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Notice

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

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Warranty Provisions (Revision)

Keep the product's bar code legible to protect your right for warranty services.

Warranty service will be furnished on an exchange basis. The manufacturer may repair or replace your product with a new or reconditioned one. Any replaced components or parts become the property of the manufacturer.

No warranty is expressed or implied for products damaged by accident, abuse, misuse, acts of god, or un-authorized modification.

To obtain warranty service described herein, deliver the product along with proof of purchase date, to any of the manufacturer's authorized distributors during the warranty period. The owner agrees to insure the product and assume the risk of damage or loss in transit, to pay in advance all shipping charges, and to use the original shipping container (or the equivalent).

The manufacturer is not liable to any purchaser or end-user for any damages including, but not limited to, lost revenue, lost wages, lost savings, or any other incidental or consequential damages arising from the purchase, use, or inability to use this product.

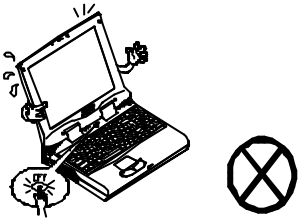
Please consult your dealer for the detailed warranty period.

Safety Notice

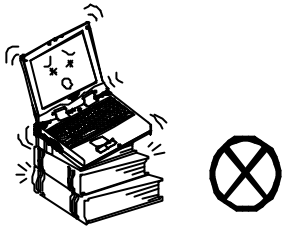
The notebook computer is a delicate device that requires careful handling. Negligence or mistaken use may cause serious damage. Before you learn to operate or use this computer, you need to understand the instruction regarding safety handling.

The following mentions the incorrect handling that is seriously inhibited. To keep the computer from being damaged, please keep these precautions in your mind.

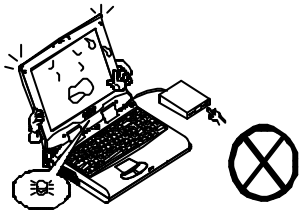
Do not turn off power in operation.



Do not place the computer on unstable surface.

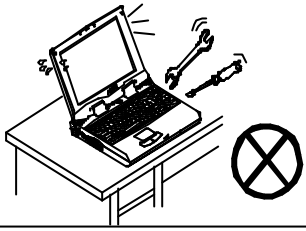


Do not turn off the peripheral device when the light is on.

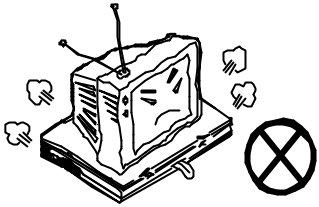


Do not touch the poisonous liquid when the LCD is broken.

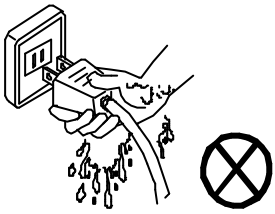
Do not disassemble the computer yourself.



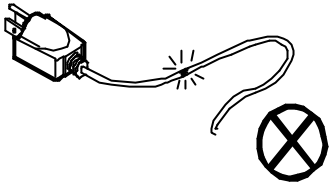
Do not place anything heavy on the computer.



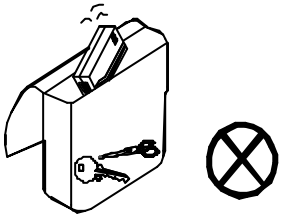
Do not touch power cord by wet hand.



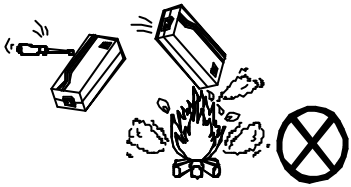
Do not use broken power cord.



Keep the computer away from any metal appliance.

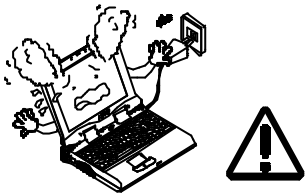


Do not throw the computer or accessories into fire.

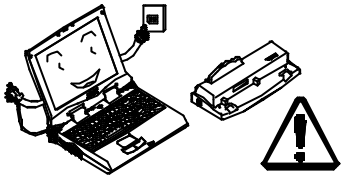


The following mentions the actions that are important for your computer. To keep your computer in the most excellent condition, please follow the instruction as much as possible.

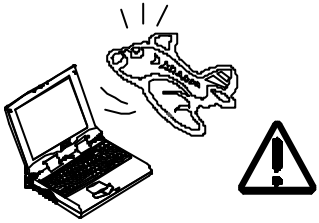
If there is unusual odor, heat or smoke, plug out the power cord immediately.



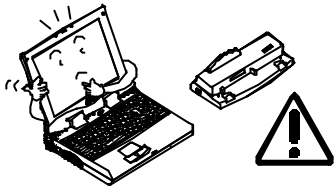
Plug out the power cord in attaching peripheral devices.



Follow the use instruction in taking airplane.

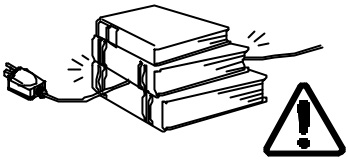


Use the same brand of peripheral devices.

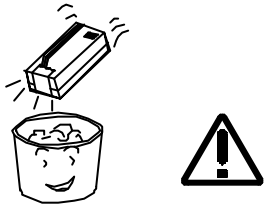


Maintain your computer regularly.

Do not place heavy thing on the power cord.

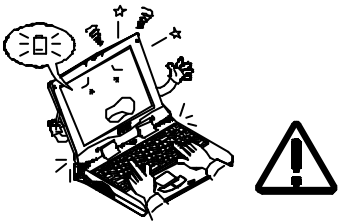


Affix tape to the contact plate while putting the battery into keeping box.

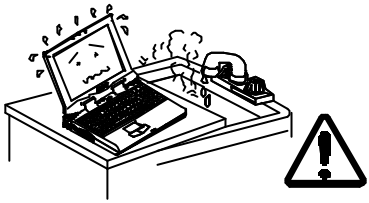


Take a rest after a long term of work.

The data is easy to lose in low power status.



Please keep the computer away from humid environment.



Conventions

This manual uses the following conventions to describe, identify, and highlight terms and operating procedures.

Text Conventions

Text in boldface contains messages that are important for safe operation. Please read.

Characters in boldface represent specific items or keys, e.g. **CardBus, Fn** key.

File names are presented in bold capitals, e.g. **A:\>0VMAKFIL /Pn**.

Abbreviations

For the purpose of clarity, abbreviations are enclosed in parentheses following their definition; for example, Enhanced Parallel Port (EPP) mode.

Icons

Icons identify ports and jacks of the Notebook computer. The system status indicators are also identified with their relative icons.

Keys

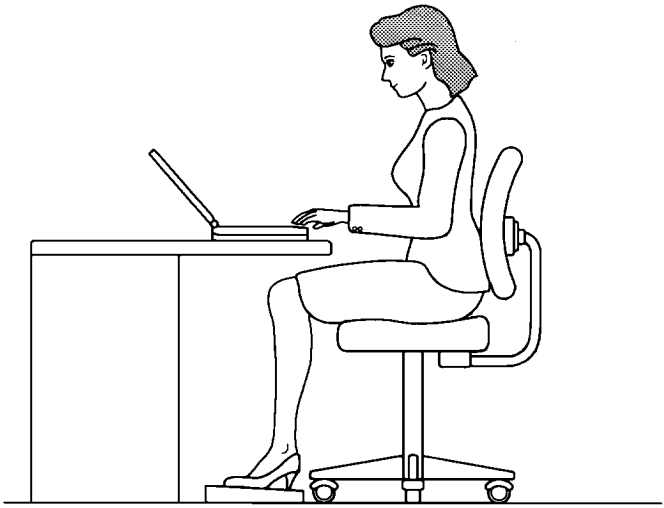
Keys appear in boldface. A plus sign (+) between two keys indicates that they should be pressed simultaneously.

Messages

Note: A note is an advice that helps you make best use of your Notebook computer. Please read.

Ergonomics

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° angles when you are working.

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.

In addition, continuous concentration on computing work can result in discomfort and injury. 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 of greater benefit than fewer and longer breaks.

Table of Contents

Chapter 1: Getting Started

Chapter 2: Operation

Chapter 3: BIOS Utilities

Chapter 4: Troubleshooting

Chapter 5: Installing Drivers

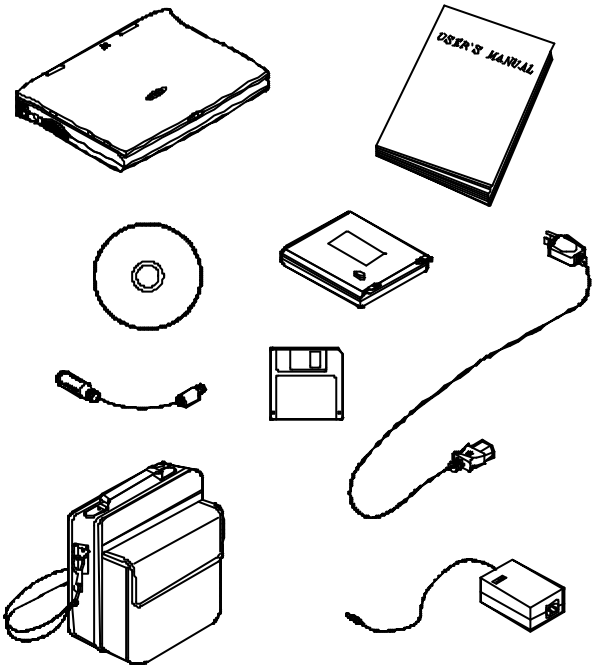
Chapter 1: Getting Started

This chapter provides a short introduction and tutorial that will familiarize you with the Notebook system and get you up and running quickly. This Chapter will discuss:

- Unpacking
- Operating Environment
- Quick Start-up
- Top-Front View
- Rear View
- Right-side View
- Left-side View
- Bottom View

Unpacking

Carefully unpack the Notebook Computer and the included accessories (Figure 1-1). If there is any discrepancy or problem, contact your dealer immediately. Be sure to save the packing materials in the event that the notebook needs to be shipped at some point in the future.



- Notebook Computer.
- Carrying Bag.
- Power Adapter.
- Power Cord.
- User's Manual.
- PS/2 Transfer Cable.
- Battery Pack.
- Utilities Diskettes.
- CD for drivers.

Figure 1-1

Operating Environment

As with any other precision electronic equipment, proper care and operation of your Notebook will provide long and reliable service. Be sure the computer system is not:

- Exposed to excessively heat or directly sunlight.
- Subjected to shock or vibration.
- Exposed to strong magnetic fields.
- Left in a place where foreign matter or moisture may enter the system.

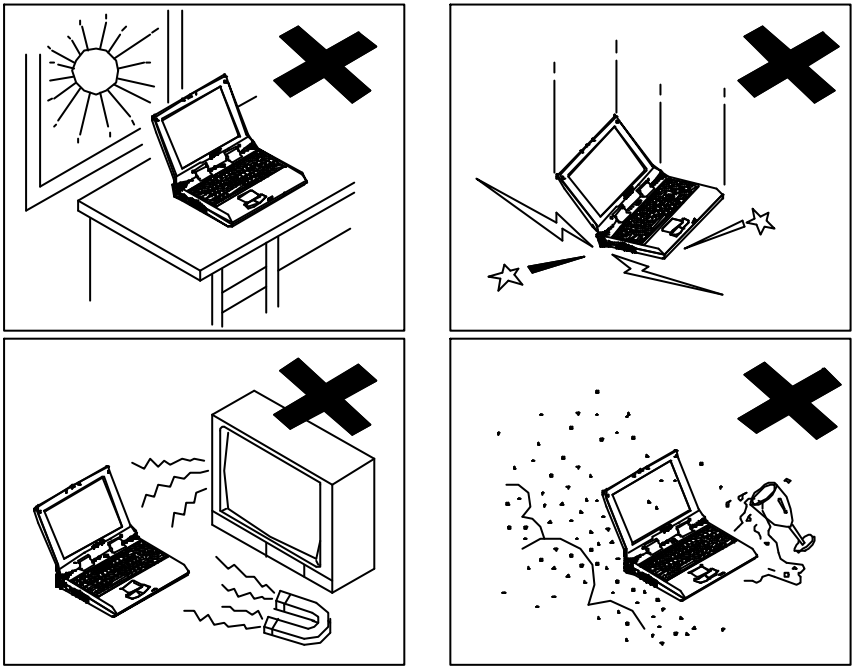


Figure 1-2

Quick Start-up

Powering the System

AC Power Adapter

Use only the power adapter that comes with your Notebook Computer. System operation with an incorrect power adapter will cause damage to the Notebook and its components.

1. Plug the power adapter to the DC-in socket on the left panel of the Notebook.
2. Connect the power cord to the power adapter.
3. Plug the AC power cord into a properly grounded outlet (Figure 1-3).
4. Refer to *Chapter 1, System Status LED Indicators* for more information on system power status.

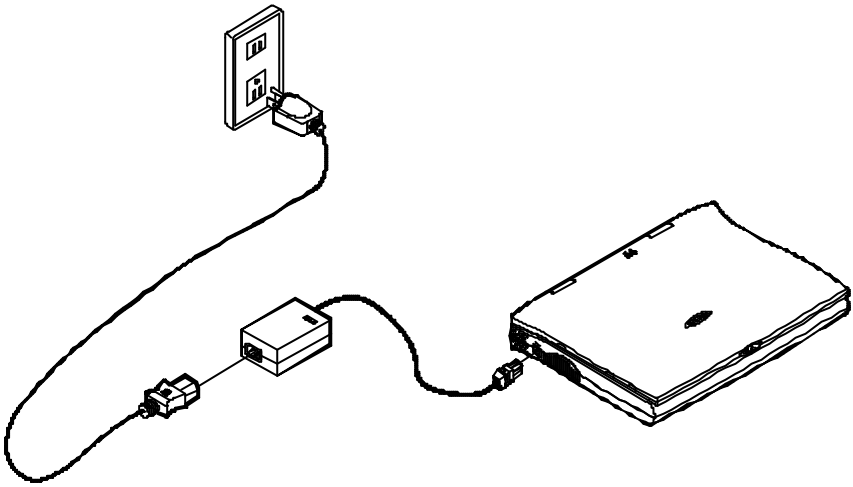


Figure 1-3

Battery Pack

Power for continuous portable operation of the Notebook is provided by a battery pack. When using the battery no external power source is required. However, the actual operating time will be determined by the application used and the configuration set.

Inserting

1. Turn the Notebook over.
2. Position the battery pack and firmly fit it into the Notebook (Figure 1-4).
3. The two latches will click into place when it is seated.

Removing

4. Turn the Notebook over.
5. Press the two latches in the direction indicated to release the battery pack. (Figure 1-5)
6. Carefully lift the battery pack from the Notebook.

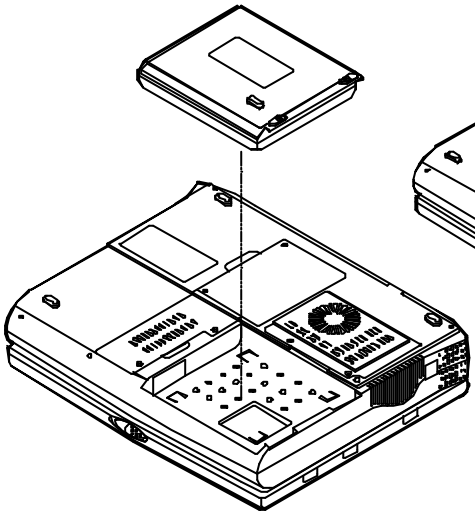


Figure 1-4

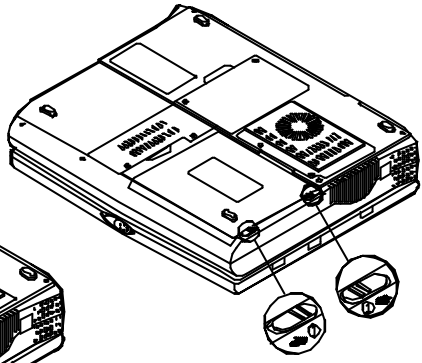


Figure 1-5

Recharging by AC Power

The system's battery pack will recharge whenever the system is plugged into the AC power supply, regardless of whether the system is being operated or not. Please refer to *Chapter 1, System Status LED Indicators* for more information concerning battery charge status.

Off-Line Charge	The Notebook system is powered off. Connect the AC adapter to the unit. Its DC output will be used solely to charge the battery. It will take hours to bring a completely discharged battery to its full charge state.
Trickle Charge	The Notebook system is powered on. Again, make sure the AC adapter is connected to the unit. Its DC output will both power the system and charge the battery. It may take more hours than off-line charge to charge the battery.

Proper Handling of the Battery Pack

- Do not attempt to disassemble the battery under any circumstances.
- The battery may explode if exposed to fire or high temperatures.
- Avoid short circuiting the battery by preventing contact between the metal terminals (+, –).

Opening the LCD Cover

1. To release the top cover slide the latch to the right (Figure 1-6).
2. Lift the top cover to reveal the LCD panel and keyboard (Figure 1-7).
3. Adjust the LCD panel to a comfortable viewing angle.
4. Press the power button to turn the system on or off (refer to *Chapter 1, Top-Front View* for the information of the power button).

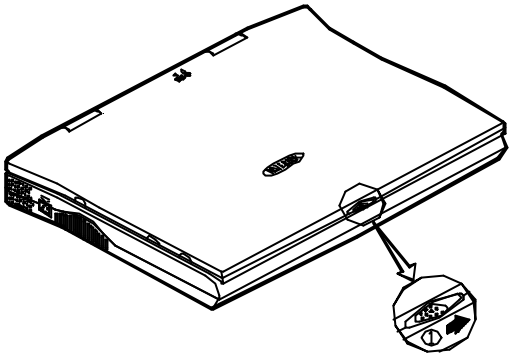


Figure 1-6

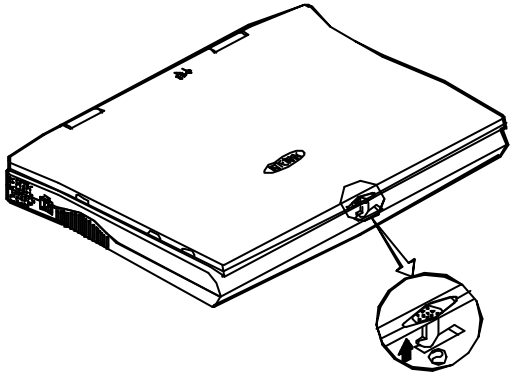


Figure 1-7

LED Indicators on the LCD Cover

Icon	Color	Description
	Green	Battery power is used with system turned on.
	Red	AC power is used with system turned on or AC and Battery are used with system turned on.
	Green	Battery is fully charged.
	Red	Battery is being charged.
	Blinking Red	Battery power is critically low.

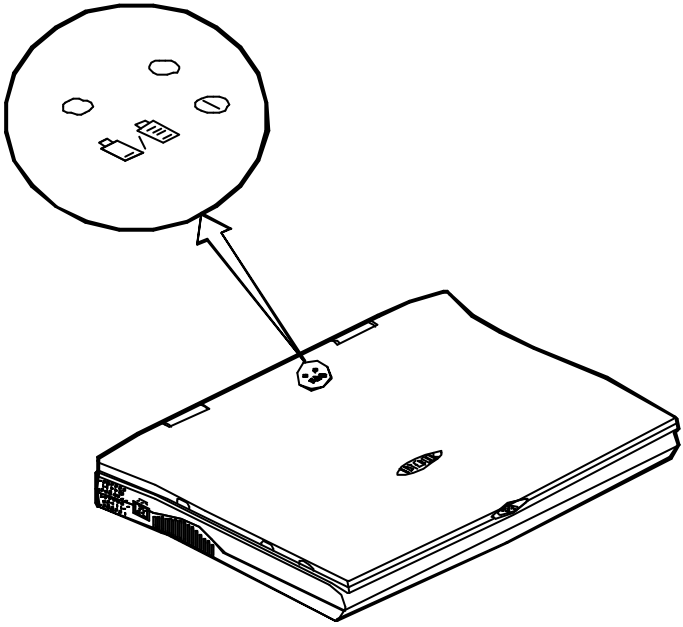


Figure 1-8

Top-Front View

LCD Panel

The Notebook provides you with a large LCD panel. Depending upon the model you have purchased, it can either be a 14.1"/13.3" XGA (1024x768 pixels) compatible, using TFT technology, or a 12.1" SVGA (800x600 pixels) compatible, using DSTN technology. The LCD panel is driven by a AGP local bus video controller with 4MB video memory.

Stereo Speakers

Two built-in speakers provide clear stereo sound.

Trackpad and Buttons

The pointing device features a sensitive glide pad for precise movements. It functions like a two-button mouse does. The right trackpad button is equivalent to the right mouse button; the left trackpad button is equivalent to the left mouse button.

Keyboard

The Notebook utilizes a Windows 95 keyboard that is integrated with the numeric keypad. It is detachable for various language versions. You may refer to *Chapter 2: Operation* for more information.

Microphone

This is the built-in microphone for recording sound into your applications.

System Status LED Indicators

The LED indicators display the system's operation status.

Icon	Color	Description
	Green	Battery power is used with system turned on.
	Red	AC power is used with system turned on or AC and Battery are used with system turn on.
	Green	Battery is fully charged.
	Red	Battery is being charged.
	Blinking Red	Battery power is critically low.
	Green	The hard disk is being accessed.
	Green	The system has entered Suspend-To-RAM (STR) or Power-On-Suspend (POS) mode.

Power Button

Icon	Description
	Use this button to turn the system on or off.
	After proper configuration under SCU, this button can be used as suspend/resume hot button (refer to *Chapter 3: BIOS Utilities, Power Menu* for more information).

Note: After turning off the system, wait for a few seconds to power it on again when you need to.

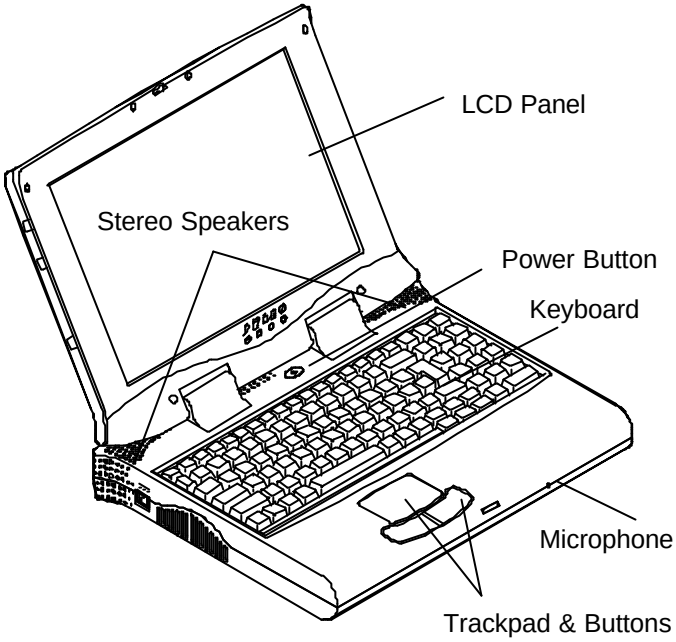


Figure 1-9

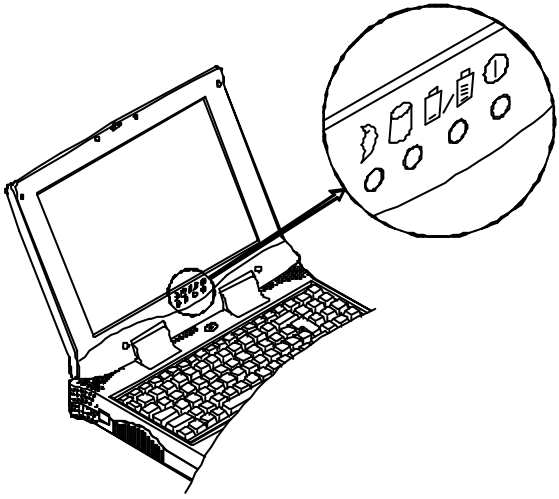


Figure 1-10

Rear View

Microphone-in Jack

Use this jack to connect a microphone to the system for audio input.

Headphone Jack

Headphone can be attached to the system through this jack for audio output, so can external speakers that have built-in output power amplifier.

Phone Jack

The phone jack is used to support the built-in modem. To use the function, attach a phone line to the jack and insert a modem card (Optional) into the modem socket on the mainboard. See figures (2-21.1 / 2-21.2).

PS/2 Type Port

A PS/2 type mouse and keyboard may be connected to the system using this port.

Serial Port

This port is NS 16C550 compatible. It features a 9-pin connector for the addition of an external mouse for example.

Parallel Port

This parallel port supports EPP (Enhanced Parallel Port) and ECP (Extended Capabilities Port) modes.

External Monitor (CRT) Port

This port is used for transmission of the display to an external monitor. Simultaneous display with the LCD panel is available.

Expansion Port

This port is used to connect the proprietary Port Replicator.

RCA Jack

This jack accepts analog composite signals from external video devices, e.g. camera, CCD.

S-video Jack

Use this jack to transmit video signal to a TV set. You may need to select the video standard (NTSC/PAL) for video display (please refer to *Chapter 3, Components Menu* for more information).

USB Port

The Universal Serial Bus (USB) port simplifies the expansion capability for peripherals by daisy-chain connection of a number of USB-equipped devices.

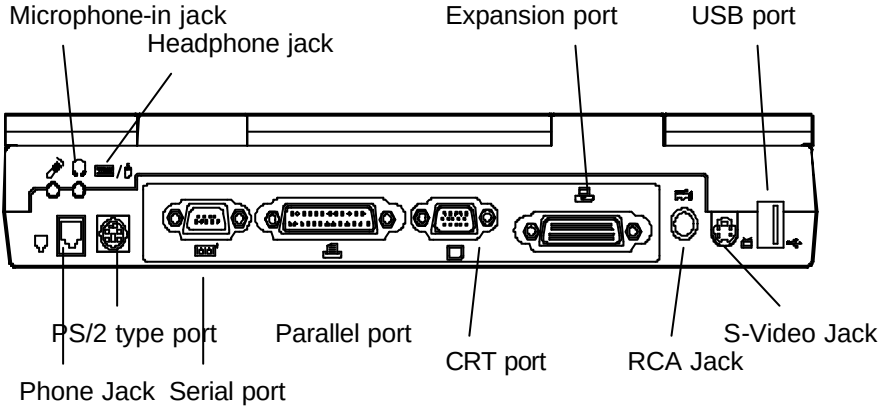


Figure 1-11

Right-side View

3.5" Floppy Diskette Drive

The Notebook comes standard with a 1.44MB floppy drive installed. Press the button on its top-right side to eject the diskette.

5.25" CD-ROM Drive

The 5.25" IDE CD-ROM module is designed to be changeable installing or removing the two screws that fasten the CD-ROM drive. The eject button is located in the middle of the front cover of the CD-ROM drive. Pressing it will release the CD tray. Refer to *Chapter 2: Operation*, for more information.

PC Card Sockets

One Type III or two Type II PC cards may be used. Both sockets will expand the system capabilities when a PC card is inserted. To eject the PC card, press the appropriate eject button (Figure 2-17).

Infrared

The system adopts infrared technology as the interface for simple, fast and convenient data exchange from the Notebook to an infrared-compatible device. It implements IrDA (HPSIR), Amplitude Shifted Keyed IR (ASKIR), and Fast IR (FIR). No object should be blocking the line of sight between the Notebook and the infrared-equipped device. For further information refer to the manual of the wireless device you wish to connect on how to use the point-and-shoot operation.

Right-side Stands

When a high speed CPU is installed, the erecting stands on both sides will help heat dissipation during operation.

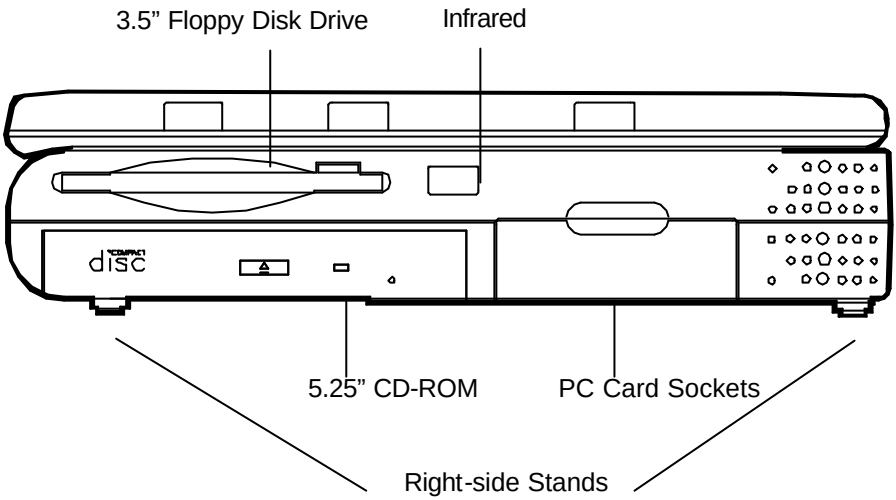

3.5” Floppy Disk Drive
Infrared
5.25” CD-ROM
PC Card Sockets
Right-side Stands

Figure 1-12

Left-side View

DC-in Socket

Plug the AC adapter into this socket for power supply. To disconnect, pull the plug (not the cord) directly back.

Ventilation

The Notebook provides ventilation to dissipate the system's operating heat. Do not block or obstruct it during operation.

Left-side Stands

When a high speed CPU is installed, the erecting stands on both sides will help heat dissipation during operation.

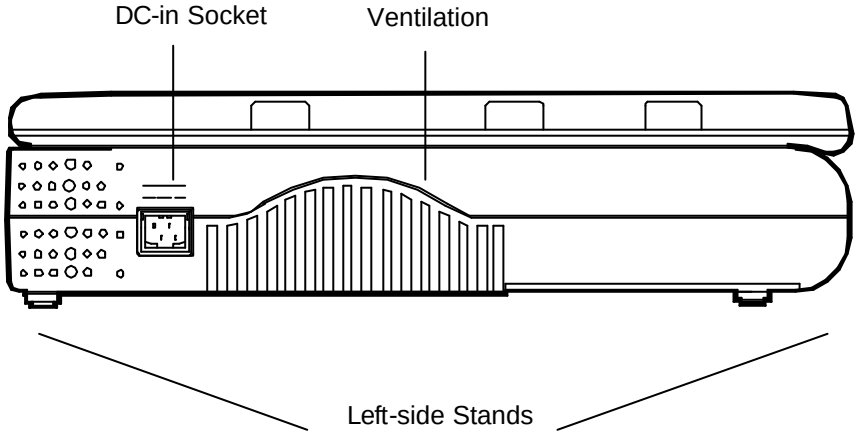


Figure 1-13

Bottom View

2.5" Hard Disk Drive

The 2.5" hard disk drive accepts any 2.5" IDE hard disk drive with a height of 12.7mm or less. Accessing the corresponding screws will allow you to install or to remove this hard disk drive. Refer to *Chapter 2: Operation,* for more information.

CPU Cover

Detaching the screws to remove the cover will reveal the microprocessor. You may upgrade the CPU for higher system performance.

Battery Pack

This compartment houses a rechargeable battery pack of either Ni-MH or Li-Ion. To recall detailed information turn back to the section *Battery Pack.*

CD-ROM Cover

The CD-ROM cover functions for easy installation and easy removal of the CD-ROM, in case you need maintenance service during warranty period.

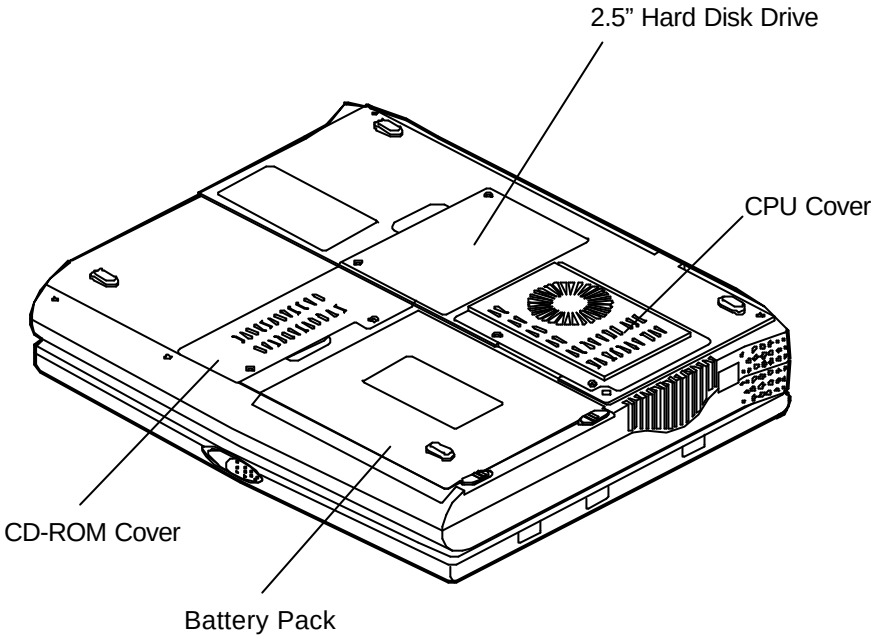


Figure 1-14

Chapter 2: Operation

The Notebook has many advanced features to help you with your computing work. This chapter describes each of the Notebook's hardware features and shows you how to use them.

Before you begin working with any internal components of the Notebook, remove the battery and disconnect the AC power adapter.

Make sure that you wear an anti-static wrist strap to ground yourself before working with any internal components of the Notebook. Static electricity may damage components beyond repair.

- Upgrading Processor Module
- Setting DIP Switch
- Expanding Memory
- Using Hard Disk Drive
- Using Floppy Disk Drive
- Using CD-ROM
- Using PC Card Sockets
- Using Hot Keys
- Using Numeric Keypad
- TV Out
- LCD Panel
- Using Power Management
- Attaching Peripheral Devices

Upgrading Processor Module

The Notebook Computer features the structure of Intel's Mobile Module (MMC2). The Processor Module incorporates an Intel Pentium Mobile processor, secondary cache, and the Intel PCIset "Northbridge" system controller, voltage regulator, and thermal sensor on a single printed circuit board.

The Processor Module connects to the mainboard through two board-to-board connectors. This design facilitates users to easily upgrade their system by simply replacing the Processor Module.

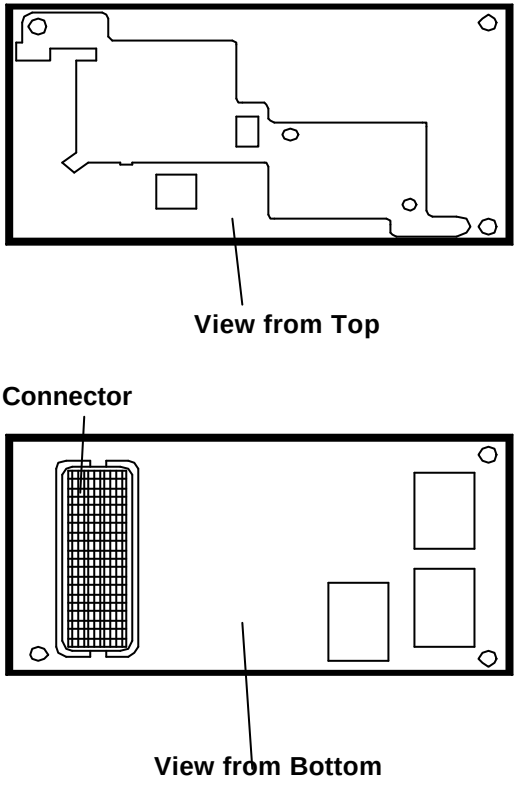


Figure 2-1

Replacing Processor Module

- Remove all power sources (AC power and battery).
- Turn the Notebook over.
- Remove the CPU cover.
- Remove the screws that fasten the heat sink mounted on the Processor Module.
- Carefully detach the Processor Module from the mainboard (Figure 2-2).

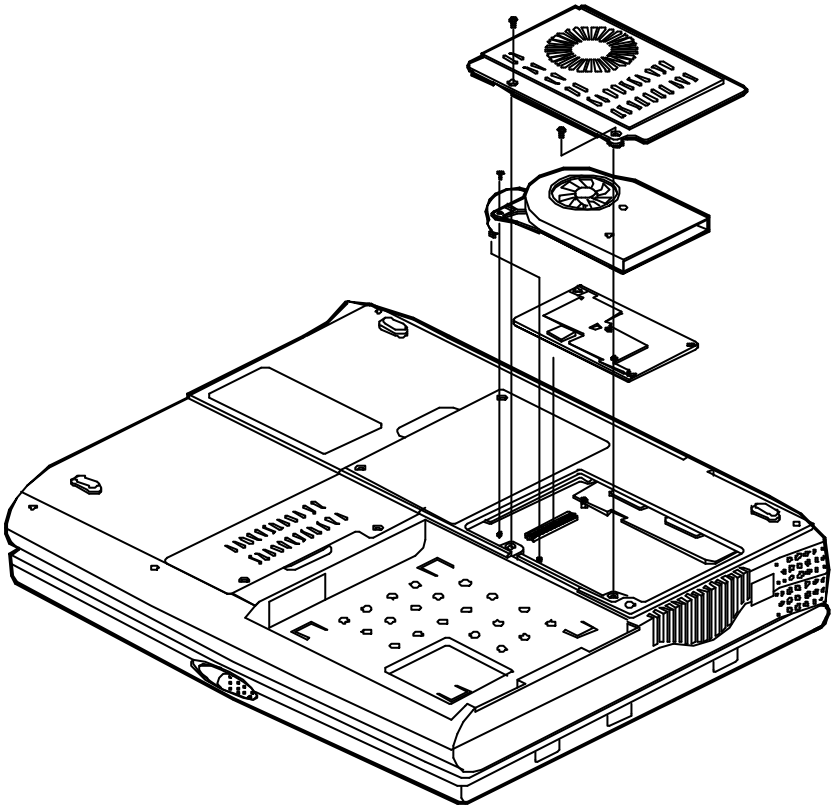


Figure 2-2

Note: To insert or extract your processor mobile module, please contact your service dealer for correct operation.

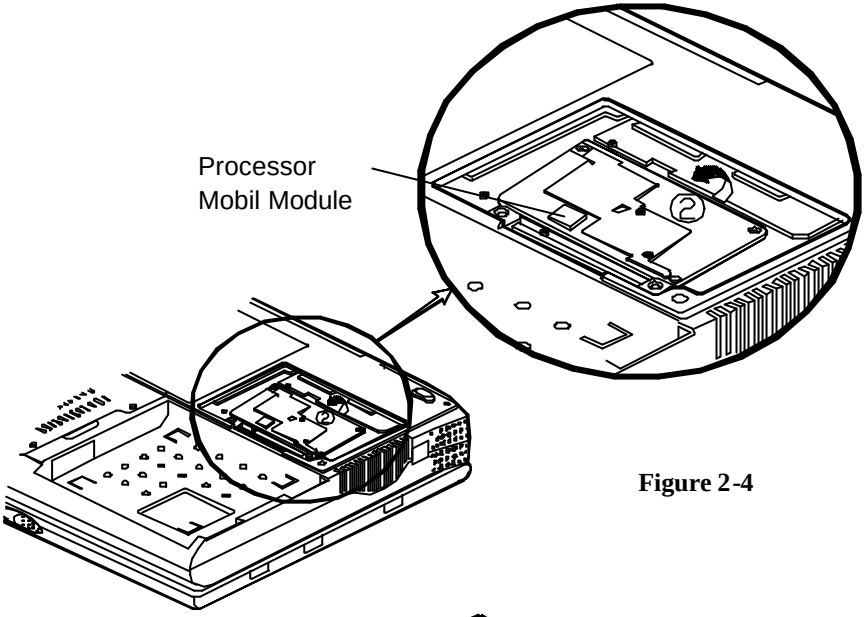


Figure 2-4

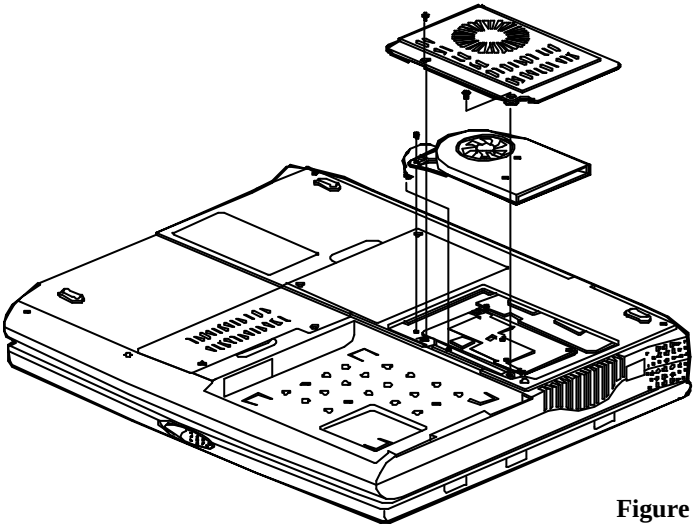


Figure 2-4

Reinstalling Heat Sink

Reinstall the CPU in the reverse order of removal. Make sure that the heat sink cable is properly installed. (Figure 2-5.1 / 2-5.2)

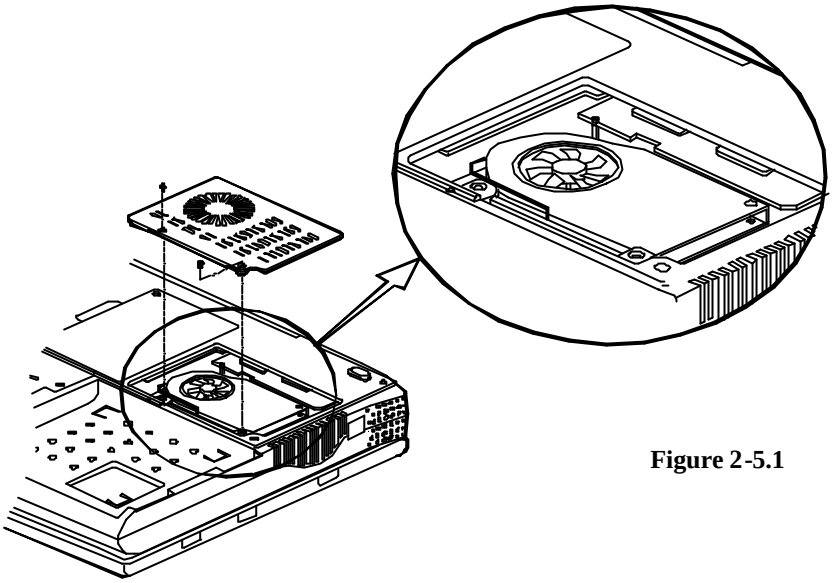


Figure 2-5.1

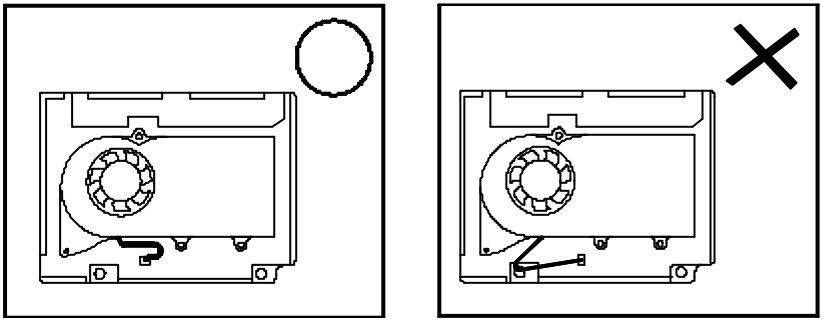


Figure 2-5.2

Setting DIP Switch

In order to keep up with the latest system BIOS, your Notebook may be upgraded. Consult your dealer for further information. The DIP Switch needed to be set in the **On** position when updating the existing system BIOS. The DIP Switches should be reset to the **Off** position after BIOS updating is complete.

Flash ROM BIOS	1	2
Existing BIOS	Off	Off
Updating BIOS	On	On

* X = Not Applied.

Accessing the 2-Pole DIP Switch

- Turn the system power off.
- Press the two keyboard latches so that the keyboard can be elevated from its normal position (Figure 2-6.1).
- Carefully lift the keyboard assembly out so that the mainboard is exposed. Employ the 2pole DIP Switch to set the configuration (Figure 2-6.2)

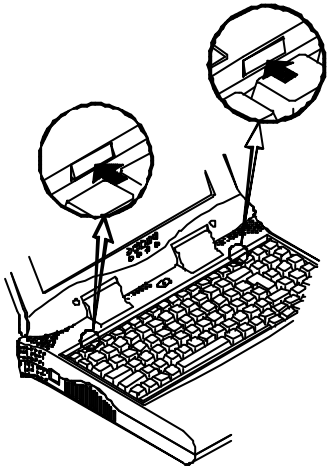


Figure 2-6.1

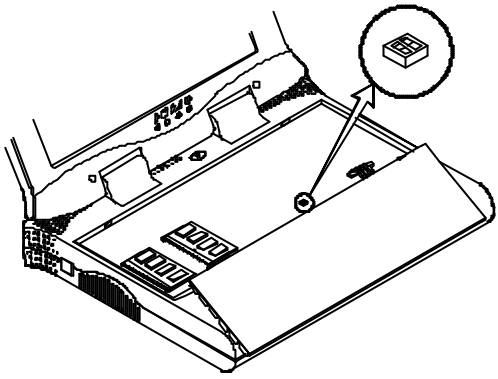


Figure 2-6.2

Expanding Memory

The system has two memory sockets for different RAM modules to expand the memory up to 256MB. These RAM modules are of a 144-pin SODIMM (Small Outline Dual In-line Memory Module) type. The Notebook supports Fast Page Mode, EDO (Extended Data Out), and SDRAM operation. With the following memory configurations the total memory size will be automatically detected by the POST routines:

Bank 0 (64-bit)	Bank 1 (64-bit)	Power	Minimum Speed	Total Size
(1Mx16)x4	None	3.3V	FPM: 60ns EDO: 60ns SDRAM:75MHz	8MB
(1Mx16)x4	(1Mx16)x4			16MB
(1Mx16)x8	None			16MB
(1Mx16)x8	(1Mx16)x4			24MB
(4Mx16)x4	None			32MB
(1Mx16)x8	(1Mx16)x8			32MB
(4Mx16)x4	(4Mx16)x4			64MB
(4Mx16)x8	None			64MB
(8Mx8)x8	None			64MB
(4Mx16)x8	(1Mx16)x4			72MB
(4Mx16)x8	(1Mx16)x8			80MB
(4Mx16)x8	(4Mx16)x4			96MB
(4Mx16)x8	(4Mx16)x8			128MB
(8Mx8)x8	(8Mx8)x8			128MB
(16Mx8)x8	(8Mx8)x8			192MB
(8Mx8)x8	(16Mx8)x8			192MB
(16Mx8)x8	(16Mx8)x8			256MB

Accessing the Memory Sockets

- Turn the system power off.
- Press the two keyboard latches so that the keyboard can be elevated from its normal position (Figure 2-6.1).
- Carefully lift the keyboard assembly out so that the mainboard is exposed. Locate the memory sockets (Figure 2-7).

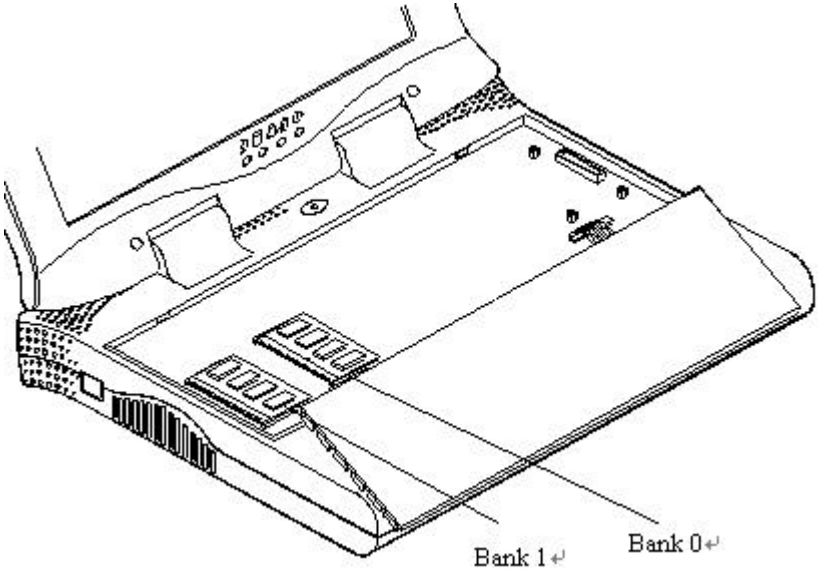


Figure 2-7

Note: Please insert the Memory Module in the order of Bank 0 Bank 1.

Installing Memory Module

Follow the steps below to install the memory module:

- Turn the system power off.
- Press the two keyboard latches so that the keyboard can be elevated from its normal position (Figure 2-6.1).
- Carefully lift the keyboard assembly out so that the mainboard is exposed. Locate the memory sockets (Figure 2-7).
- Position the memory module at a slight angle and fit its connectors into the socket firmly. Push the module down and ensure it locks into place (Figure 2-8).
- Reinstall the keyboard assembly.

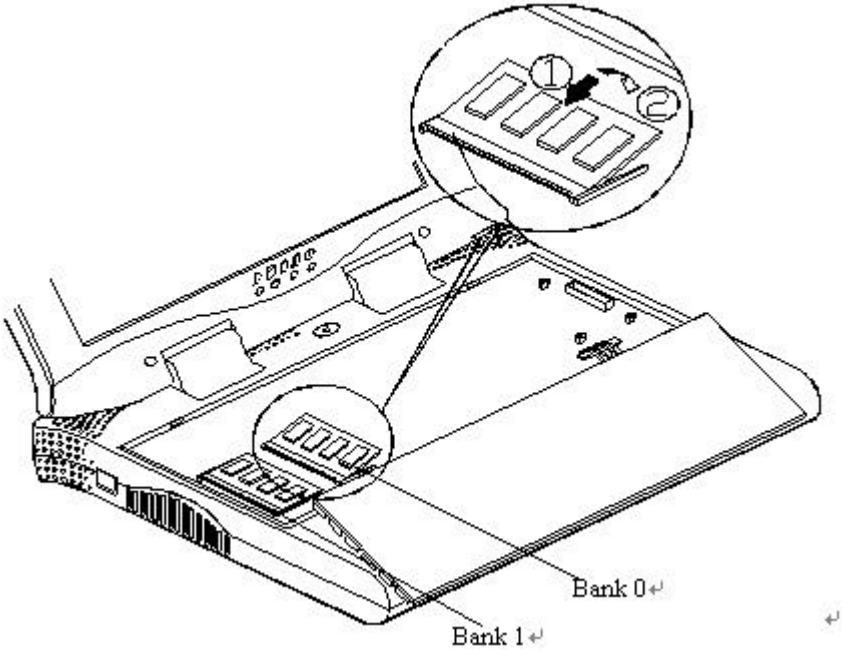


Figure 2-8

Removing Memory Module

- Turn the system power off.
- Press the two keyboard latches so that the keyboard can be elevated from its normal position (Figure 2-6.1).
- Carefully lift the keyboard assembly out to expose the mainboard. Locate the memory sockets (Figure 2-7).
- Gently pull the two latches on both ends of the module outward. The module will pop up (Figure 2-9).
- Remove the memory module.
- Reinstall the keyboard assembly.

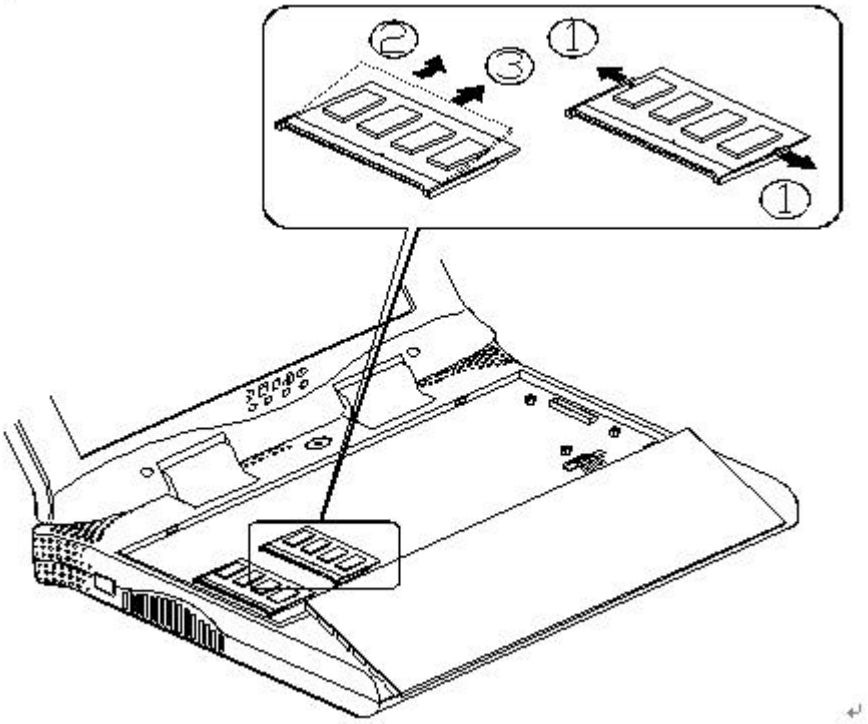


Figure 2-9

Using Hard Disk Drive

The hard disk drive is mounted in a removable case and may therefore be taken out to accommodate other 2.5" IDE hard disk drives with a height of 12.7mm. The system supports drives with capacities greater than 528MB through the Logical Block Addressing (LBA) mode. It also supports Programmed I/O (PIO) mode 4 and provides a high performance data transfer rate at speeds up to 33 MBytes/second (ATA-33).

Removing

- Turn the system power off.
- Turn the Notebook over.
- Remove the HDD cover (Figure 2-10).
- Disconnect the cable (Figure 2-10).
- Detach the HDD case from the Notebook (Figure 2-10).

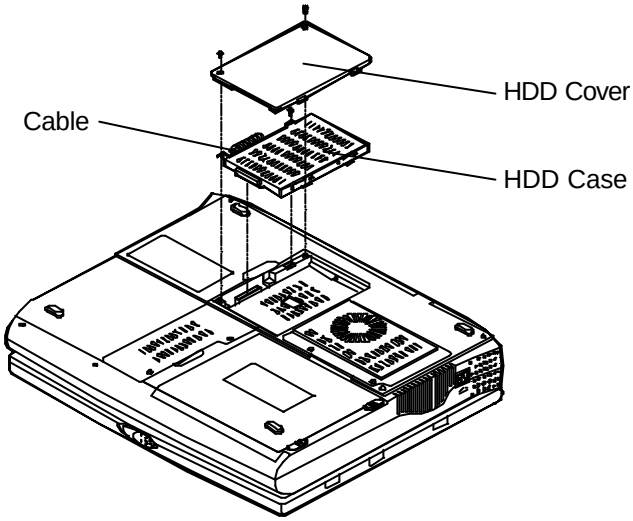


Figure 2-10

Inserting

Reinstall the Hard Disk Drive in the reverse order of removal.

Replacing Hard Disk Drive

To put the hard disk into the hard disk bay, firstly **remove the piece of steel in the bay and assemble the hard disk as illustrated below.**

To remove the hard disk, two screws on each side of the case need to be removed so that the hard disk drive can be taken out of the case to replace with another one (Figure 2-11). **The location of the two screws may be varied depending on different hard disk models**. Gently disconnect the cable from the hard disk drive when taking it out of the case. Be careful not to bend any pins or crimp the cable.

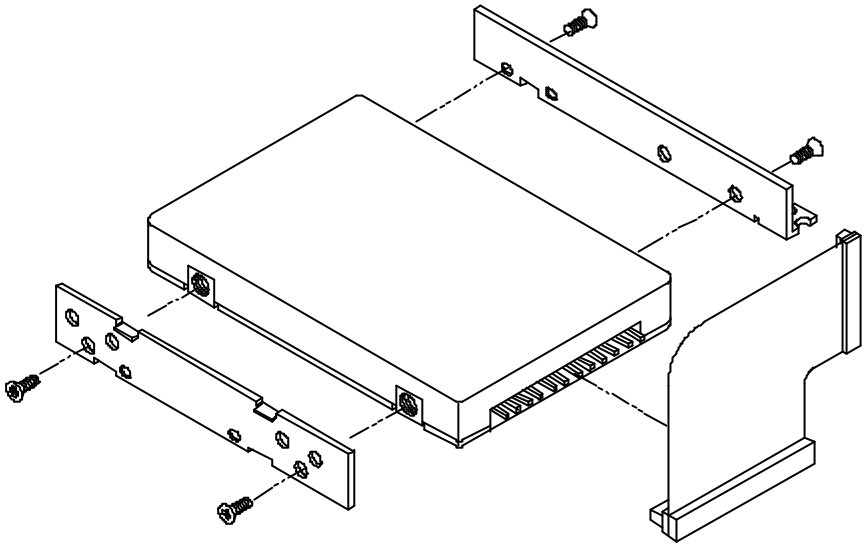


Figure 2-11

Using Floppy Disk Drive

The Notebook comes standard with a 1.44MB, 3.5" floppy disk drive. It is labeled drive A: and may be used as a boot device if properly set.

Inserting/Removing Diskettes

When using the floppy drive, always insert your floppy diskette label-side up (Figure 2-12). To remove your diskette, press the eject button on the top-right corner of the floppy drive.

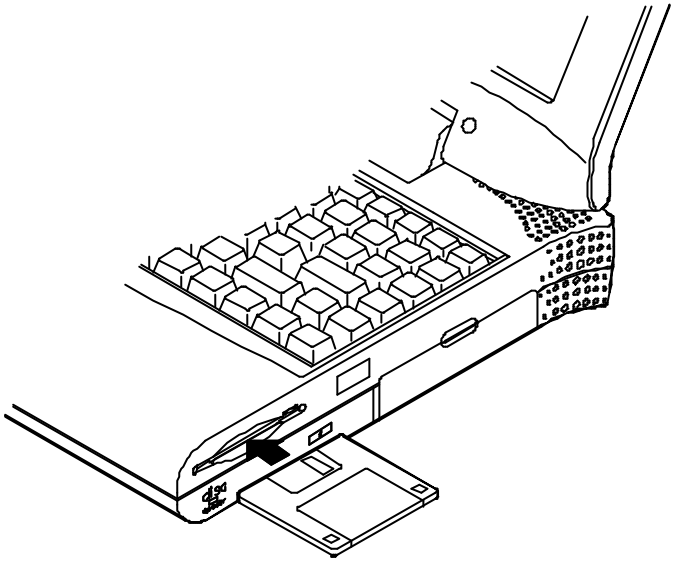


Figure 2-12

Write-Protecting Diskettes

Diskettes can be write-protected to prevent files from being accidentally erased or destroyed. To write-protect a 3.5" floppy diskette, move the built-in write-protect tab to the write-protect position, ("*up*" so that you can see through the "*hole*" in the upper, right-hand corner of the diskette). Putting the write protect tab back "*down*" will enable you to write data on the disk again.

Do's and Don'ts

- Always make backup copies of your software and data diskettes.
- Keep diskettes away from magnetic fields.
- Do not remove diskettes from the drive while the diskette "in-use" light in on.
- Do not open or remove the protective shutter which covers the diskette's media.
- Do not allow dust or moisture to collect on diskettes.
- Do not bend or throw diskettes.
- Do not clean diskettes with liquids or solvents.

Using CD-ROM

The Notebook comes standard with a removable 5.25" CD-ROM module. It is labeled drive D: and may be used as a boot device if properly set.

Do not disassemble the CD-ROM module. Only certified technicians should perform repairs to the CD-ROM module.

To insert a CD, press the **Eject Button** and place the CD on the **Disc Tray** label-side facing up. 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 to the system is unexpectedly interrupted, insert an instrument such as a straightened paper clip into the **Emergency Eject Hole** to manually eject the tray (Figure 2-13).

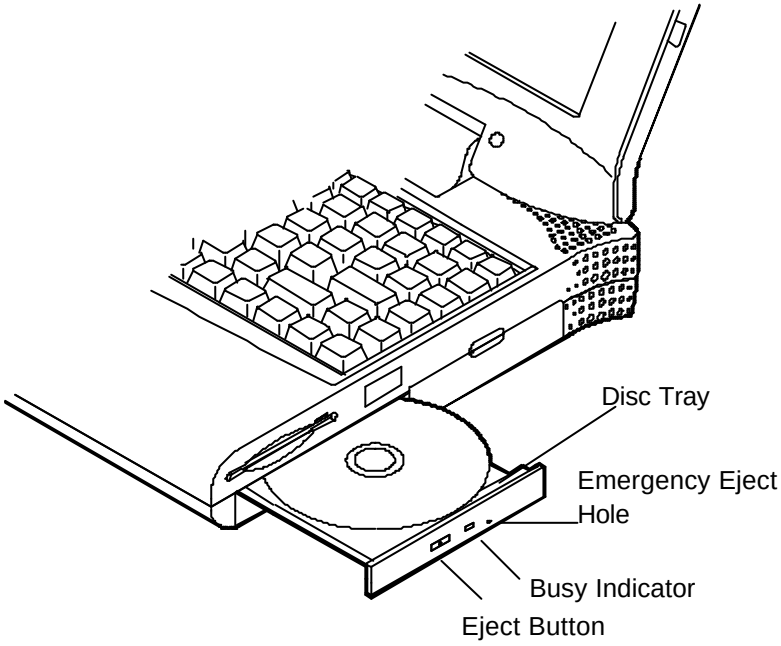


Figure 2-13

Removing CD-ROM Module

- Turn the system power off.
- Turn the Notebook over.
- Remove the CD-ROM cover (Step 1 in Figure 2-14).
- Remove the securing screw to release the CD-ROM module. (Step 2 in Figure 2-14).
- Slide the CD-ROM module slightly out to disconnect the cable (Step 3 and Step 4 in Figure 2-14).
- Pull gently and firmly the CD-ROM module away from the compartment (Step 5 in Figure 2-14).

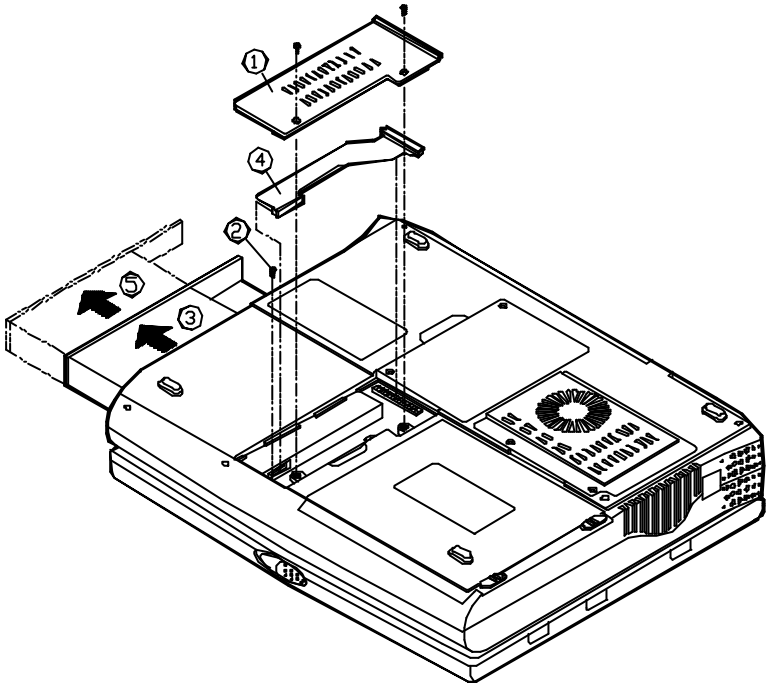


Figure 2-14

Loading Compact Discs

- Turn on the power.
- Press the CD-ROM eject button; the disc tray will pop out partially.
- Pull the disc tray out.
- Carefully load the CD on the disc tray with label-side facing up. Press it gently to ensure it fits into place (Figure 2-15).
- Push the tray into the computer to close it.

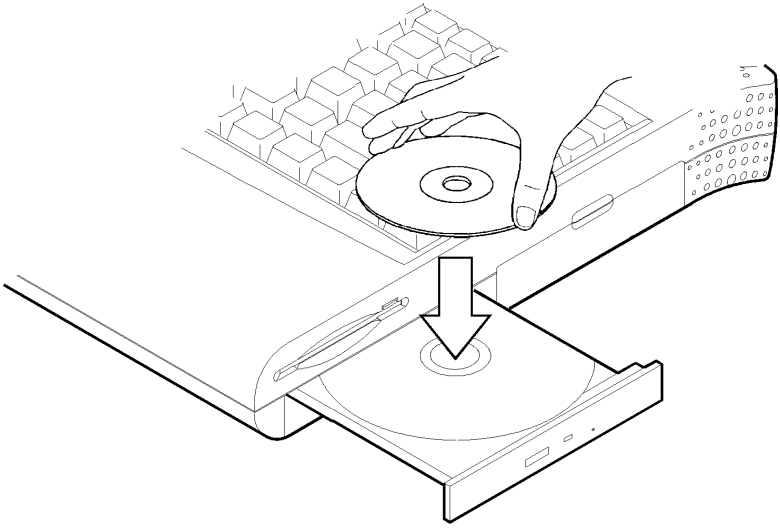


Figure 2-15

Handling of Compact Discs

Proper handling of your CDs will prevent them from being damaged and ensure the accessibility of data stored on them.

- Hold the CD by the edges; do not touch the surface of the disc.
- Use clean, soft, dry cloth to remove dust or fingerprints.
- Do not write on the surface using pen.
- Do not attach any paper or other materials to the surface of the disk.
- Do not store or place the CD in areas where it will be exposed to high temperatures.
- Do not use benzine, thinners, or other cleaners to clean the CD.
- Do not bend the Compact Disc.
- Do not drop or subject the CDs to shock.

Using PC Card Sockets

The Notebook provides system expansion capabilities with two PC card sockets (previously referred to as PCMCIA). PC cards to be inserted can be LAN, fax/modem, communication devices, or expanded memory. Both sockets support 3.3V 32-bit PC cards, referred to as **CardBus**. The CardBus sockets are backward compatible with 5V 16-bit PC cards. There are three types of PC cards. Type I measures 3.3mm thick; Type II 5.0mm; and Type III 10.5mm.

The PC card sockets accommodate one Type III card or two Type II cards and **the lower socket named Socket A is capable of ZV (Zoomed Video)**, which allows a direct connection between a PC card and video devices that enables high quality video playback.

Inserting PC Cards

- Open the access door (Figure 2-16.1).
- Align the PC card with the slot and push it in firmly until it locks into place (Figure 2-16.2).

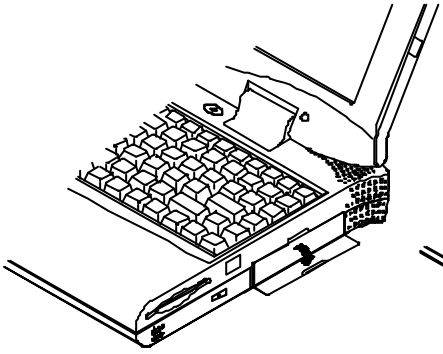


Figure 2-16.1

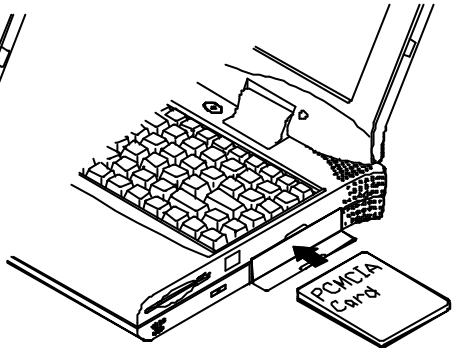


Figure 2-16.2

Removing PC Cards

To remove a PC card, press the appropriate eject button and the card will be ejected from its slot (please refer to Figure 2-17).

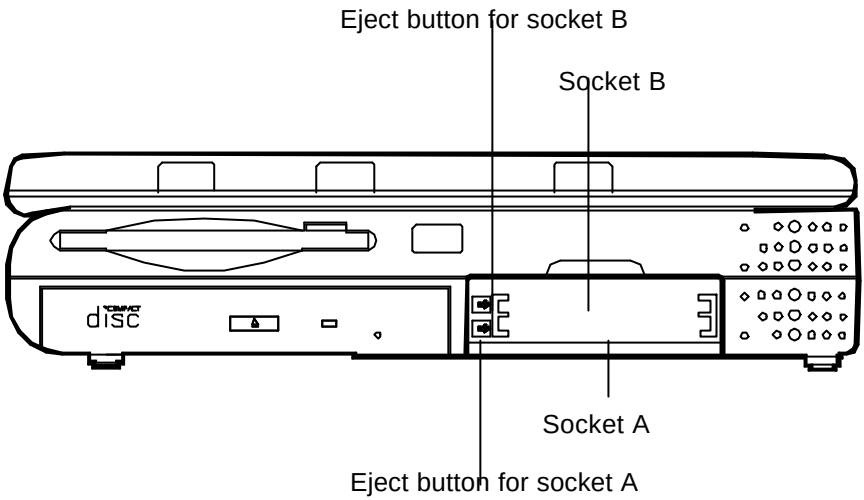


Figure 2-17

Using Hot Keys

Located on the bottom-left edge of the keyboard layout is a colored **Fn** key. It is a special feature found only on the Notebook that provides for key combinations with other keys for easy access to system features. Hold down the **Fn** key while pressing other key as below:

Hot Keys	System Features	Remark
Fn + F3	Expand LCD display	
Fn + F4	Control display top/center position	
Fn + F6	Toggle 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 + Z	Toggle audio mute on/off	
Fn + Esc	Put the system in a suspend state for power management	

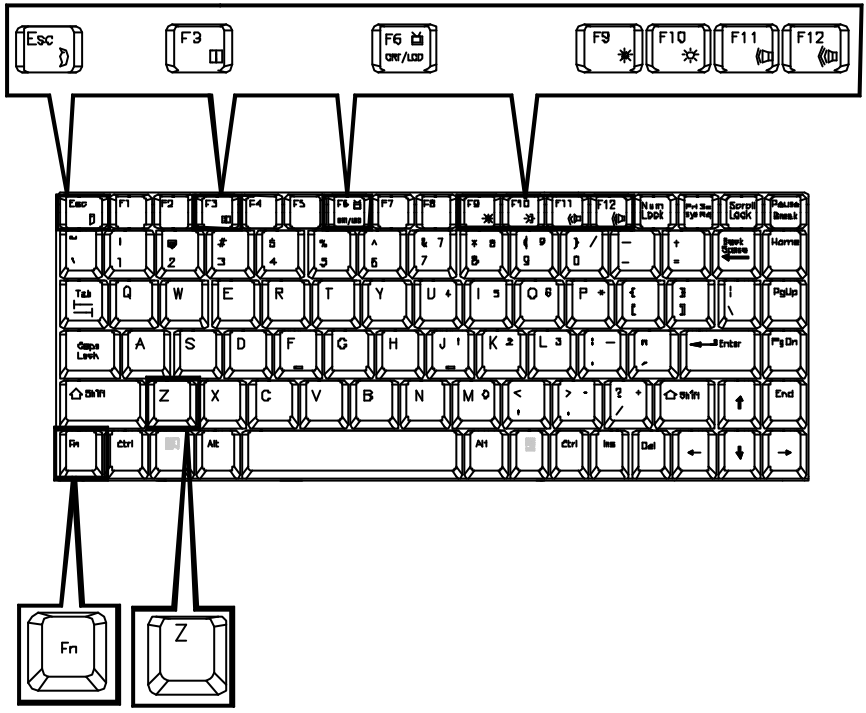


Figure 2-18

Using Numeric Keypad

The colored keys in the middle section of the keyboard will function as a Numeric Keypad (Figure 2-19). The numeric keypad overlay can be used for numeric data input. Follow these steps to access the Numeric Keypad:

- Press the **NumLock** key to lock the Numeric Keypad.
- Press the **Fn** key along with the colored keys to operate the Numeric Keypad.

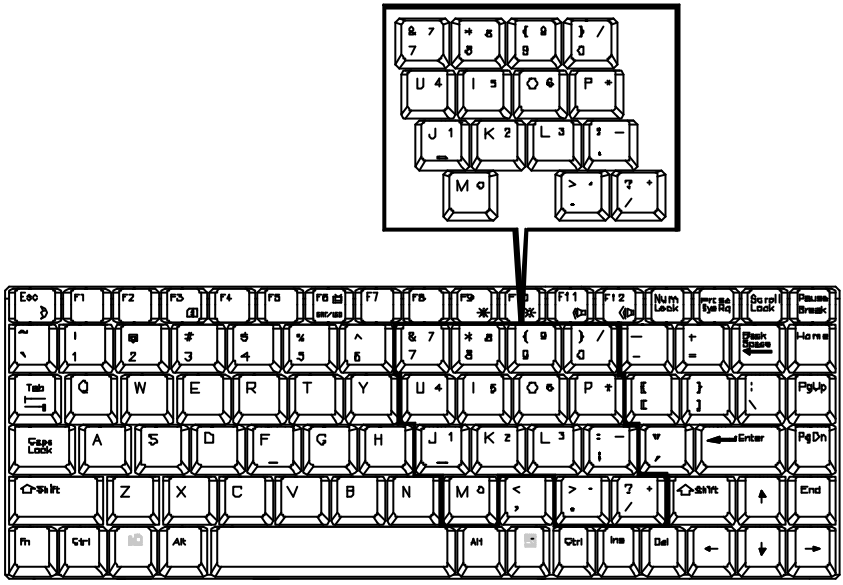


Figure 2-19

TV Output

The Notebook is equipped to send video signals to a TV set through the S-video jack. Different countries use different TV broadcast standards. A TV set must comply with the appropriate standard to properly receive broadcast signals. In the United States, TV sets are built to comply with the NTSC standard. Many countries in Europe and Asia use the PAL standard. You should refer to your TV user guide to make sure which TV standard you are using and enter the System Configuration Utility (SCU) to specify the proper TV mode (please refer to *Chapter 3: BIOS Utilities, Components Menu* for more information).

TV-output capabilities allow display of realistic game, video, and multimedia on a large-screen TV. The Notebook uses hardware filtering technologies to reduce flicker for better definition.

LCD Panel

The Notebook Computer features the LCD panel display with the following:

- PCI local bus controller.
- 4MB video RAM (SGRAM type).
- Capability to support 1024x768 (XGA) resolution TFT display.
- Capability to support 800x600 (SVGA) resolution DSTN display.
- Ability to transmit video signals to a VGA monitor (CRT).
- Capable of simultaneous display on LCD and CRT.
- Video Port Manager (VPM) for video input from ZV-capable PC card.

Remark:

Two technologies of LCD display:

- Passive technology (DSTN = Dual-scan Super Twisted Nematic).
- Active technology (TFT = Thin Film Transistor).

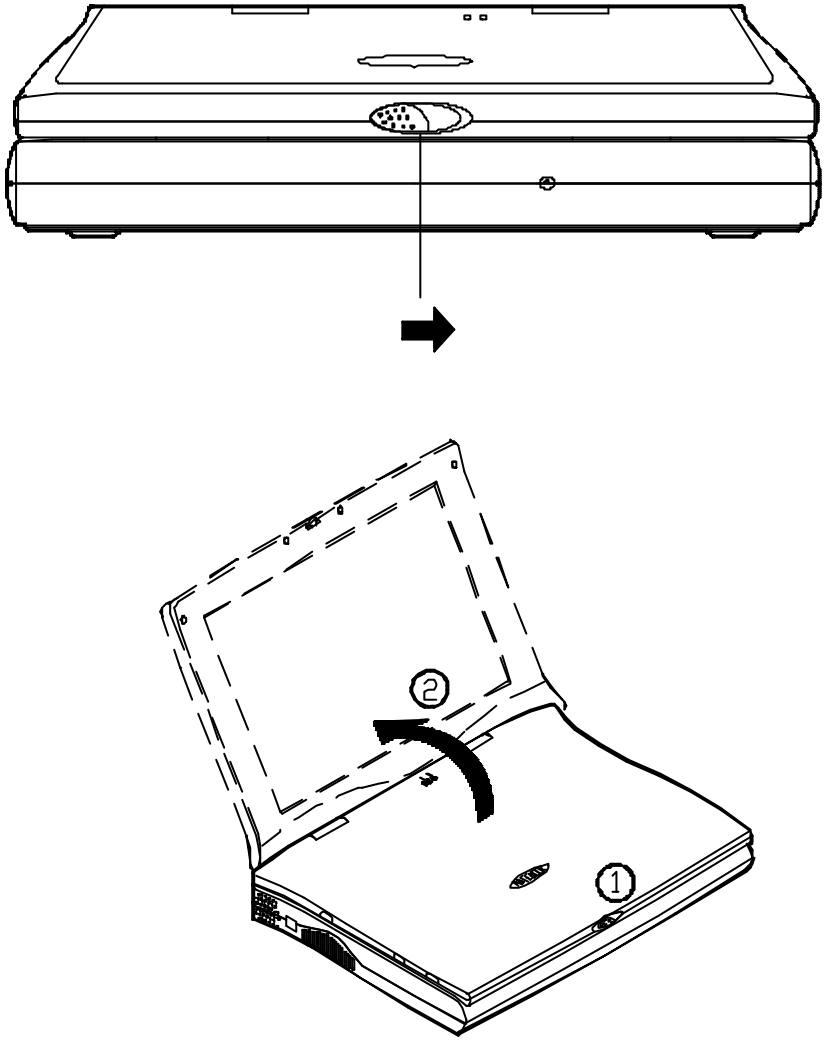


Figure 2-20

Using Power Management

The Notebook system provides you with various modes to manage its power consumption while maintaining system performance. Please refer to *Chapter 3: BIOS Utilities, System Configuration Utility, Power Menu* for more information.

Advanced Power Management (APM 1.2)

The Notebook provides built-in Advanced Power Management (APM 1.2) support to reduce power consumption. APM function varies depending on the operating system you are using. **Some operating systems do not support APM, such as Windows NT, and therefore, cannot take advantage of the system's capabilities in this area.**

Hard Disk Standby

The system will turn off the Notebook's hard disk drive motor if it has not been accessed after a specified period of time. The motor will be turned back on once the system attempts to read or write data to it.

Global Standby

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

Suspend and Resume

When at extremely low power the system will halt operations yet retain all its programming. This is called **Suspend** Mode. The Suspend Mode features three levels: Powered-On-Suspend (POS) mode, Suspend-To-RAM (STR) mode, and Suspend-To-Disk (STD) mode.

Be sure not to initiate the Suspend Mode when any of the disk drives is accessed such as HDD, FDD and CD-ROM drive.

The system operation can be returned to exactly where it was suspended when wake-up event occur. This is called **Resume**.

Powered On Suspend (POS)

Of the three suspend modes, Powered-On-Suspend saves the least amount of power. However, it takes the shortest time to return to full operation.

Resume from POS Mode

The system may be resumed from Powered-On-Suspend mode by:

- Alarm resume (month/day/hour/minute)
- Modem ring
- Any keyboard key pressed
- Depressing the power button (if configured as Suspend/Resume function under SCU)

Suspend To RAM (STR)

Suspend-To-RAM mode is the medium level of system power management.

Resume from STR Mode

The system may be resumed from Suspend-To RAM mode by:

- Alarm resume (month/day/hour/minute)
- Modem ring
- Depressing the power button (if configured as Suspend/Resume function under SCU)

Suspend To Disk (STD)/Soft Off (SOFF)

Suspend to Disk is a 0-volt suspend mode for system power management. STD mode saves the maximum power but takes the longest time to return to full operation.

1. Use your operating system's FDISK program to delete all partitions of the hard disk if any already exist on the target drive.

2. Boot the system from the A: drive and run the 0VMAKFIL.EXE Utility to create the Suspend to Disk partition on the hard disk of a size that will accommodate **the installed DRAM (n) plus 2MB integrated video RAM**.

   A:\>0VMAKFIL-Pn

   For example, if the system DRAM is 32MB, 0VMAKFIL will create a partiton size of approximately 34MB.

   A:\>0VMAKFIL-P32

   Note: Rewrite the sector signatures if you need to partition the hard disk again.

   C:\>0VMAKFIL -PW

3. Re-partition the hard disk using your operating system's FDISK program.

Resume from STD Mode

The system may be resumed from Suspend-To-Disk mode by:

- Power back on
- Alarm resume (month/day/hour/minute)

Attaching Peripheral Devices

The herein mentioned shows you how to attach peripheral devices to the ports or jacks on the rear panel of the Notebook Computer.

Attaching a Phone Line

The notebook is equipped with a phone jack for connecting a phone line. To enable the function of a built-in modem, the users have to insert a modem card (Optional) into the socket on the mainboard and attach a phone cord to the jack. See figures (2-21.1 / 2-21.2).

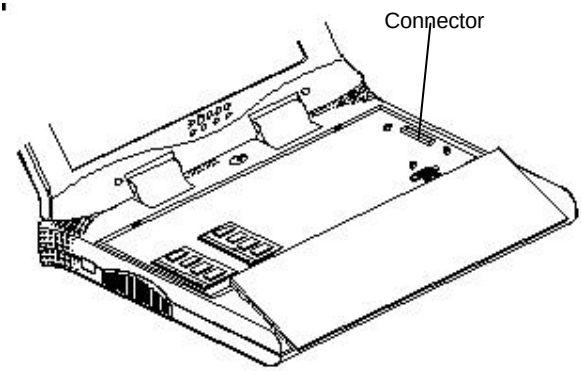


Figure 2-21.1

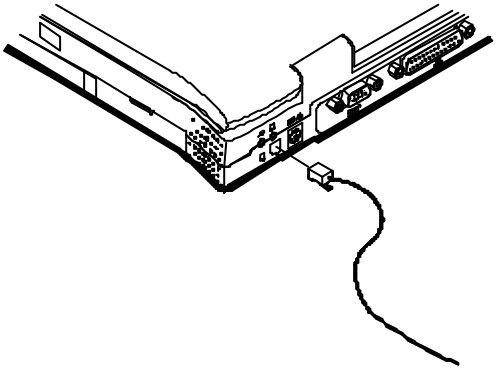


Figure 2-21.2

Attaching a PS/2 Keyboard or Mouse

The Notebook can be operated with a PS/2 keyboard or mouse attached by means of the PS/2 transfer cable. Attach the external keyboard or mouse as shown below (Figure 2-22).

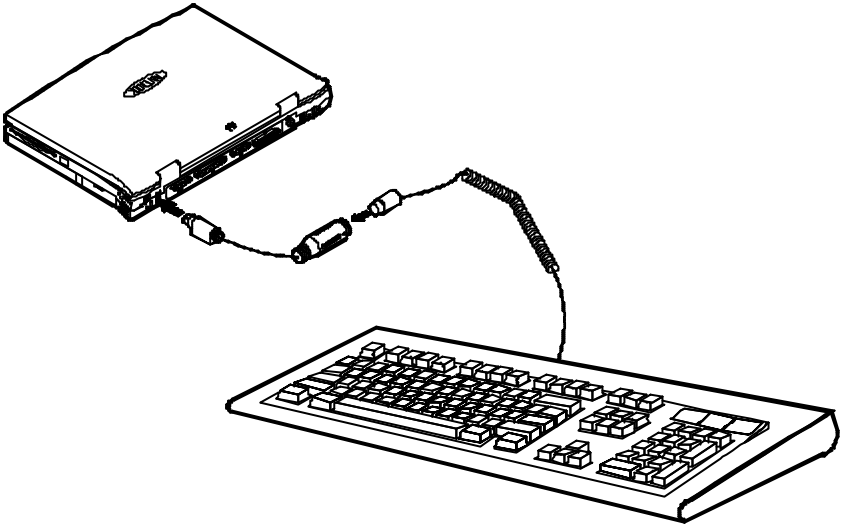


Figure 2-22

Attaching a Serial Mouse

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

- Turn the system power off.
- Connect the cable to the serial port on the rear of the Notebook Computer (Step 1 in Figure 2-23).
- Tighten the screws that fasten the cable to the serial port (Step 2 in Figure 2-23).
- Turn on the Notebook Computer.

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

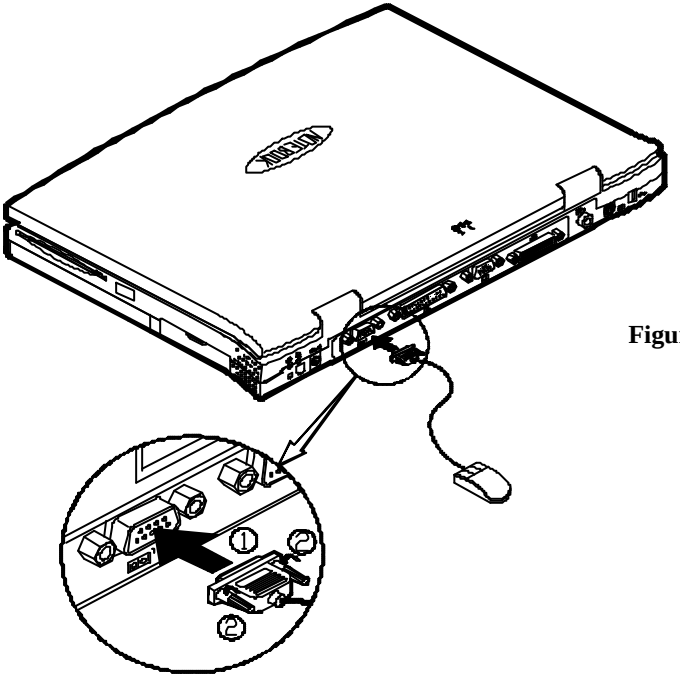


Figure 2-23

Attaching a Parallel Printer

You may connect any standard Centronics parallel printer to your Notebook using the parallel port.

- Turn the system power off.
- Connect the cable to the parallel port on the rear of the Notebook Computer (Step 1 in Figure 2-24).
- Tighten the screws that fasten the cable to the parallel port (Step 2 in Figure 2-24).
- Insert the other end of the cable to the printer's connector. Fasten the cable's connector.
- Turn on the printer and Notebook Computer.

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

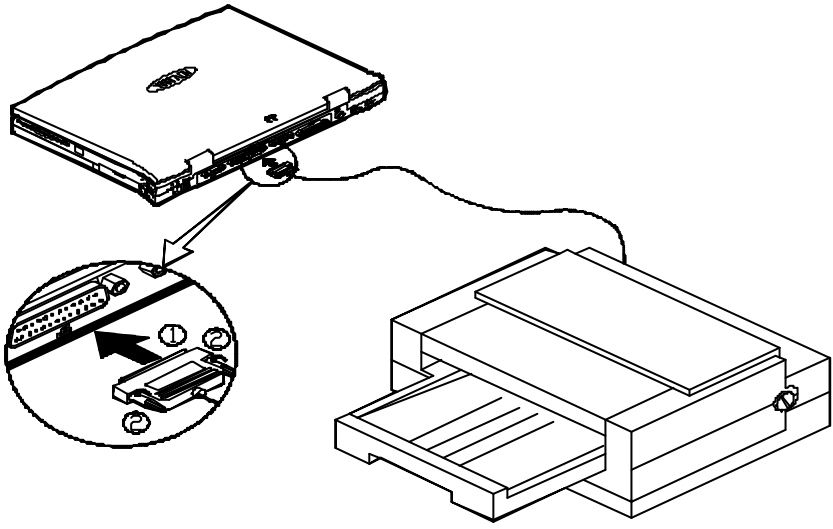


Figure 2-24

Attaching an External Monitor (CRT)

The computer is capable of displaying information not only on the LCD, but also on SVGA compatible displays attached to the computer. Information can be displayed on both the LCD and the external monitor simultaneously. Enter the System Configuration Utility (SCU) to select the appropriate parameters or use the **Fn** + **F6** keys (refer to *Chapter 2, Using Hot Keys*).

- Turn the system power off.
- Connect the cable to the CRT port on the rear of the Notebook Computer (Step 1 in Figure 2-25).
- Tighten the screws that fasten the cable to the CRT port (Step 2 in Figure 2-25).
- Insert the other end of the cable to the external monitor.
- Turn on the Notebook Computer.

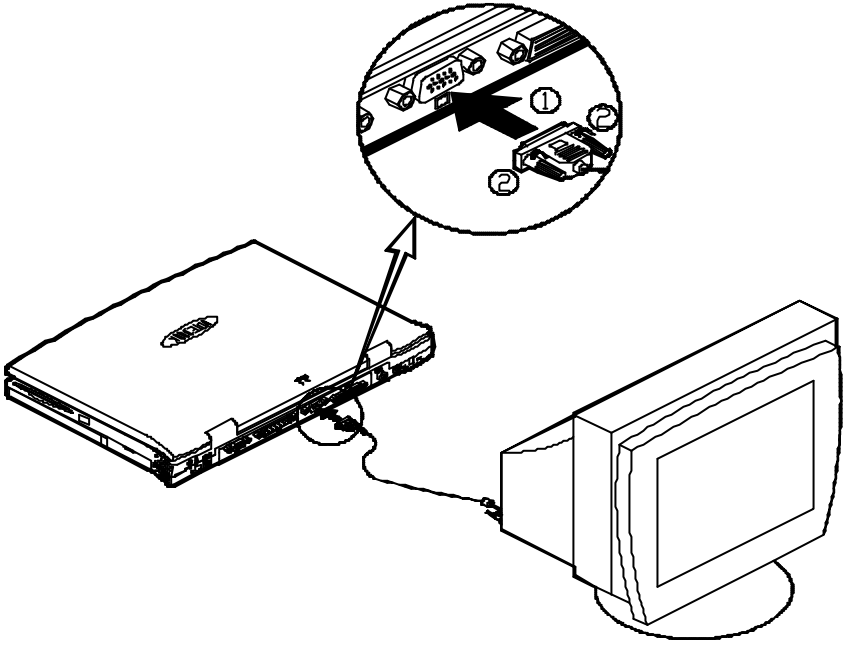


Figure 2-25

Attaching a Proprietary Port Replicator

The proprietary Port Replicator, providing interfaces for those found on the Notebook system, frees you from fumbling with multiple cables every time you leave the office. Please contact your dealer for detailed information.

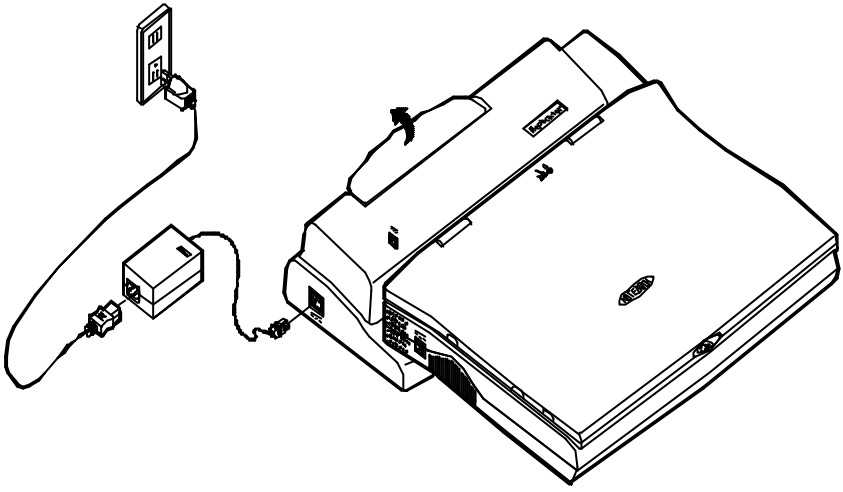


Figure 2-26

Attaching a Video Input Device

The RCA jack on the rear panel of the Notebook allows analog composite signal input from external video devices. Attach the device as shown below (Figure 2-27).

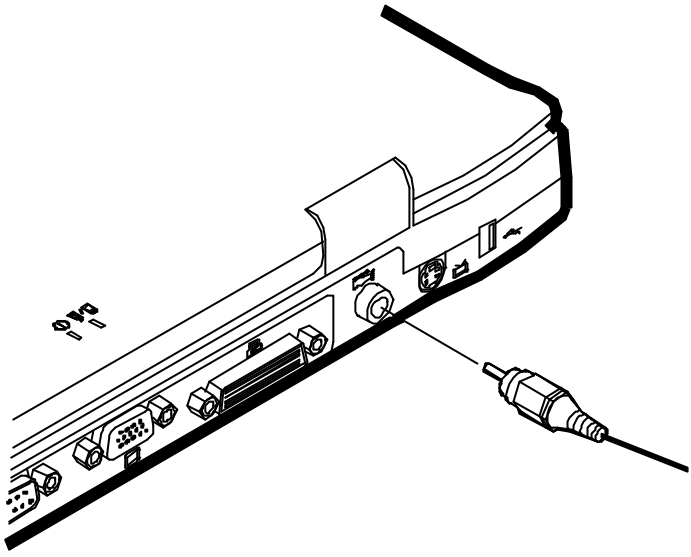


Figure 2-27

Attaching a TV Set

The S-video jack on the rear panel of the Notebook is used for transmitting video signals to a TV set. You may need to select the video standard for video display. Enter the System Configuration Utility (SCU), Components Menu to specify the appropriate TV mode. Simultaneous display on external monitor (CRT) and TV is available. You may enter the SCU to select the appropriate parameters or use the **Fn** + **F6** keys (refer to *Chapter 2, Using Hot Keys*).

Attach the TV set as shown below (Figure 2-28).

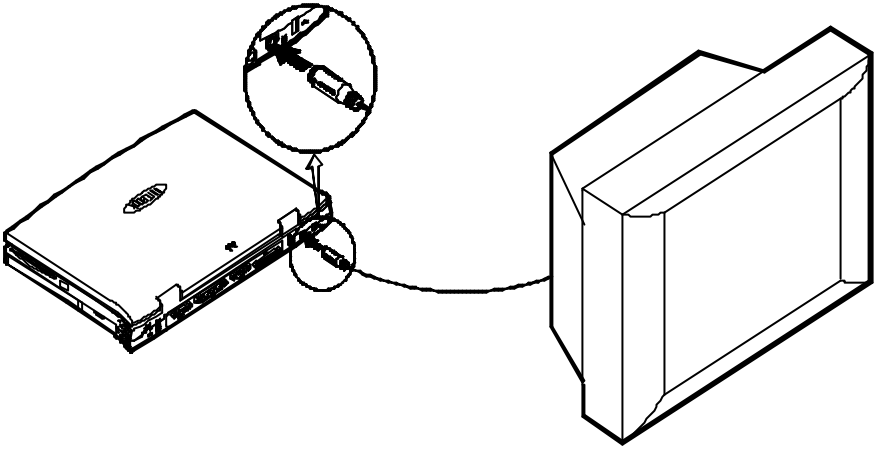


Figure 2-28

Attaching a USB-compatible Device

The Notebook provides a USB port for connection of a USB-compatible keyboard, mouse or other devices. Attach the device as shown below (Figure 2-29).

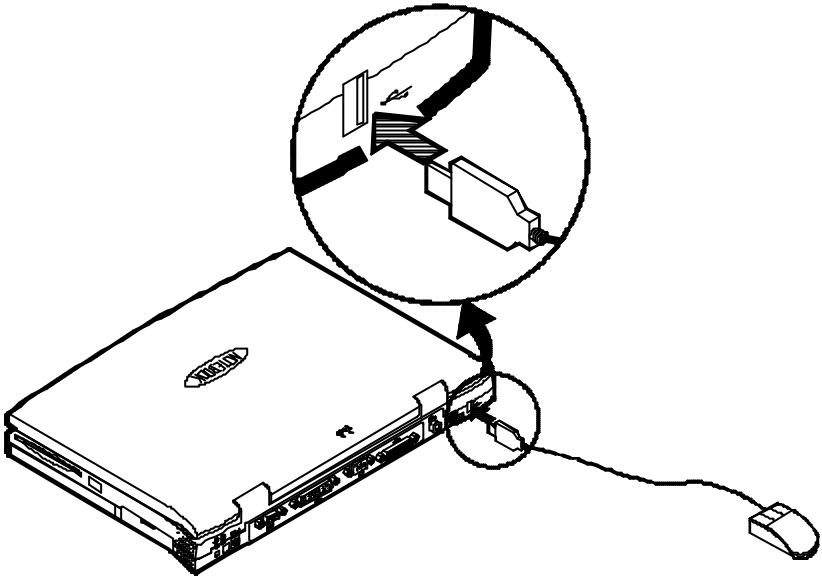


Figure 2-29

Chapter 3: BIOS Utilities

This chapter provides information regarding the Power On Self Test (POST) and shows you how to configure the system parameters using the System Configuration Utility (SCU).

Power On Self Test (POST)

The system BIOS (Basic Input/Output System) performs a series of Power On Self Test (POST) on system memory and key computer components every time the computer is turned on. If an error exists, the POST routine may halt execution (depending on the severity of the problem). The POST also initializes BIOS configuration then boots the operating system.

POST Message: Normal Operation

If no error occurs, the system will be operating after the POST process is completed.

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

SystemSoft MobilePRO BIOS Version 1.01 (2482-00)

233 MHz Pentium with MMX CPU
External Cache: 512KB installed
4 MB Video RAM
SystemSoft Plug-n-Play BIOS Ver.1.17.01

Base Memory	000640 Kb
Extended Memory	064512 Kb
Total Memory	065536 Kb

Auto Detecting IDE Devices[Done]

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

POST Message: Error Detected

If an error is detected, a WARNING message will be displayed. You should either press **F1** key to continue, or press the **Ctrl-Alt-S** keys simultaneously to enter the System Configuration Utility.

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

233 MHz Pentium with MMX CPU
External Cache: 512KB installed
4 MB Video RAM
SystemSoft Plug-n-Play BIOS Ver.1.17.01

Base Memory	000640 Kb
Extended Memory	064512 Kb
Total Memory	065536 Kb

WARNING – HARD DISK CONTROLLER 1 FAILURE
Auto Detecting IDE Devices[Done]

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

System Configuration Utility

The System Configuration Utility (SCU) is a ROM-based configuration utility that displays the system's configuration status and provides users with a tool to set their system parameters. The settings are stored in non-volatile battery-backed CMOS RAM which saves the information even when the power is turned off, and retains it when the system is turned back on.

Information in the System Configuration Utility

The following shows the system settings that may be changed within the System Configuration Utility.

Menu Bar Items	Pull-down Menu Items
Startup	Date and Time, Fast Boot, Boot Device, Display, Enable Battery Low Beep, Enable LCD Expand Mode, Enable Power on Beep, Boot Password, SCU Password.
Memory	Cache Systems.
Disks	Diskette Drives, IDE Settings.
Components	COM Ports, LPT Port, PS/2 Mouse Port, Microsoft Intellimouse Support, Keyboard Numlock, Keyboard Repeat, TV Mode, Video In Mode, ZV Port Enable.
Power	Enable Power Saving, Low Power Saving, Medium Power Saving, High Power Saving, Customize, Suspend Controls, Resume Timer, Enable MODEM Ring Resume, Enable Battery Low Suspend, Advance CPU Controls.
Exit	Save and Exit, Exit (No Save), Default Settings, Restore Settings, Version Info.

Initiating the System Configuration Utility

The System Configuration Utility (SCU) will be accessed when simultaneously pressing the **Ctrl**, **Alt**, and **S** keys.

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

The above message only lasts seconds. If you miss it, the computer will initiate the boot process. You must reboot the system and try again within the time limit if you want to enter the System Configuration Utility.

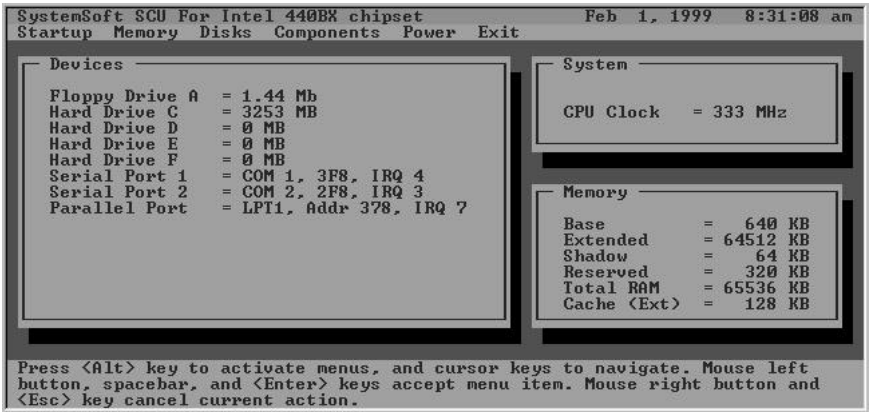


Figure 3-1
System Configuration Utility (SCU)

Working with the Menu Bar of the System Configuration Utility

Press **Ctrl**-**Alt**-**S** keys simultaneously to enter the menu bar of the System Configuration Utility.

Action	Keys Used	Description
Activate menus	Alt	Activate the System Configuration Utility.
Select menu bar item	Left arrow (←)	Move to a menu bar item on the left.
	Right arrow (→)	Move to a menu bar item on the right.
	The highlighted letter key	Move to the corresponding menu bar item.
Accept menu bar item	Mouse left button Spacebar Enter	Enter the selected menu bar item to configure settings.
Cancel current action	Mouse right button Esc	Undo the current command.

Working with the Pull-down Menu of the System Configuration Utility

When the desired menu bar item is highlighted, press the **Enter** key to enter the pull-down menu for values setting.

Action	Keys Used	Description
Select pull-down menu item	Down arrow (↓) Up arrow (↑)	Move to the next pull-down menu item. Move to the previous pull-down menu item.
	The highlighted letter key	Move to the corresponding pull-down menu item.
Select a control	Tab	Move between the options.
Change values	Down/Up arrows (↓)(↑)	Modify the settings.
Accept entries	Spacebar	Enable/disable the specified function. When a check mark (√) appears, the function is on.
	Enter	Choose <OK> from a list of options.
Reject entries	Esc	Undo the current setting.
	Enter	Choose <Cancel> from a list of options.
Activate accelerators	Alt	Initiate all the highlighted letters corresponding to their respective options.
Quit	Esc	Press the Esc key to close the pull-down menu.

Features of the System Configuration Utility

Startup Menu

Item	Setting/Option		Function
Date and Time	Day/Month/Year Hour/Minute/Second		Set the current date and time.
Fast Boot	Enable		Initialize and quickly boot the system in a few seconds by skipping certain diagnostic tests.
	Disable		Disable the above.
Boot Device	1st Boot device	Hard Disk C	Specify where the system boots from.
		CD-ROM Drive	
		Diskette A	
	2nd Boot Device	Hard Disk C	Specify where the system boots from.
		CD-ROM Drive	
		Diskette A	
	3rd Boot Device	Hard Disk C	Specify where the system boots from.
		CD-ROM Drive	
		Diskette A	
Display	LCD		Activate an external monitor.
	CRT		Activate the system's LCD panel.
	LCD+CRT		Activate both the LCD and the CRT.
	TV		Activate an external TV.
	LCD+TV		Activate both the LCD and the TV.
	CRT+TV		Activate both the CRT and the TV.
	LCD+CRT+TV		Activate both the LCD, CRT and the TV.
Enable Battery Low Beep	Enable		The system emits a series of warning beeps sound when the battery power becomes low.
	Disable		Disable the above.

Item	Setting/Option	Function
Enable LCD Expand Mode	Enable	Stretch the display to fill the entire viewing area of the LCD panel.
	Disable	Disable the above.
Enable Power on Beep	Enable	Enable the Beep sound while starts the computer.
	Disable	Disable the above.
Boot Password	Enter old Power-On Password	Set password for booting computer. Users are authorized to start the system after entering correct password.
	Enter new Power-On Password	
	Verify new Power-On Password	
	Enable Password to Power-On	
SCU Password	Enter old Setup Password	Set password for modifying SCU. Users are authorized to change the SCU setting after entering correct password.
	Enter new Setup Password	
	Verify new Setup Password	
	Enable Setup Password	

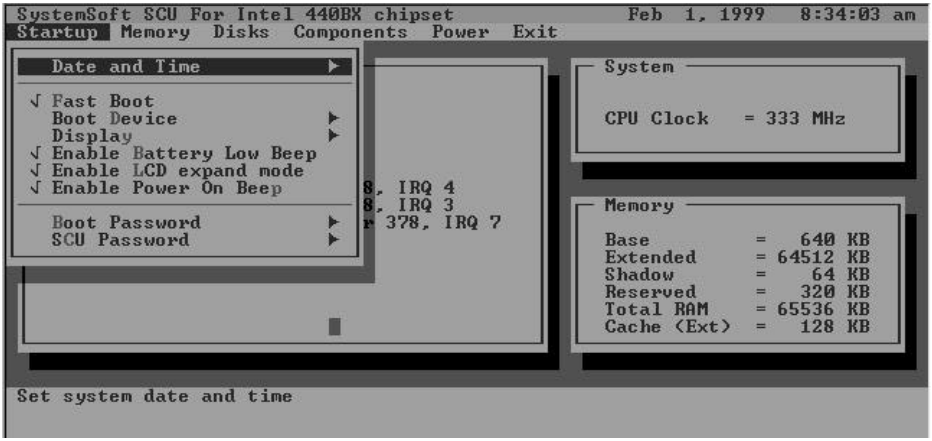


Figure 3-2
Startup Menu

Memory Menu

Item	Setting/Option		Function
Cache Systems	L1 Cache	Disabled	Disable the processor's internal cache.
		Write Back	Enable the write-back policy for L1 memory to access only when necessary to update the cache contents with changes for faster performance.
	L2 Cache	Disabled	Disable the L2 cache controller.
		Write Back	Enable the write-back policy for L2 memory to access only when necessary to update the cache contents with changes for faster performance.
	BIOS Shadow	Cached	The process of *shadowing* copies instructions from system BIOS into RAM to improve system performance.
		Not Cached	Disable the above.
	Video Shadow	Cached	The process of *shadowing* copies instructions from video BIOS into RAM to improve system performance.
		Not Cached	Disable the above.

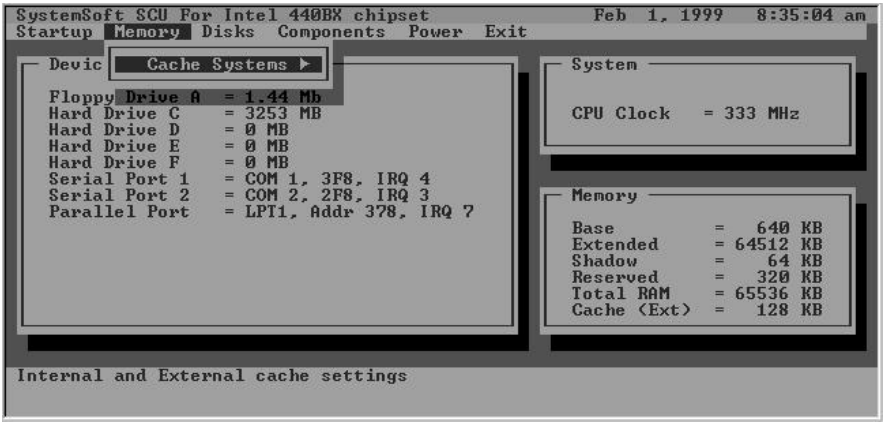


Figure 3-3
Memory Menu

Disks Menu

Item	Setting/Option		Function
Diskette Drives	Drive A	None	Specify the drive types for the diskette drive A.
		1.44 MB	
		2.88 MB	
IDE Settings	Primary HDD	Drive Enabled	Enable enhanced IDE settings.
		PIO Mode	
	CD-ROM	Drive Enabled	
		PIO Mode	

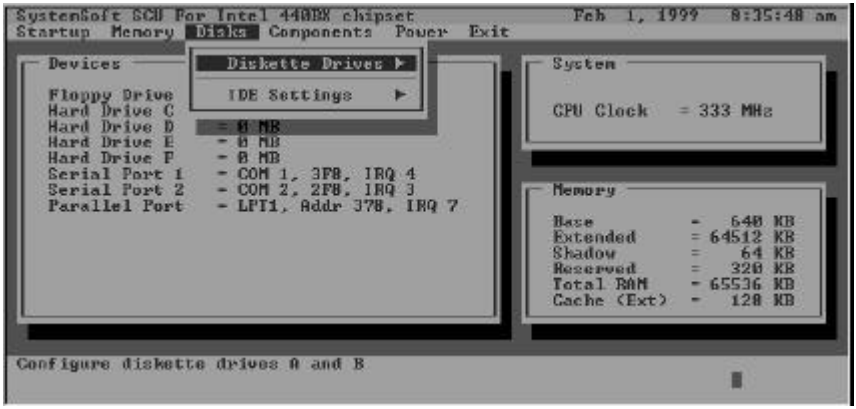


Figure 3-4
Disks Menu

Components Menu

Item	Setting/Option		Function
COM Ports	COM A I/O Settings	None	Specify the COM A configuration, support the settings for the DOS system and NON-PNP OS.
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
	COM B I/O Settings	None	Specify the COM B configuration, support the settings for the DOS system and NON-PNP OS.
		COM1, 3F8, IRQ4	
		COM2, 2F8, IRQ3	
		COM3, 3E8, IRQ10	
		COM4, 2E8, IRQ11	
LPT Port	Port Address	None	Specify the LPT port and IRQ configuration.
		LPT1, Addr 378h, IRQ7	
		LPT2, Addr 278h, IRQ5	
		LPT3, Addr 3BCh, IRQ7	
	Port Definition	Standard AT (Centronics)	
		Bidirectional (PS-2)	
		Enhanced Parallel (EPP)	
		Extended Capabilities (ECP)	
	DMA Setting For ECP Mode	DMA 1	Specify the ECP DMA configuration.
		DMA 3	
	EPP Type	EPP 1.7	Specify the EPP type.
		EPP 1.9	

Item	Setting/Option		Function
PS/2 Mouse Port	Enable		Enable the system's trackpad or an external PS/2 mouse.
	Disable		Disable the internal or external PS/2 mouse if IRQ resource is not enough.
Microsoft Intellimouse Support	Enable		Support PS/2 mouse with the wheel button.
	Disable		Do not support PS/2 mouse with the wheel button.
Keyboard Repeat	Key Repeat Rate	2 cps	Define the rate (characters per second) at which the keyboard repeats while a key is depressed.
		6 cps	
		10 cps	
		15 cps	
		20 cps	
		30 cps	
	Key Delay	¼ sec	Specify the amount of time (second) that will pass after a key is depressed before the key starts to repeat.
		½ sec	
		¾ sec	
		1 sec	
TV Mode	TV Modes Selection	NTSC	Specify the TV mode as NTSC or PAL.
		PAL	
Video In Mode	Video In Modes Selection	Enable	Support the Video input mode
		Disable	Do not support Video input mode
ZV Port Enable	Enable		Support ZV port as Video output function.
	Disable		Do not support Video output function.

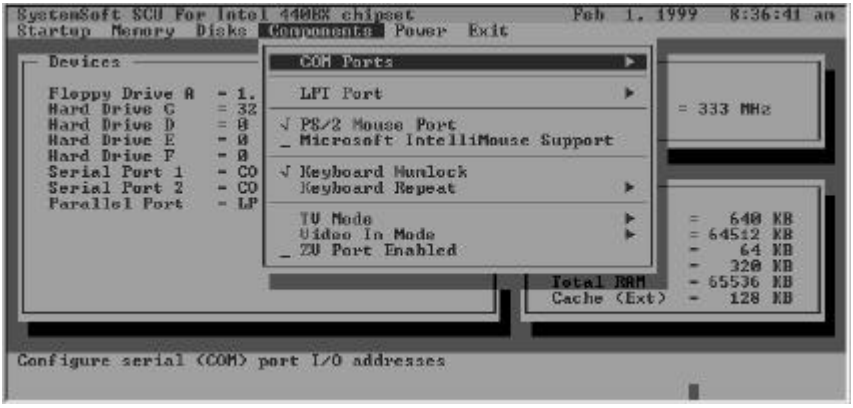


Figure 3-5
Components Menu

Power Menu

Item	Setting/Option		Function
Enable Power Saving	Enable		Enable/Disable all power saving features.
	Disable		
Low Power Saving	Enable		Enable/Disable the power saving to its lowest which results in max. performance but shortest battery life.
	Disable		
Medium Power Saving	Enable		Enable/Disable the power saving to its medium which results in both moderate performance and battery life.
	Disable		
High Power Saving	Enable		Enable/Disable the power saving to its highest which results in min. performance but longest battery life.
	Disable		
Customize	Disk Standby	Always on	The hard disk will be put on standby if it is not accessed within the specified period. Hard disk power will be restored when the disk drive is accessed again.
		30 sec	
		20 sec	
		15 sec	
		10 sec	
		5 sec	
	Global Standby	Always on	The system power will be reduced if the system has been idle for the specified period. System power will be restored when any system activity is detected.
		1 min	
		2 min	
		4 min	
		6 min	
		8 min	
		12 min	
		16 min	

Item	Setting/Option		Function
Suspend Controls	Power Button Function	Power On/Off	The power button is switched to turn the system on or off.
		Suspend/Resume	The power button acts as a **suspend/resume button** for switching the system between a working state and the suspend mode.
			Pressing the power button for more than four seconds will generate a **power button override event** to switch the system from a working state to the Soft-Off state.
	Suspend Type	Suspend To Disk	Specify the suspend mode for power management.
		Suspend To RAM	
		Powered On Suspend	
	Suspend Timeout	Never	If the system has been idle for the specified period, the system will enter user-defined suspend.
		1 min	
		5 min	
		10 min	
		20 min	
		30 min	
Resume Timer	Alarm Resume	Enable	Resume the system from the configured suspend mode when resume alarm timer expires.
		Disable	
	Resume Month/Day/Hour/Minute		The system will resume at the specified time (month, day, hour and minute).

Item	Setting/Option		Function
Enable MODEM Ring Resume	Enable		Resume the system from STR or POS mode when a modem ring is detected from the serial port.
	Disable		Disable the above.
Enable Battery Low Suspend	Enable		Automatically suspend the system upon a low battery condition.
	Disable		Disable the above.
Advance CPU Controls	Clock Control Mechanism	Full Speed	Specify the type of Processor Clock Control.
		Doze Mode	

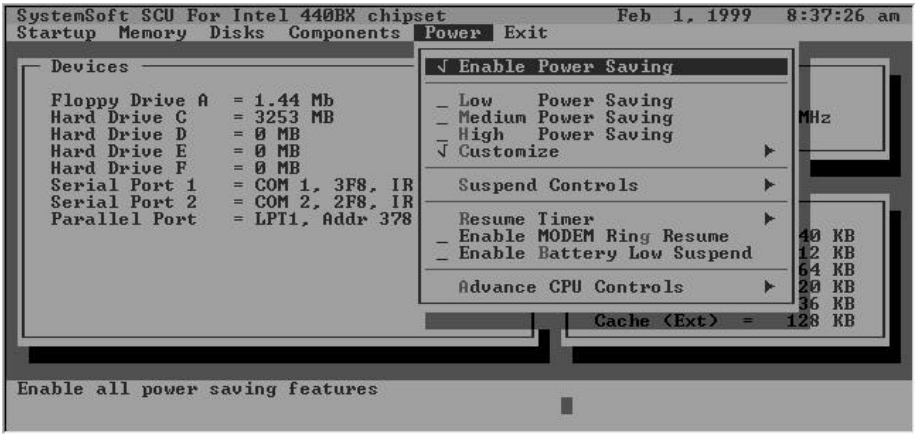


Figure 3-6
Power Menu

Exit Menu

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

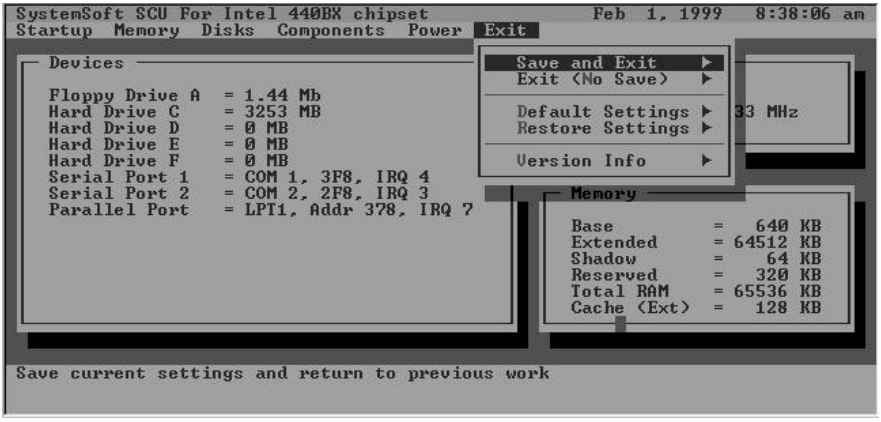


Figure 3-7
Exit Menu

Chapter 4: Troubleshooting

Sometimes your computer has some problems. Before you consult the computer vendor, you can try to solve problems yourself. The following is a list of some commonly experienced 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

Battery

Problem: ***The battery pack can not be charged.***

Solution 1: The battery pack is exposed to excessively hot or cold environment. Let it restore to normal temperature before you use it.

Solution 2: The battery pack might be used up.

Problem: ***The battery pack can not be charged and the charge indicator turns off.***

Solution 1: The battery has been fully charged.

Solution 2: The battery pack is exposed to excessively hot or cold environment. Let it restore to normal temperature before you use it.

Solution 3: The battery pack is used up.

Problem: ***The beep sound is heard and the low power indicator turns on.***

Solution: The computer is in low power status. Please connect your computer with AC adapter, or press Fn + Esc key combination to enter suspend mode.

Problem: ***The beep sound isn't heard whereas the low power indicator turns on, or the gauge indicates power is less than 10%.***

Solution: The computer is in low power status. Please adjust the volume control and connect the computer with AC adapter.

Problem: ***The actual battery operation time is shorter than expected.***

Solution 1: The battery is exposed to excessively high or low temperature. The ideal temperature for battery operation is between 50°F and 95°F (10°C and 35°C) whereas keeping is between 32°F and 113°F (0°C and 45°C).

Solution 2: The battery has released some power. Please recharge it.

Solution 3: The power management has been turned off.

Solution 4: Some peripheral device or PC card is consuming power. Turn off the unused device to save power.

Solution 5: The battery has been given a partial charge. When charging, always fully charge after fully discharge.

Power

Problem: ***The computer can not boot when the battery pack is not inserted.***

Solution 1: The power cord is not correctly connected with AC adapter. Make sure the power cord is firmly plugged into grounded outlet and computer.

Solution 2: The grounded outlet is not in normal operation. Check the outlet's function or use other outlet.

Problem: ***The system has automatically entered suspend mode***.

Solution 1: The system's temperature is too high. Let it cool before you use it.

Solution 2: The system has entered suspend mode after a specified period of time. Please press any key or touch the trackpad to wake up the computer.

Hard Disk Drive

Problem*: *The message "Non-system disk" appears.

***Solution*:** The computer is trying to boot from the floppy including no software. Please take the floppy out and restart the computer.

Problem: ***It takes a longer time to read the hard disk drive after restarting the computer***.

Solution 1: The data saved on hard disk drive may be lost. Please operate the "disk defragmenter" to check the lost unit.

Solution 2: As in low battery status, the computer is waking up from the suspend mode.

Floppy Disk Drive

Problem: ***The floppy disk drive can not write data to disk.***
Solution 1: The floppy is not formatted.
Solution 2: The floppy is write-protected. Please cancel the protection.
Solution 3: The data is written to incorrect disk drive.
Solution 4: The space left on disk is not enough. Please use a new disk or delete the unneeded data.

Problem: ***The disk drive can 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.

Hardware Installation

Problem: ***The computer can not recognize the device as part of the system.***
Solution 1: The power switch of new device is not turned on. Please turn on the power switch, then restart the computer.
Solution 2: You do not rearrange the computer after the device is installed.
Solution 3: The power cord or the connector between device and computer is plugged out. Please make sure the device is firmly connected with the computer.
Solution 4: You do not follow the system configuration as the computer suggested. Please follow the suggestion.

LCD Panel

Problem: ***The font is too dark.***

Solution: The brightness or contrast is not correctly set. Please press Fn+F7 or Fn+F8 key combination (only limited to DSTN panel) to adjust the contrast control, and use Fn+F9 or Fn+F10 to adjust the brightness control.

Problem: ***The screen is blank.***

Solution 1: The panel blank application might be set.

Solution 2: The system operates the screen saver after a specified period of time. Please press any key or touch the trackpad.

Solution 3: The brightness or contrast needs to be adjusted. Please press Fn+F7 or Fn+F8 key combination (only limited to DSTN panel) to adjust the contrast control, and use Fn+F9 or Fn+F10 to adjust the brightness control.

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

Problem: ***The panel displays incorrect font or blinks when the computer is connected with monitor.***

Solution: The resolution you use for monitor exceeds that the panel can support whereas you have switched to panel. Please restart the computer.

Memory Module

Problem: ***The computer can not boot.***
Solution: The incorrect type of memory module is installed.

Problem: ***The memory capacity is not enough.***
Solution: The memory is not correctly configured for the application.

Problem: ***The detected memory capacity is not correct.***
Solution: Some 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 can not be operated as the memory is used up.

PC Card

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

Problem: ***The system can not recognize the PC card.***
Solution 1: The PC card is not completely plugged into the socket or reversely plugged.
Solution 2: The PC card driver is not installed.
Solution 3: The PC card or card driver is not compatible with the computer.

Problem: ***The beep sound is not heard while the PC card is plugged into.***
Solution: The beep sound control is closed.

Boot Password

Problem: ***You forget the boot password.***
Solution: While forgetting the password, you must unpack the computer and delete the memory. Please ask the vendor for help.

Audio

Problem: ***The audio speaker can not be heard.***
Solution: The volume might be set too low. Please check your volume control.

Problem: ***The volume is too high (or too low).***
Solution: The volume is not correctly set. Please check your volume control.

Problem: ***The headphone can not be heard.***
Solution 1: The volume is not correctly set. Please check the volume control.
Solution 2: The volume source is not chosen.
Solution 3: The headphone is plugged into the wrong jack.

CD

Problem: ***The compact disk can not be ejected.***
Solution: The compact disk is not correctly placed in the tray.

Problem: ***The compact disk can not 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: ***The musical compact disk can be read while the data disk can not.***
Solution: The compact disk hardware for reading data needs to be checked.

Problem: ***All compact disks can not be read.***
Solution 1: The Windows system can not recognize the CD-ROM drive or the CD-ROM drive is not compatible with other devices.
Solution 2: The compact disk is dirty. Please clean it with a CD-ROM cleaner kit.
Solution 3: The compact disk hardware for reading data needs to be checked.

Printer

Problem: ***The printer is not ready.***
Solution: The printer power cord is not plugged into or the connector is not correctly connected.

Problem: ***The printer can not print.***
Solution 1: The printer is not power on. Please turn on the printer.
Solution 2: The printer is not in "connected" status. Please set the printer in "connected" status.
Solution 3: The paper is used up. Please add the paper.
Solution 4: The printer driver is not installed or correctly chosen. Please check the system.
Solution 5: The printer for network is not connected with the network.

Problem: ***The printer prints incorrect data.***
Solution 1: The printer driver is not installed or correctly chosen.
Solution 2: The printer power cord is not plugged into or the connector is not correctly connected.

ATI DVD Play (Optional)

Problem: ***When the DVD station is playing, pressing (Fn) Hot keys quickly at the same time, the DVD station will stop running in the normal Windows system.***
Solution: Please avoid pressing the Hot key quickly and continuously. For example, when use the Fn key to control the voice volume, press the Fn key, stopping seconds each time before pressing again. Or go to Windows 95/98, click the icon of volume at the right-bottom corner to control the voice volume.

Chapter 5: Installing Drivers

The chapter helps you starting to operate the Notebook Computer with the procedures of how to install software, device drivers and utilities step by step. This chapter is designed for notebook beginners as well as advanced users. Please follow the steps and suggestions below to start a new notebook computing work.

Use the CD for drivers in the package; prepare a DOS startup disk and DOS files before installing drivers for the first time.

By following the steps and procedures in the chapter, users can start to work with your Notebook Computer at once.

For more details and operating help, please contact your service dealer.

- Preparation
- Installing Windows 95/98
- Drivers for Windows 95
- Drivers for Windows 98
- Drivers for Windows NT 4.0

Preparation

Preparation for a new notebook:

1. Use a DOS startup disk to start the Notebook Computer.
2. Run FDISK utility from DOS to create a bootable partition.
   After A: prompt, type fdisk. (A: fdisk) Choose "1" to create hard disk as drive C:
   (See DOS manual for the operation detail.)
3. Format hard disk. Follow the command "Format C:/S" to create a bootable hard disk and a bootable floppy disk. (A: format C) (C:/S copies system files to the formatted disk)
4. Copy the file [MSCDEX.EXE] from DOS disk to drive C:
5. Insert the disk of the CD-ROM driver. Type "Install" after A prompt (A: install) See the driver manual for detail.
6. Restart the system

Installing Windows 95 (For Reference)

1. Start DOS.
2. Insert the Windows 95 CD-ROM.
3. Search the Win95 directory including the "setup" file.
4. After the directory prompt, type "setup", then press [Enter].
5. After the Windows 95 setup program performs a routine check on your system, press [enter] to continue.
6. When the setup initializes, click "Continue".
7. Click "Yes" on the "License Agreement" screen.
8. Click "Next" to select "Collecting information about your computer".

9. Click “Next” to select the default of “C:\WINDOWS”, or enter a different directory.
10. On the screen of “Setup Options”, select “Portable” for Notebook Computers, then click “Next”.
11. On the screen of “Certificate of Authenticity”, enter the Product Identification Number, then click “Next”.
12. On the screen of “User Information”, enter your name and company, then click “Next”.
13. Analyzing your computer, click “Next”.
14. Select “Install the most common components (recommended)”, then click “Next”.
15. On the screen of “Startup Disk”, insert a blank diskette into Drive A to create a startup diskette.
16. The Setup Wizard is now copying files. After the copying is finished, remove the disk, then click “OK”.
17. Click “Next” to start copying Windows 95 files to your computer.
18. Click “Finish” to restart Windows 95.
19. On the screen of “Set Up a Printer”, click “Cancel”.
    Note: Do not install a printer at this time.
20. Click “OK” to restart the Notebook Computer.

Installing Windows 98 (For Reference)

1. Start DOS.
2. Insert the Windows 98 CD-ROM.
3. Search the directory including the “setup” file. Type “setup” after the directory, and then press [Enter].
4. Follow the instructions on the screen. Also choose the recommended ones showing on screen.
5. The Windows 98 setup program will check the hard disk drive automatically.
6. When the setup initializes, click “Continue”.
7. Choose “License Agreement” to agree the contract.
8. Click “Next” to type the product ID number.
9. Click “Next” the program will automatically check the system.
10. Choose the directory for your computer. Select the path of “C:\WINDOWS”, or type another path.
11. For reinstallation, choose “Yes” (recommended) to keep the files.
12. Select your location.
13. To create a Win98 Startup disk, insert a floppy disk into drive A. To create the startup disk later, choose “Cancel”.
14. Press “Next”, and then the program will copy files to the hard disk of your computer.
15. At the same time, the screen will show the Win98 concerned information, also the items of setup one by one.
16. After the automotive setup stops, restart the computer.

Installing Drivers for Windows 95 OSR2.1

Step I: Run USB supplement path update file

- After finishing Win95 ORS2.1 installation, go to Win95.
- Download the file <USB supplement path update file> from Microsoft Web Site to run the USB supplement path.

Step II: Setup [TXPATCH]

- Under Win95, open the driver [TXPATCH] Intel 82371xb.inf TX chip from the path of CD-ROM Drive.
- Open [setup.exe.] and follows the instruction to complete the installation.
- Restart the system.

Step III. VGA Driver Installation

- Under Win95, Click [Start] at the bottom-left corner on the screen. Select [Run]. Open the path [D:\WIN9X\setup.exe]

Note: When ATI VGA driver has been existed in Win95 system, Click [Start]. Select [Run]. Open the path [atiuinst-clean]. Double-click [Ok] to finish installation.

Step IV: Audio Driver Installation

- Under Win95, click [Start]; select [Settings]; click [Control Panel] [Device Manager] [Other Devices] and delete [Unknown Devices] by clicking [Remove] and [Ok].
- Restart the notebook; go to Win95. The program will automatically find out [Add New Hardware Wizard] (PCI Multimedia Audio Device). Click [Next] [Other Locations] and [Browse] to find the path from CD-ROM driver as [CD-ROM drive: \Audio\Win95]. Then click [Ok]. Press [Finish] to set up the first audio driver.

Step V: PCMCIA Driver Installation

- Under Win95, click [Start]; open [Settings], [Control Panel], [System], [Device Manager], select [Other Devices] and remove [PCI CardBus Bridge]. Select [Ok]
- Under Control Panel, choose [Add New Hardware]; click [No] [Next] [Add PCMCIA Socket] [Next] [Have Disk] [Browse]. Choose the file [pcmcia.inf] from the disk or CD to install. Click the following one by one, [Manufacture Texas Instruments] [Texas Instruments] [PCI-1225 CardBus Control] [Next] [Next] [Finish].
- Before restarting the system, copy the file [PCMCIA.inf] to [c:\windows\inf] and the files [CBSS.vxd], [PCCARD.vxd], [PCI.vxd] to the sub-directory [C:\windows\system]

Note: Make sure whether the files are copied to drive C successfully.
[c:\windows\system\cbss.vxd][c:\windows\system\pccard.vxd]
[c:\windows\system\pci.vxd] [c:\windows\inf\pcmcia.inf]

Step VI: Video-in Driver Installation

- Boot the system, switching to SCU system by press keys Ctrl+Alt+S before running Windows. Choose [Components] from the top of the screen. Choose [Enable] for [Video-In Mode]
- Under Windows, Select [Start], [Run] and open the path [D:\video-in \setup.exe] to comp lete the installation.

Step VII: ATI DVD Play Driver Installation (Optional)

Note: Firstly make sure that it has already successfully installed the VGA drivers, Audio Driver and Direct X5 or DirectX6.

- Boot the system, press Ctrl+Alt+S to enter SCU system. Select [Power]. Enable [Low Power Saving], or Select [Advance CPU control] to set [Full Speed]. (If the clock of Intel Pentium II is above 366MHz/400MHz or if your DVD runs smoothly, you can skip the step).
- In the windows system, click [Start]; select [Setting], [Control Panel], and [System]. Open [Device Manager]; select [CDROM]. Click the item including the type of [DVD-ROM], and [Setting]; then enable [DMA] in Options.
- Insert the CD of Ati-DVD-Play applications and the program will automatically run the installation until finished. Otherwise, click [Start] in the windows system. Select [Run]. Open the path [D:\Atiplay\setup.exe]. Run [setup.exe] to finish the installation.

Step VIII: Using Infrared Wireless Communication

- Please refer to the read-me file under the FIR directory.

Drivers for Windows 98

Step I: VGA Driver Installation

- After installing Win98 successfully, enter into the system. Click [Start] at the bottom-left corner on the Windows screen; select [Run]; open the path of [D:\WIN9X\setup.exe] to run VGA driver installation.
- When ATI VGA driver has been already included in the system, click [Start], select [Run] and open the path of [\atiuinst-clean] and double-click [Ok].

  Note: For system ATI VGA included, uninstall the original VGA Driver and then install the driver.

Step II: Audio Driver Installation

- Under Win98, click [Start] [Settings] [Control Panel] [System]. Open [Device Manager]; select [Other Devices]; press [Remove] to

delete [PCI Multimedia Audio Device]. Click [Ok] and restart the notebook.

- Enter into Win98. The program will automatically find out [Add New Hardware Wizard]; choose [PCI Multimedia Audio Device], [Next] and click [Browse] to enable the setting of [specify a location]. Open the path of [D:\audio\WIN95], click [Next] and [Finish] to set up the first audio driver.

Step III: PCMCIA Driver Installation

- Go to Win98. Click [Start] [Settings] [Control Panel] [System]. Remove PCMCIA and also delete two sub-directories [Generic CardBus Controller].
- Switch to DOS. Copy the file [PCMCIA.inf] to the directory [C:\windows\inf].
- Reboot Win98 system.

Step IV: Video-in Driver Installation

- Restarting the notebook, before entering windows, press the keys Ctrl+Alt+S to switch to SCU status. Select [Component] and choose [Enable] for [Video-In Mode].
- Under Win98, click [Start] [Run] and open the path [D:\video-in\setup.exe] to complete the installation.

Step V: ATI DVD Play Driver Installation (Optional)

- Note: Firstly make sure that it has already successfully installed the VGA drivers, Audio Driver and DirectX6.
- Boot the system, press Ctrl+Alt+S to enter SCU system. Select [Power]. Enable [Low Power Saving], or Select [Advance CPU control] to set [Full Speed]. (IF the clock of Intel Pentium II is above 366MHz/400MHz or if your DVD runs smoothly, you can skip the step.)
- In the windows system, click [Start]; select[Setting], [Control Panel], and [System]. Open [Device Manager]; select [CDROM]. Click the item including the type of [DVD-ROM], and [Setting]; then enable [DMA] in Options.
- Insert the CD of Ati-DVD-Play applications and the program will automatically run the installation until finished. Otherwise, click

[Start] in the windows system. Select [Run]. Open the path [D:\Atiplay\setup.exe]. Run [setup.exe] to finish the installation.

Drivers for Windows NT 4.0

Preparation

- Install [Service Pack3] to the system or see Microsoft for the latest operation system update.

Step I: VGA Drivers

- Choose [Start] [Settings] [Control Panel] [Display] [Settings] [Display Type] [Change]. Then, Chick [Have Disk] and [Browse] and open the path [D:\VGA\NT4.0]. Click [Ok] to copy all concerned files to the hard disk.
- Restart WinNT4.0 system.

Step II: Audio Drivers (ESS 1978 M2EM / 1978S M2E)

- Under WinNT 4.0 system, click [Start] [Settings] [Control Panel] [Multimedia] [Devices] [Add] [Unlisted or Updated Driver] [Ok] [Browse] to open the path [D:\audio\NT4.0] and select [Ok] to exit.
- Reboot the system.

Appendix A: Specifications

This appendix describes the features and specifications for the Notebook Computer.

Processor

- Mobile Pentium II processors (AGP) at 300/266/233 MHz
- Intel Mobile Module Connector2 Structure (MMC2)
- 66 MHz CPU Bus Clock

Memory

- 3.3V power supply
- 64 bit data bus system memory
- Supports EDO/SDRAM
- 8MB expandable up to 256MB
- Two 144-pin SODIMM package

System BIOS

- 256KB flash ROM
- SystemSoft BIOS with Smart Battery
- Plug and Play 1.0a

Display

- 14.1" TFT XGA (1024x768 pixels) LCD panel available
- 13.3" TFT XGA (1024x768 pixels) LCD panel available
- 12.1" DSTN/SVGA (800x600 pixels) LCD panel available
- AGP 2X
- 64 bits Hardware 2D/3D Graphics Engine
- Motion Video acceleration
- Motion Compensation
- Support Video Playback
- High quality TV-out
- High quality dedicated S-Video TV Out
- 4MB display memory SGRAM type
- Vertical Interpolate 720V x 480H pixel wide video source
- CRT resolution up to 1280x1024x16M non-interlaced
- Ratiometric LCD expansion
- 230 MHz DAC

- Tri-View for a triple display solution, TV, CRT and LCD
- Support external Video Input
- Support VPM 1.10

Mass Storage

- 3.5" floppy diskette drive
- 2.5" hard disk drive (12.7mm high or less)
- 5.25" CD-ROM.
- Support Master mode IDE.
- Support PIO mode 4/ATA-33 (Ultra DMA)

Audio

- Sound Blaster Pro compatible
- Full duplex operation
- 3D stereo sound effects
- Built-in microphone
- Built-in speakers
- Wavetable Downloadable
- IIS interface for external ZV port MPEG audio
- High-quality FM music synthesizer 16 bits stereo sound system, compliant to PC97 Rev. 1.0

PC Card Sockets

- One Type III PC card or two Type II PC cards
- One socket ZV-capable
- CardBus support

Input/Output

- Built-in trackpad (PS/2)
- USB port
- S-video jack for TV output
- RCA jack for video input
- External CRT monitor (CRT) port
- Parallel port (LPT1)
- Serial port (COM 1)
- PS/2 type port (External keyboard/Mouse)
- Microphone-in jack
- Headphone jack
- DC-in jack

- Docking connector for Port Replicator (Optional)
- Phone jack for a 56K Modem Card (Optional)

Infrared Wireless Communication

- IrDA
- FIR
- ASKIR

Keyboard

- Windows 95
- Detachable for various language versions

Power Management

- APM 1.2
- Global standby
- Suspend and resume
- CPU over temperature protection
- Secondary cache power control
- Device power management for all devices
- Battery low suspend

Rechargeable Battery Pack

- Ni-MH battery available
- Li-Ion battery available
- Battery low warning
- Auto-switching with AC power adapter

Size & Weight

- 302mm(w)x249mm(d)x46mm(h)
- 3kg

Temperature Environment

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

Humidity Environment

- Operating 20%~80%, non-condensing
- Storage 10%~90%, non-condensing

Appendix B: I/O Port Pin Assignments

Parallel Port

Pin	Signal	Pin	Signal
1	Strobe#	14	Auto Linefeed#
2	Data 0	15	Error#
3	Data 1	16	Initialize#
4	Data 2	17	Select In
5	Data 3	18	Ground
6	Data 4	19	Ground
7	Data 5	20	Ground
8	Data 6	21	Ground
9	Data 7	22	Ground
10	ACK#	23	Ground
11	Busy	24	Ground
12	Paper Empty	25	Ground
13	Select		

Serial Port

Pin	Signal
1	DCD (Data Carrier Detect)
2	RXD (Received Data)
3	TXD (Transmitted Data)
4	DTR (Data Terminal Ready)
5	GND (Signal Ground)
6	DSR (Data Set Ready)
7	RTS (Request To Send)
8	CTS (Clear To Send)
9	RI (Ring Indicator)

RCA Jack

Pin	Signal
1	Video-In
2	GND

Monitor Port

Pin	Signal	Pin	Signal	Pin	Signal
1	RED	6	GND	11	N.C
2	GREEN	7	GND	12	DDCDATA
3	BLUE	8	GND	13	HSYNC
4	N.C	9	N.C	14	VSYNC
5	GND	10	GND	15	DDCCLK

PS/2 Type Port

Pin	Signal
1	EKDA
2	EMDA
3	GND
4	VCC
5	EKCLK
6	EMCLK

S-video Jack

Pin	Signal
1	GND
2	GND
3	XLUMA
4	XCRMA

USB Port

Pin	Signal
1	VCC
2	DATA−
3	DATA+
4	GND

PC Card Sockets

Socket A:

Pin	Signal	Pin	Signal
A1	GND	A2	N/A
A3	A_CD3	A4	A_CD1#
A5	A_CD4	A6	A_CD11
A7	A_CD5	A8	A_CD12
A9	GND	A10	A_CD6
A11	A_CD13	A12	A_CD7
A13	A_CD14	A14	A_CE1#
A15	A_CD15	A16	GND
A17	A_CA10	A18	A_CE2#
A19	A_OE#	A20	A_VS1
A21	A_CA11	A22	GND
A23	A_IORD#	A24	A_CA9
A25	A_IOWR#	A26	A_CA8
A27	A_CA17	A28	GND
A29	A_CA13	A30	A_CA18
A31	A_CA14	A32	A_CA19
A33	A_WE#	A34	A_CA20
A35	A_RDYBY#	A36	A_CA21
A37	A_VCC_C	A38	A_VCC_C
A39	A_VPP	A40	A_VPP
A41	GND	A42	A_CA16
A43	GND	A44	A_CA22
A45	A_CA15	A46	A_CA23
A47	A_CA12	A48	A_CA24
A49	A_CA7	A50	A_CA25
A51	GND	A52	A_CA6
A53	A_VS2	A54	A_CA5
A55	A_RESET	A56	A_CA4
A57	A_WAIT#	A58	A_CA3
A59	GND	A60	A_INPACK
A61	A_CA2	A62	A_REG#
A63	A_CA1	A64	A_BVD2#
A65	A_CA0	A66	A_BVD1#

Pin	Signal	Pin	Signal
A67	A_CD0	A68	GND
A69	A_CD8	A70	A_CD1
A71	A_CD9	A72	A_CD2
A73	A_CD10	A74	GND
A75	A_WP#	A76	A_CD2#
A77	GND	A78	GND

Socket B:

Pin	Signal	Pin	Signal
B1	GND	B2	N/A
B3	B_CD3	B4	B_CD1#
B5	B_CD4	B6	B_CD11
B7	B_CD5	B8	B_CD12
B9	GND	B10	B_CD6
B11	B_CD13	B12	B_CD7
B13	B_CD14	B14	B_CE1#
B15	B_CD15	B16	GND
B17	B_CA10	B18	B_CE2#
B19	B_OE#	B20	B_VS1
B21	B_CA11	B22	GND
B23	B_IORD#	B24	B_CA9
B25	B_IOWR#	B26	B_CA8
B27	B_CA17	B28	GND
B29	B_CA13	B30	B_CA18
B31	B_CA14	B32	B_CA19
B33	B_WE#	B34	B_CA20
B35	B_RDYBY#	B36	B_CA21
B37	B_VCC_C	B38	B_VCC_C
B39	B_VPP	B40	B_VPP
B41	GND	B42	B_CA16
B43	GND	B44	B_CA22
B45	B_CA15	B46	B_CA23
B47	B_CA12	B48	B_CA24
B49	B_CA7	B50	B_CA25
B51	GND	B52	B_CA6
B53	B_VS2	B54	B_CA5
B55	B_RESET	B56	B_CA4
B57	B_WAIT#	B58	B_CA3
B59	GND	B60	B_INPACK
B61	B_CA2	B62	B_REG#
B63	B_CA1	B64	B_BVD2#
B65	B_CA0	B66	B_BVD1#
B67	B_CD0	B68	GND
B69	B_CD8	B70	B_CD1

Pin	Signal	Pin	Signal
B71	B_CD9	B72	B_CD2
B73	B_CD10	B74	GND
B75	B_WP#	B76	B_CD2#
B77	GND	B78	GND