the Menu Bar at the top of your screen.
- 5) Go down to "I/O Device Configuration " and Press **Enter**
- 6) Go down to "Mic In/ Spdif Out" and Press **Enter**
- 7) A small blue window will appear, then use the down arrow to highlight "SPDIF Out".
- 8) Press **Enter**
- 9) Press **F10** to Save and Exit
- 10) Press **Enter** to exit the Setup Utility while saving your changes.

After Windows restarts:

- 11) Go to the Audio icon located on the task bar.
- 12) Right click the Audio icon and select "Open Volume Controls"
- 13) Click on Options from the Menu Bar
- 14) Click on Advanced Controls.
- 15) An "Advanced" box will appear in the lower right of the Volume Control

Chapter 6. Installing Drivers

Window. Click on the "Advanced" box.

- 16) Locate "1 Enable S/PDIF" and click on it to select.
- 17) Select Close
- 18) Close the Volume Control Window.
- 19) Start the WinDVD player
- 20) Go to Properties button on the DVD player (The Properties button is the force one from the left on the bottom left hand side, moving your pointer over the various buttons will display their names).
- 21) Click on the Properties button
- 22) Select the Audio tab
- 23) Click on Enable S/PDIF

S/PDIF is now enabled.

Installing Drivers in Windows 2000

Step 1: Installing the VGA Driver

- Click **Start**.
- Select **Run**.
- Open the path to E:\Driver\Video\W2K\Setup.exe.
- Run Setup.exe.
- Follow the on-screen instructions, and continue to press **Next** or **Yes**.
- Click **Finish** to restart the computer now.

Step 2: Installing the Audio Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Hardware** tab and choose **Device Manager**.
- Locate "Multimedia Audio Controller" under "Other devices".
- Click "Multimedia Audio 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 E:\Driver\Audio\W2K. Press **Open**.
- Click **OK**.
- Click **Next** to install the driver.
- If a "Digital Signature Not Found" dialog box appears, click **Yes** to continue the installation.
- Click **Finish** to end the installation.
- Close the Properties window and restart your computer.

Step 3: Installing the Touchpad Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Hardware** tab and choose **Device Manager**.
- Locate “PS/2 Compatible” under “Mice and other pointing devices”.
- Click “PS/2 Compatible” 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 E:\Driver\Touchpad\W2K.
Press **Open**.
- Click **OK**.
- Click **Next** to install the driver.
- If a dialog box appears asking if you want to install the device, click **Yes**.
- Click **Finish** to end the installation.
- Close the Properties window and restart your computer.

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

Step 4: Installing the Modem Driver

- 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**.

User's Manual

- 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 E:\Driver\Modem\W2K.
Press Open.
- Click **OK**.
- Click **Next** to install the driver.
- If the "Digital Signature Not Found" dialog box appears, press **Yes** to continue.
- 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.

Step 5: Installing the LAN Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **System** icon.
- Click the **Hardware** tab and choose **Device Manager**.
- Locate "Realtek RTL8139(A)-based PCI Fast Ethernet Adapter" under "Network adapters".
- Click "Realtek RTL8139(A)-based PCI Fast Ethernet Adapter" 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 E:\Driver\LAN\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.

Step 6: Installing the DVD driver (optional)

- 1) Insert the Win DVD CD-ROM into your drive, The installation program automatically runs when you insert the DVD disk into the DVD-ROM drive.

Note: *Currently Windows 2000 does not support S/PDIF, (S/PDIF allows you to connect external speakers to your notebook computer when using the DVD player) so DON'T follow Steps 2 to 23. In the future when Microsoft makes S/PDIF available for Windows 2000, please follow Steps 2 to 23 for proper installation.*

To Enable S/PDIF

- 2) Restart your computer.
- 3) During the boot process, press **F2** enter the Setup Utility
- 4) Select Advanced from the Menu Bar at the top of your screen.
- 5) Go down to "I/O Device Configuration " and Press **Enter**
- 6) Go down to "Mic In/ Spdif Out" and Press **Enter**
- 7) A small blue window will appear, then use the down arrow to highlight "SPDIF Out".
- 8) Press **Enter**
- 9) Press **F10** to Save and Exit
- 10) Press **Enter** to exit the Setup Utility while saving your changes.

User's Manual

(Enable S/PDIF continued)

After Windows restarts:

- 11) Go to the Audio icon located on the task bar.
- 12) Right click the Audio icon and select "Open Volume Controls"
- 13) Click on Options from the Menu Bar
- 14) Click on Advanced Controls.
- 15) An "Advanced" box will appear in the lower right of the Volume Control Window. Click on the "Advanced" box.
- 16) Locate "_1 Enable S/PDIF" and click on it to select.
- 17) Select Close
- 18) Close the Volume Control Window.
- 19) Start the WinDVD player
- 20) Go to Properties button on the DVD player (The Properties button is the force one from the left on the bottom left hand side, moving your pointer over the various buttons will display their names).
- 21) Click on the Properties button
- 22) Select the Audio tab
- 23) Click on Enable S/PDIF

S/PDIF is now enabled.

Installing Drivers in Windows NT4.0

Note 1: After installing Windows NT4.0, please install the latest Service Pack to enhance the function. Download the latest Service Pack version from the Microsoft web site.

Note 2: Before installing the following drivers, press **F2** to enter the BIOS Setup Utility when the computer boots. Select the Advanced menu and set Installed O/S to "Other." Save the changes and exit.

Step 1: Installing the VGA Driver

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

Step 2: Installing the Audio Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **Multimedia** icon.
- Click the **Devices** tab.
- Click **Add**.
- Select "Unlisted or Updated Driver", and click **OK**.
- Choose **Browse** and specify the path to E:\Driver\Audio\Nt40. Press **OK**.
- Choose **OK** again.
- The "Add Unlisted or Updated Driver" dialog box appears. Press **OK** to install the driver.
- If any "Driver Exists" dialog box appears, choose **Current**.
- Close the Properties window and restart your computer.

Step 3: Installing the Touchpad Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **Mouse** icon.
- Click the **General** tab.
- Click **Change**.
- Click **Have Disk**.
- Choose **Browse** and specify the path to E:\Driver\Touchpad\Nt40.
Press **Open**.
- Choose **OK**.
- Press **OK** again.
- If a dialog box appears asking if you want to install the driver, click **Yes**.
- Click **Close** to close the Properties window and restart your computer.

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

Step 4: Installing the Modem Driver

- Click **Start**.
- Select **Run**.
- Specify the path to E:\Driver\Modem\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 E:\Driver\Modem\Nt40. Press **Open**.
- Choose **OK**.

- Press **Next**.
- Select the same port you choose in the earlier step, and click **Next**.
- Click **Finish** to complete the setup.
- Close the Properties window and click **Finish** to restart your computer.

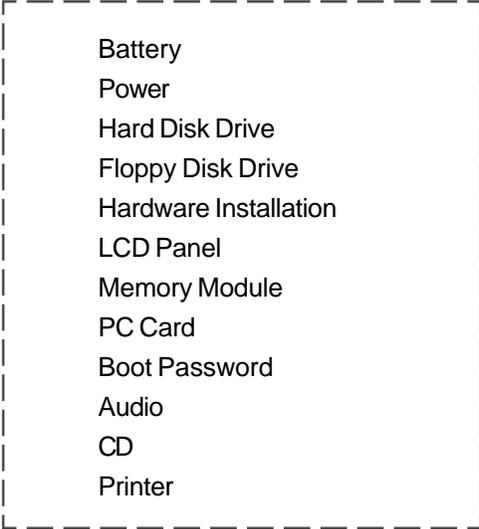
For more information on the driver, refer to the Readme file under the directory.

Step 5: Installing the LAN Driver

- Click **Start**.
- Select **Settings** and **Control Panel**.
- Double click the **Network** icon.
- Click **Yes** when prompted if you want to install Networking.
- Click **Next**.
- Click **Select from list**.
- Click **Have Disk**.
- Specify the path to E:\Driver\LAN\Winnt4. 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" dialog box 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.

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.



- 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.

Chapter 7. Troubleshooting

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 + Esc** 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.

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 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 needs to be adjusted.

Solution 4: The system is in suspend mode. Please press any key or the Power button 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. Make sure 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 **Fn+Esc** 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.

Glossary

A

AC (Alternating Current) ¼ The power from a standard household electrical outlet.

adapter ¼ An AC adapter converts AC current to DC current.

AGP (Accelerated Graphics Port) ¼ A high-speed graphics port that provides a direct connection between the display adapter and memory.

application ¼ A program such as a word processor, database or image editor.

B

BIOS (Basic Input Output System) ¼ 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 (binary digit) ¼ The smallest unit of information on a machine.

boot ¼ The loading of the operating system and other basic software which occurs when you start-up the computer.

bus ¼ A collection of wires through which data is transmitted from one part of a computer to another.

byte (binary term) ¼ A unit of storage capable of holding a single character. On almost all modern computers, a byte is equal to 8 bits.

C

cache ¼ When you cache something you improve the speed of access to it by moving it one stage closer to the CPU.

CardBus ¼ A 32-bit version of the PCMCIA PC Card standard.

CD-ROM (Compact Disc Read Only Memory) ¼ A format used to store data such as text, graphics or stereo sound. Also refers to the drive which can read this format.

configuration ¼ The makeup of a system.

CPU (Central Processing Unit) ¼ The computing part of the computer. It controls the interpretation and execution of instructions.

D

DC (Direct Current) ¼ Power which a computer requires for operation.

DIP switch ¼ 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 ¼ The most common type of computer RAM.

User's Manual

driver ¼ A program that controls a device.

DVD ¼ 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 ¼ BIOS which can be updated.

flash memory ¼ 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 ¼ see flash BIOS.

function key ¼ The keys F1, F2, ... which have specific functions assigned to them.

G

GB (Gigabyte) ¼ A unit of storage, one gigabyte is equal to 1,024 megabytes.

H

Hot key ¼ see **function keys**.

I

interface ¼ Something that connects two separate things. Hardware interface connects the computer to attached hardware such as a printer.

I/O (Input/Output) ¼ 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 (Infrared Data Association) ¼ IrDA ports allow a laptop to exchange data without a cable connection.

J

jack ¼ A connector used primarily to connect external devices to your computer.

K

KB (Kilobyte) ¼ A unit of storage, one kilobyte is equal to 1024 bytes.

L

LAN (Local Area Network) ¼ A communications network within a confined physical area. It is made up of servers, workstations, a network operating system and a communications

Glossary

link.

LCD (Liquid Crystal Display) ¼ A display technology that uses rod-shaped molecules (liquid crystals) that flow like liquid and bend light.

LED (Light Emitting Diode) ¼ An electronic device that lights up when electricity is passed through it. The indicator lights on the computer are LEDs.

load ¼ To copy a program from some source into memory for execution.

Lithium-Ion battery ¼ 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) ¼ 1,048,576 bytes, 1024 KB.

memory ¼ Area in the computer where information is stored on chips, an example is RAM.

MHz ¼ One MHz represents one million cycles per second. The speed of microprocessors, called the clock speed, is measured in megahertz.

MMX ¼ A type of microprocessor that can handle many common multimedia operation that are normally handled by a separate sound or video card.

mode ¼ An operational state that a system has been switched to.

modem (modulate-demodulate) ¼ 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 ¼ Referring to hardware, a module is a self-contained component.

N

NiMH battery ¼ Batteries which are common in notebook computers and contain Nickel-Metal Hydride.

P

parallel port ¼ A socket on a computer used to connect a printer or other parallel device via the computer's parallel interface.

partition ¼ A reserved part of disk or memory that is set aside for some purpose.

PCMCIA Card ¼ A credit-card sized, removable module for portable computers standardized by PCMCIA. Also known as **PC Cards**.

Plug and Play ¼ The ability to add a new component and have it work without having to perform any technical analysis or procedure.

peripheral ¼ Any external device attached to a computer, such as a printer.

User's Manual

POST (Power On Self Test) ¼ A series of built-in diagnostics that are performed when the computer is booted.

R

RAM (Random Access Memory) ¼ The memory available to programs, different programs will need more or less RAM depending on what they are doing.

ROM (Read Only Memory) ¼ A memory chip that permanently stores instructions and data. Its contents are created at the time of manufacture and cannot be altered.

resume ¼ To restart your computer from suspend mode.

S

serial port ¼ A socket on a computer used to connect a serial device to the computer.

setup ¼ (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 ¼ To stop an operation with the hard disk turned off and the CPU idling at its slowest speed.

SDRAM (Synchronous DRAM) ¼ A type of DRAM that can run at much higher clock speeds than conventional memory.

T

TFT (Thin Film Transistor) ¼ The term typically refers to active matrix screens on laptop computers.

U

USB (Universal Serial Bus) ¼ A hardware interface for low-speed peripherals such as the keyboard, mouse, joystick, scanner, printer and telephony devices.

utility ¼ 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 (Video Graphics Array) ¼ The minimum standard for PC video display.

Appendix A. Specification

Processor

- Intel Celeron 566/600/633/667/700/733/766/800 MHz
- Intel Pentium !!! 500/533/550/600/650/667/700/733/750/800/850/866 MHz
- CPU Package: Socket-370 (FCPGA)

Memory

- Two 144-pin SO-DIMM sockets
- Support PC-133/PC-100 SDRAM
- Provide 64 bit data bus system memory
- Expandable up to 512MB, depending on 32/64/128/256 MB SO-DIMM modules

BIOS

- Phoenix BIOS with Smart Battery, Plug and Play (1.0a)
- One 256KB Flash ROM
- Support ACPI 1.0B
- Support Power On Suspend & Save to HDD modes

LCD

- 15.0" XGA (1024 x 768) / SXGA (1400 x 1050) TFT LCD panel (18 bit)

Display

- AGP 2X
- 128-bit Hardware 2D Accelerator Graphics Engine
- Hardware 3D Accelerator Graphics Engine
- Motion Compensation and IDCT for DVD playback Acceleration
- High quality TV-out with MacroVision V7.01 anti-copy technology
- 8 or 16MB Video memory
- TV resolution 1024x768x32bpp
- DuoView display capability under Windows 98, ME & 2000
- Support external Video Input

User's Manual

Storage

- Removable 3.5" 3-mode FDD, interchangeable with 15mm (h) Zip 250MB/100MB Drive (IO MEGA), or 2.5" 12.7mm (h)/12.5mm (h) secondary IDE HDD
- Removable 24X speed CD-ROM, interchangeable with DVD-ROM or CD-RW
- Removable 2.5" 9.5mm/12.7mm/17.0mm (h) HDD
- Support DMA mode 2/PIO mode 4/ATA-33/ATA-66 IDE HDD

Audio

- AC 97 Compliant
- Compatible with Sound Blaster Pro®
- HRTF 3D Positional Audio, DirectSound and DirectSound 3D Acceleration
- AC-3 Virtualization
- S/P DIF output for DVD content
- IIS interface for external ZV port or MPEG audio
- Built in microphone
- Built in 2 watts speaker x 2

PC Card Sockets

- Two (PCI) PCMCIA 3.3V/5V sockets, type II x2 or type III x1
- Support Zoomed Video Port (socket A only)/CardBus (PC Card 95)

Keyboard

- 102 Keys Win95 keyboard with external numeric keypad

Interface

- Built in Touchpad (PS/2)
- IEEE 1394 port
- Dual USB port
- One serial port (COM1)
- One parallel port (LPT1), support ECP/EPP 1.7 and 1.9
- Fast Infrared (FIR) file transfer, IrDA 1.1 or ASKIR (SHARP standard)
- One External CRT monitor port
- One S-Video jack for TV output
- One RCA jack for Video input
- One PS/2 port for External keyboard or Mouse (PS/2 type)
- One jack for line-in

Appendix A. Specifications

- One speaker-out jack
- One jack for microphone / S/P-DIF output
- One RJ-11 jack for 56K MDC Modem
- One RJ-45 jack for 100M/10M LAN
- One (120 pins) connector for Port Replicator
- DC-in jack

Communications

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

Power Management

- Support ACPI v1.0B
- Support APM v1.2
- Soft Off
- Device Power Management
- CPU over temperature protection
- Support suspend to disk
- Battery low suspend
- Resume from alarm time / modem ring (COM port Only)
- Smart Fan Control

Power

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

Certificate

- FCC Class B, CE, VCCI, CTICK, UL, CUL, TUV
- Windows Logo, Macrovision, CTR21, Part 68

Size & Weight

- 358mm(w) x 280mm(d) x 50mm(h)
- 4.2 kg with Lithium-Ion battery

User's Manual

Environment

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

Optional

- 3002 Lithium-Ion smart battery pack
- 8006A Port Replicator
- 8007 IO Mega 100MB ZIP Drive
- 800D DVD-ROM Driver Module 12.7mm (h)
- 800E CD-RW Driver Module 12.7mm (h)
- 800F Software DVD Player
- 800H 9000 mA Lithium-Ion battery pack
- 800I IO Mega 250MB ZIP Drive
- 2005 V.90 compliant 56K Modem Module (MDC)

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 battery LED indicator light is green.

User's Manual

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:

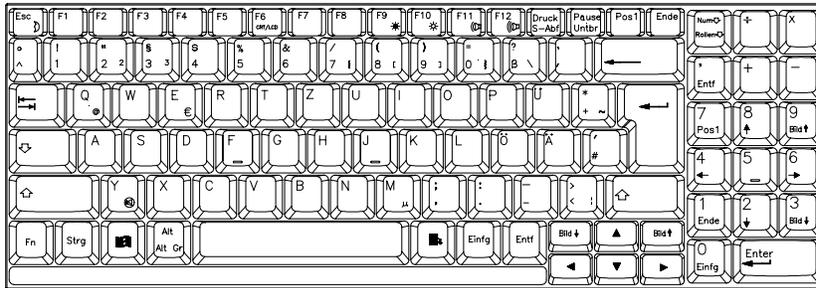
Different applications and external devices consume battery power even when they are not being used.

To conserve battery power we recommend:

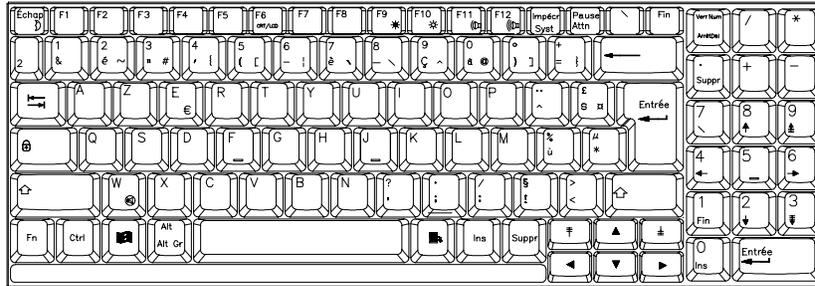
- Closing modem or communication applications when they are not being used.
- Removing any unused PC Cards from the computer.
PC Cards quickly use up battery power even if the system enters Suspend mode.
- Removing any unnecessary external devices from the computer.

Appendix C. Different Versions of Keyboards

Below are different versions of keyboards for your reference:

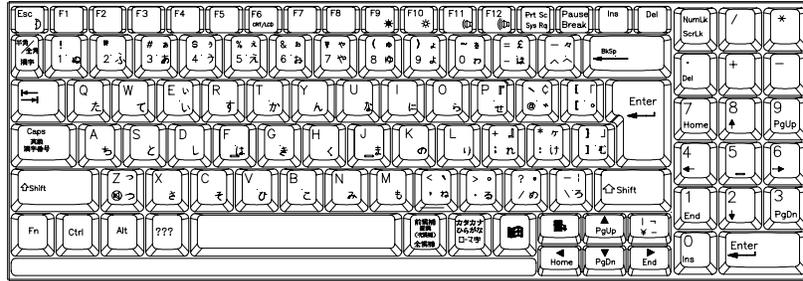


Germany Keyboard

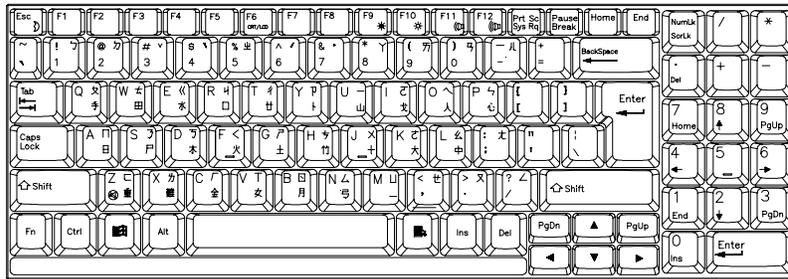


French Keyboard

User's Manual



Japanese Keyboard



Chinese Keyboard