

## **Notice**

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1997

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## **Warranty Provisions**

Warranties for the Notebook Computer may vary with different areas. If you have any questions, please call your local dealer with the serial number of your unit, and you will be provided with all warranty information you need.

The manufacturer is not liable to any purchaser for damage, lost revenue, lost wages, lost savings, or any other incidental or consequential damages arising from the purchase or use of the product or inability to use the product.

## **FCC Notice**

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

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

## **CE - Certificate**

This model is in compliance with the requirements of the following regulation:  
EN 55 022: CLASS B

## Important safety instructions

Please read and follow these important instructions.

1. Follow all warnings and instructions marked on this product.
2. Unplug this product from the wall outlet before cleaning it or connecting peripheral devices.
3. Use a damp cloth with mild soap to clean this product. Do not apply cleaner directly to the unit. Do not use volatile or abrasive cleaners on this product.
4. Do not place this product on an unstable surface where it may fall.
5. Do not block or cover the system's ventilation openings. Also, never place this product near or over a radiator or heat register, or in a built-in installation unless adequate ventilation is provided.
6. Operate this product in accordance with its rated power specifications. If you are unsure of your local power specifications, consult your dealer or local power company.
7. This product is equipped with a 3-wire grounding type plug. This is an important safety feature; do not defeat its purpose. If you do not have access to such power, have a qualified electrician install a proper outlet.
8. Do not allow anything to rest on the power cord. Do not locate this product where persons will likely walk on the cord.
9. If an extension cord is used with this product, make sure the total current drawn by the products plugged into the extension cord do not exceed the extension cord or outlet power ratings.
10. Do not allow foreign matter to enter the system.
11. Do not attempt to service this product yourself. Opening or removing covers may expose dangerous voltage points. Refer all repair work to qualified service personnel.
12. Unplug this product from the wall outlet, do not operate it, and immediately seek proper servicing if:
  - The power cord or plug is damaged or frayed.
  - Liquid or foreign matter has entered this product.
  - This product has been exposed to rain or water.
  - This product has been dropped or damaged.
  - This product exhibits a distinct change in performance, indicating a need for service.
13. Do not use any battery pack other than the one specifically designed for this system. Batteries may explode or leak if exposed to fire or improperly handled or guarded. Refer battery replacement to your dealer or qualified service personnel.
14. Only use UL listed/CSA certified, type SVT/SJT power cords rated 6A 250V minimum (VDE approved or equivalent). It should be a detachable type with a minimum length of 6 feet.
15. Adjust only those controls that are covered by these operating instructions. Improper adjustment of other controls may result in serious damage to the system which is not covered by the warranty.

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# *Chapter 1*

## *Getting Started*

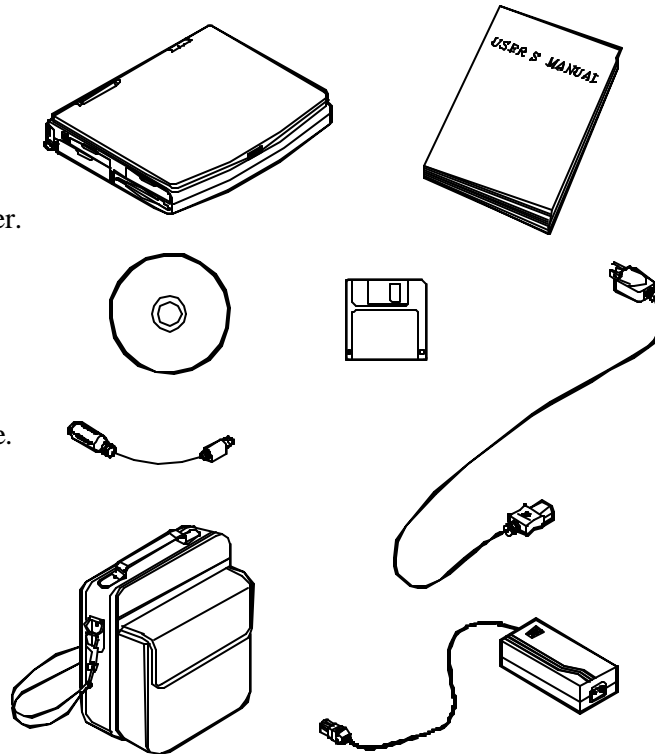
The instructions in this chapter will help familiarize you with the Notebook and show you how to quickly get it up and running. Specifically, the chapter will discuss:

- Unpacking.
- Operating environment.
- Powering on the Notebook.
- Opening LCD cover.
- Installing the primary battery pack.
- Installing the secondary battery pack.
- Charging the battery pack(s).
- Power Status LED indicators.

# Unpacking

Carefully unpack the Notebook Computer and the included accessories. If there is any discrepancy or problem, contact your dealer immediately. Be sure to save the packing materials in case you need to repack and ship the Notebook back in the future.

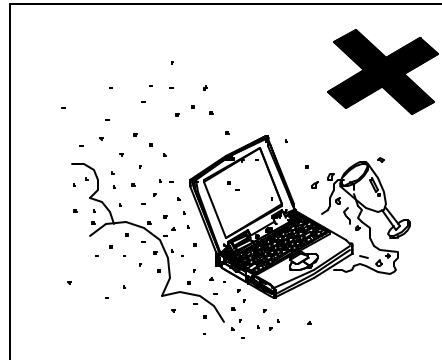
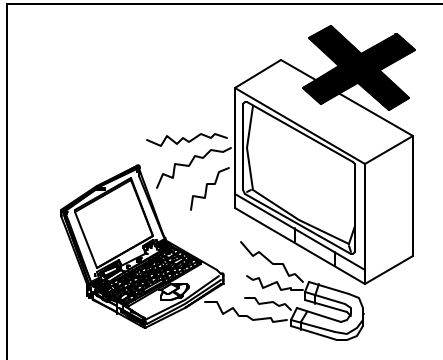
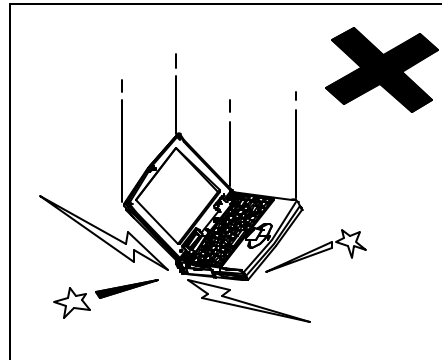
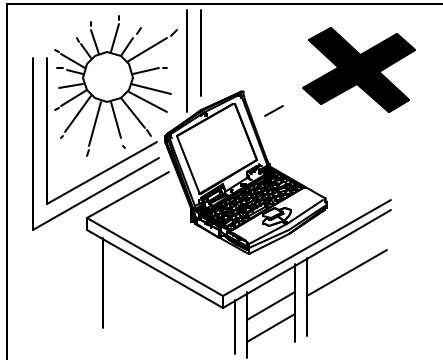
- Notebook Computer.
- Carrying Bag.
- Power Adapter.
- Power Cord.
- User Manual.
- PS/2 Transfer Cable.
- Utilities Diskette(s).
- Compact Disk.



# 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 should not be:

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



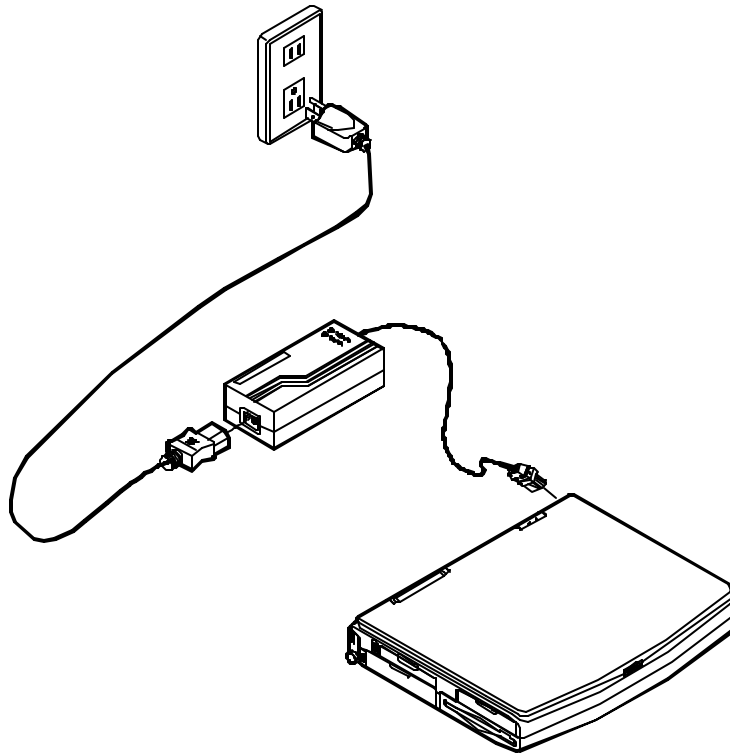
# Powering the System

The first time the Notebook is opened, the AC power source should be used since the internal battery pack (if installed) may have discharged during shipment.

## AC Power

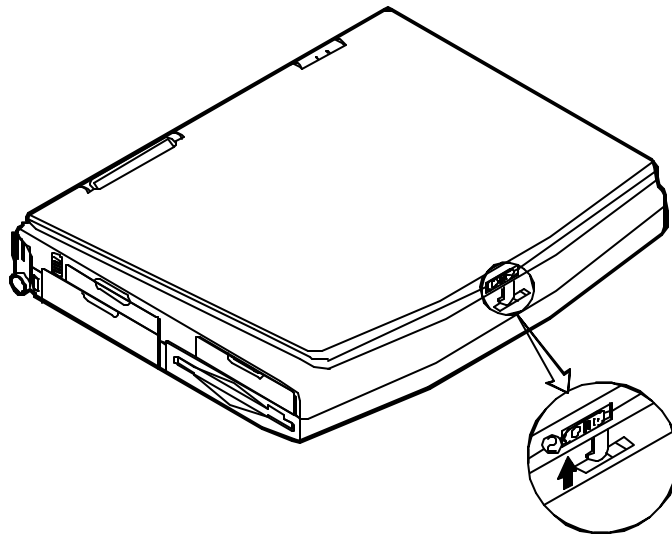
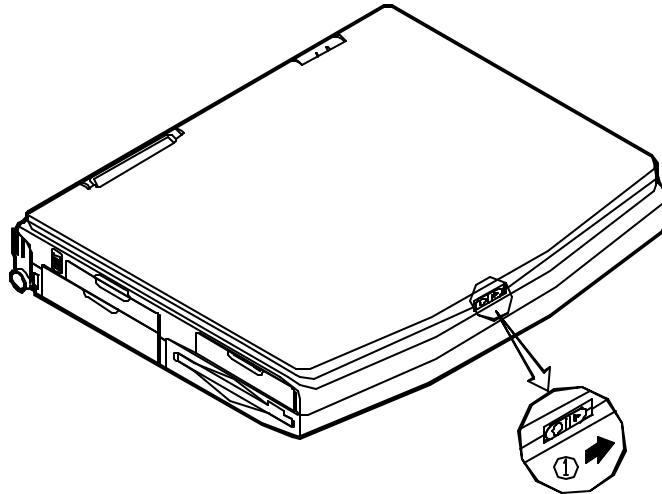
**Use only the power adapter that comes with your Notebook Computer. System operation with an incorrect power adapter will cause damage to the Notebook and its components.** Follow these steps when connecting the AC power adapter:

1. Plug the power adapter to the DC socket on the rear of the Notebook.
2. Connect the AC power cord to the power adapter.
3. Plug the AC power cord into a properly grounded outlet.



# Opening the LCD Cover

1. Slide the top cover latch to the right to release the latch.
2. Lift the top cover to reveal the LCD panel and keyboard.
3. Adjust the LCD panel to a comfortable viewing angle.



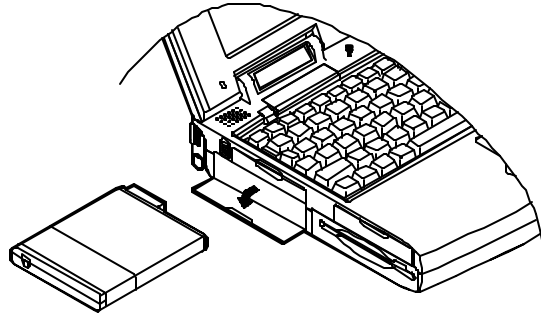
# Portable Operation

## Primary Battery Pack

The Notebook system can be powered by battery pack for continuous portable operation without an external power source when you take it away from the office. However, the actual operating time will be dependent upon the application you use and the configuration you set.

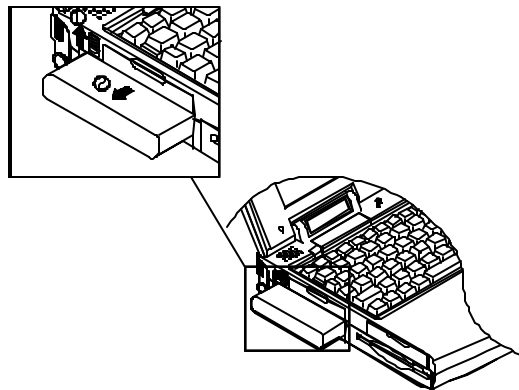
### Inserting

1. Open the battery access door on the left side of the Notebook.
2. Slide the battery into the compartment until the latch clicks into place.
3. Close the access door.



### Removing

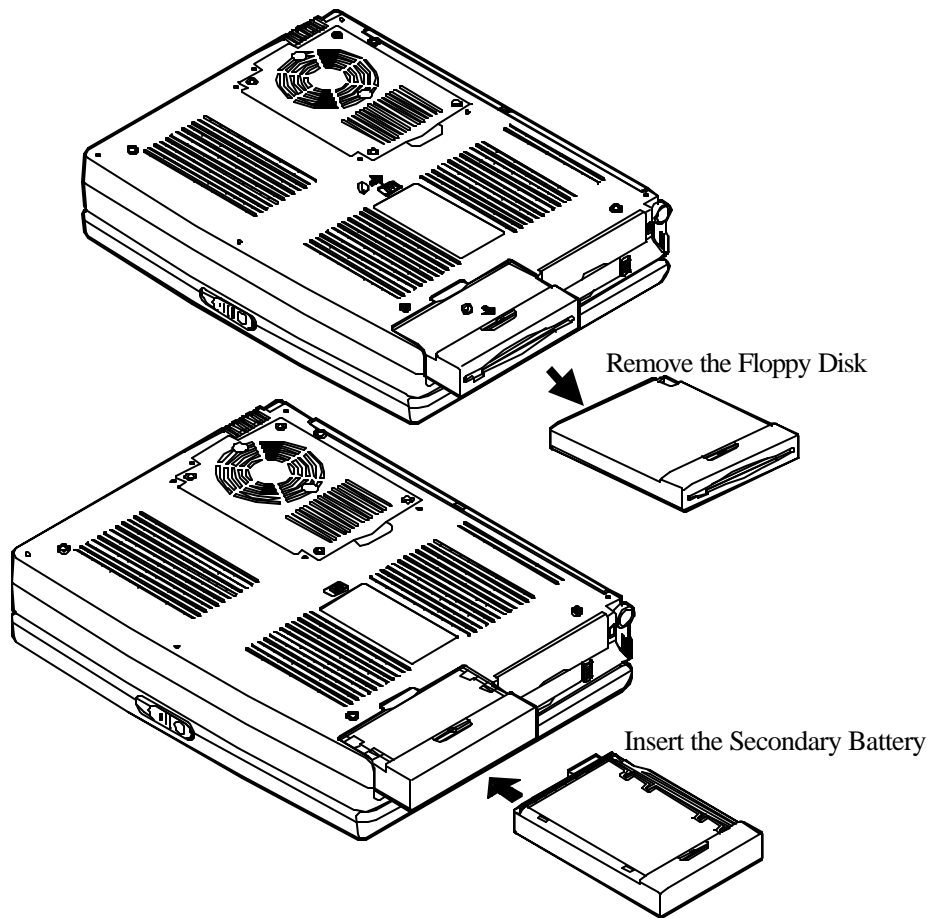
1. Open the access door.
2. Press the battery latch upward to pop up the battery pack.
3. Pull the battery pack out of the compartment.



## Secondary Battery Pack (Option)

When you need prolonged use without the availability of the AC adapter, you may consider a spare battery, called Secondary Battery Pack, for optimal portable operation. Contact your dealer for more information. The Secondary Battery Pack is designed to reside in the same compartment as that of the floppy diskette drive.

1. Turn the Notebook off.
2. Turn the Notebook over.
3. Locate the FDD (Floppy Diskette Drive) latch.
4. Press the latch in the illustrated direction and pull the floppy diskette drive out of the compartment.
5. Slide the Secondary Battery Pack all the way into the empty compartment.



## Recharging by AC Power

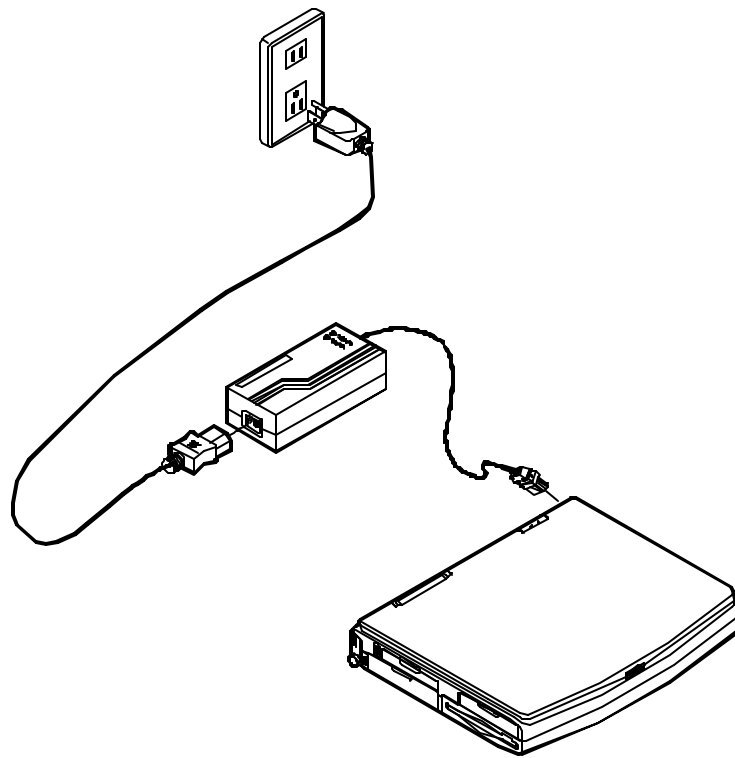
The system's battery pack will recharge whenever the system is plugged into the AC power supply, regardless if the system is being operated or not.

### 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.



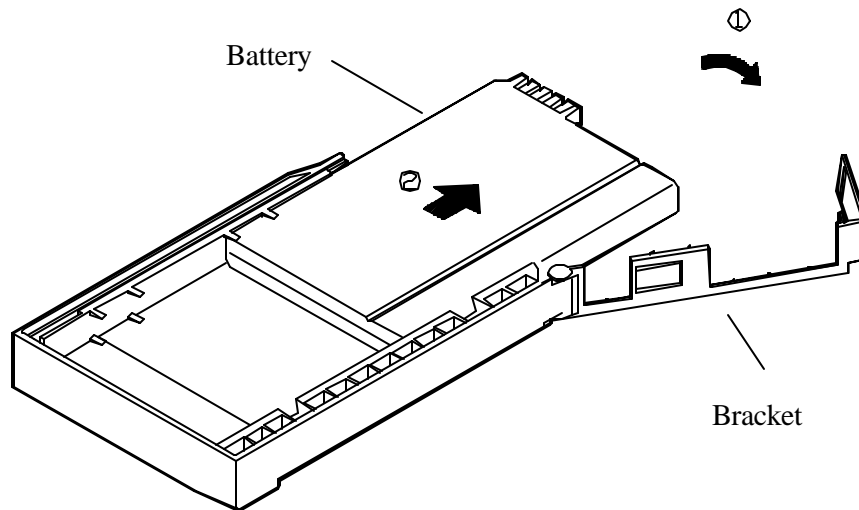
## DURACELL® Rechargeable Battery Compatible

The Notebook system is compatible with DURACELL® rechargeable battery:

- **DR36** nickel-metal hydride (NiMH) rechargeable battery
- **DR202** Lithium ion (Li-Ion) rechargeable battery

The DURACELL® battery comes with a charge indicator button. Simply press the indicator button to get informed of the remaining battery life. Read its instructions before using the battery.

You may obtain additional battery from your dealer or retail outlets worldwide. The Secondary Battery Pack must be inserted into the bracket as shown below:




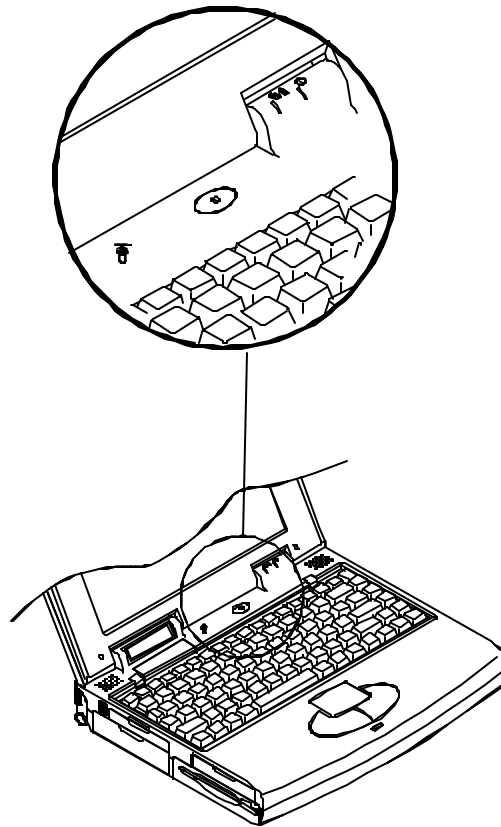
### Proper Handling of Battery Packs

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

# Power Status LED Indicators

The Power Status LED on the top-right corner of the base of the Notebook indicates the various states of battery and AC power.

Icon	Color of Light	Status
ⓘ	Green	System power on (either by AC or by battery)
	Red	Battery being charged
	Orange	Battery being charged while system powered on
	Green	Primary battery fully charged
	Red	Secondary battery fully charged
	Orange	Both batteries fully charged



# *Chapter 2*

## *System Overview*

This Chapter identifies various features of the Notebook that are important to the proper operation of the system. It will discuss the following topics:

- Identifying all devices and ports.
- Identifying the system status LCD bar codes.
- Getting familiar with the keyboard.

# Right Side View

## Right-Side Stand

Slide this stand outward (together with the left-side stand) to adjust the viewing angle.

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

## Microphone-in Jack



This audio port accepts sound source to record or to playback when externally connected microphone is used instead of the built-in one.

## Line-in Jack



External sound source can be fed into the Notebook through this jack to record or to playback.

## Headphone Jack



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

## Infrared

The wireless communications capabilities are based on IrDA (Infrared Data Association) standards for cordless connection between the Notebook Computer and an IrDA-compliant device.

## PC Card Type III Expansion Slot

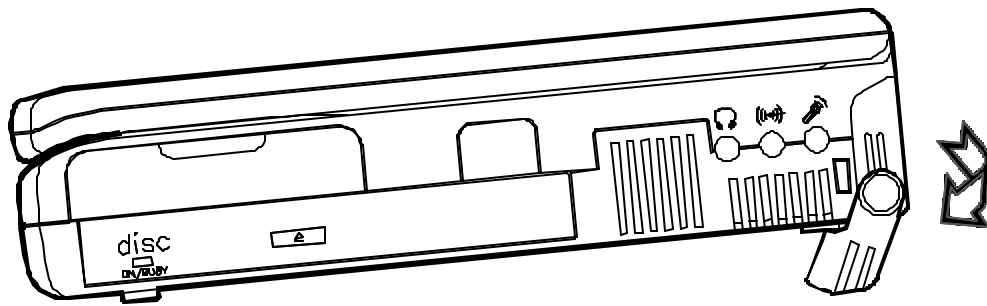
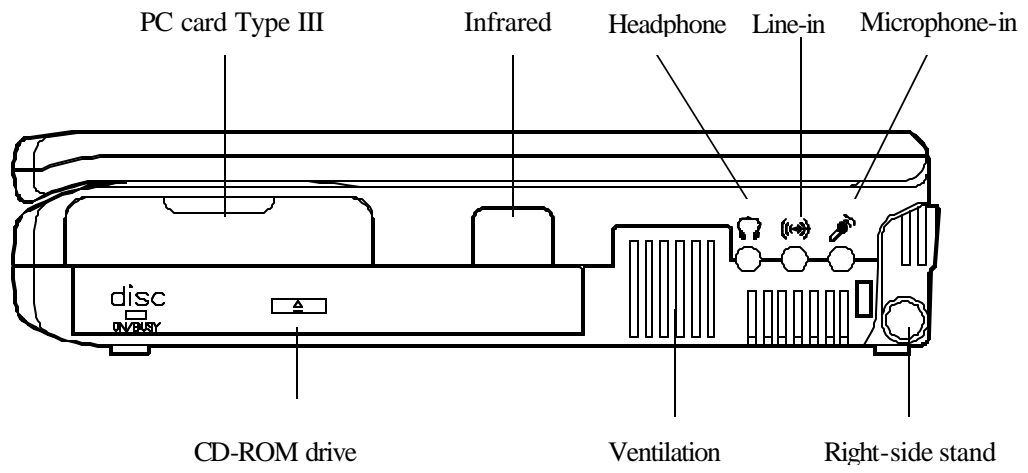
The Type III PC Card slot is located inside a flip-down panel. It allows you to conveniently attach numerous accessories to the Notebook Computer. It is equivalent to two Type II PC Cards slots. The ejection button for the upper slot is located on the left. The ejection button for the lower slot is on the right.

## CD-ROM Drive

The 5.25" IDE CD-ROM drive uses the tray loading mechanism for ease of use. Press the ejection button to load the tray from the drive unit.

## Ventilation

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



# Left Side View

## **Left-Side Stand**

Slide this stand outward (together with the right-side stand) to adjust the viewing angle.

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

## **Battery Latch**

Sliding the battery latch upward will unload the battery pack.

## **PC Card Type II Slot**

The PC Card slot will accommodate a Type II format for system expansion capability.

## **2.5" Hard Disk Drive**

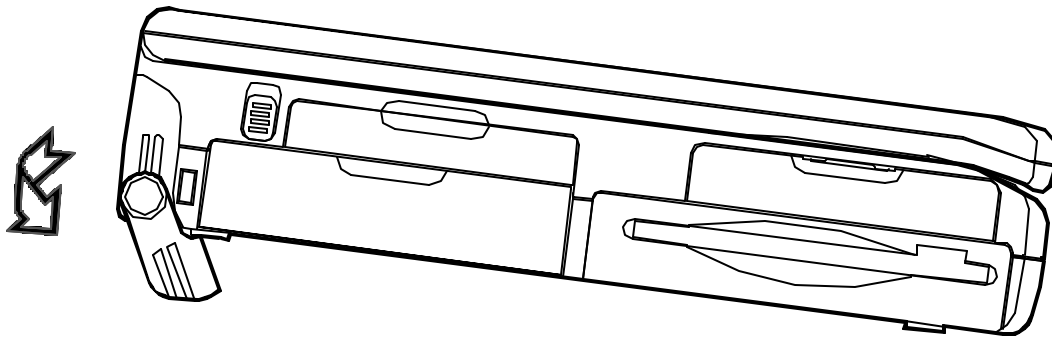
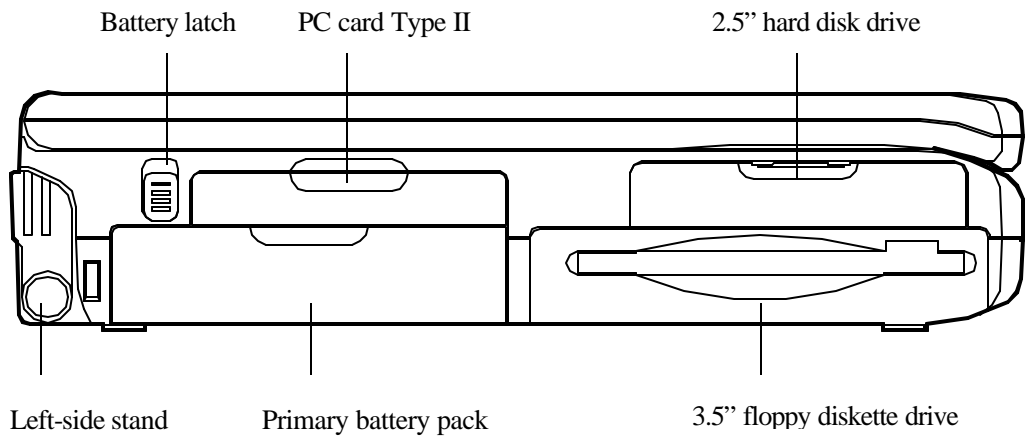
The system's 2.5" hard disk features a high capacity for data storage providing high access time for excellent performance.

## **3.5" Floppy Disk Drive**

This is the location of the Notebook Computer's 3.5" high density 1.44MB floppy diskette drive. You may press the button on its top-right side for diskette ejection.

## **Primary Battery Pack**

The Notebook Computer's primary rechargeable battery pack provides the system with the power for long run time.



# Rear View

## DC-in Socket

This socket is where the Notebook Computer's universal AC/DC power adapter is connected to the system. To disconnect the power adapter, pull the plug (not the cord) directly back.

## Serial Port

This RS232 port is 16C550 compatible to connect an external mouse for example.

## Expansion Port



This port is used to connect the proprietary Port Replicator or Docking Station. All of the features of the Docking Station are available through the plug-in process offering the Notebook Computer access to a desktop system.

## RCA 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.

## External Monitor (CRT) Port



This port allows the connection of an external monitor to the system. It uses a 15-pin connector and supports super-VGA, and simultaneous display of LCD and CRT.

## MIDI/Game Port



This port is used to either connect any MIDI device such as a MIDI instrument or keyboard, or connect an external standard joystick.

## Parallel Port

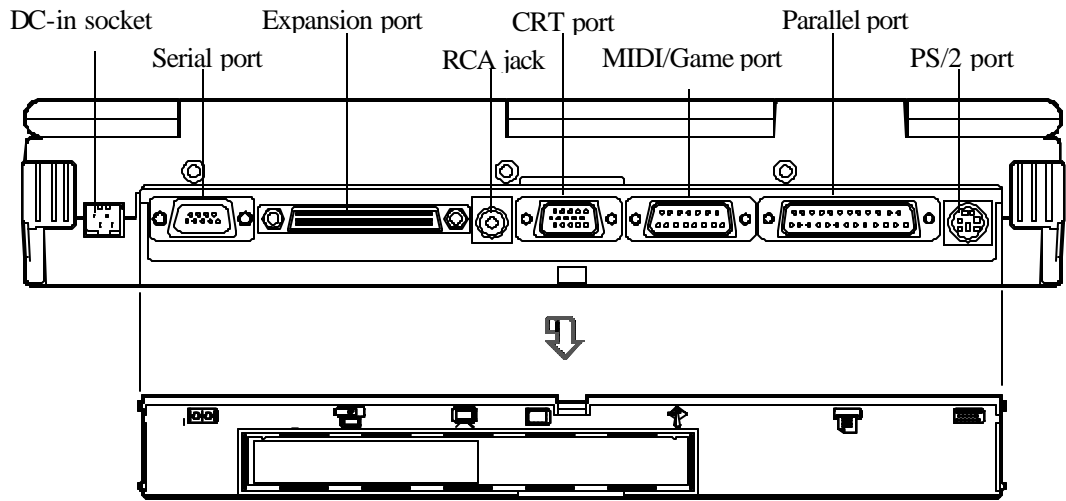


This is a parallel port to connect a printer for example. It supports EPP (Enhanced Parallel Port) and ECP (Extended Capabilities Port) modes, but required as well is the use of the connected parallel device's software driver.

## PS/2 Type Port



An external keyboard is able to be connected to the system via this port. So is an external PS/2 mouse to the system as another pointing device choice.



# Top-Front View

## **Power Switch**

This button is toggled to turn the system on or off.

## **Microphone**

This is a built-in input device for audio system.

## **LCD Panel**

This is the Notebook Computer's flat panel display. It is VGA compatible and driven by a PCI local bus controller for high performance.

## **System Status LCD Bar**

The Notebook features the LCD bar which displays the status of various devices. The symbols defined later will appear on the LCD bar when appropriate.

## **Dual Stereo Speakers**

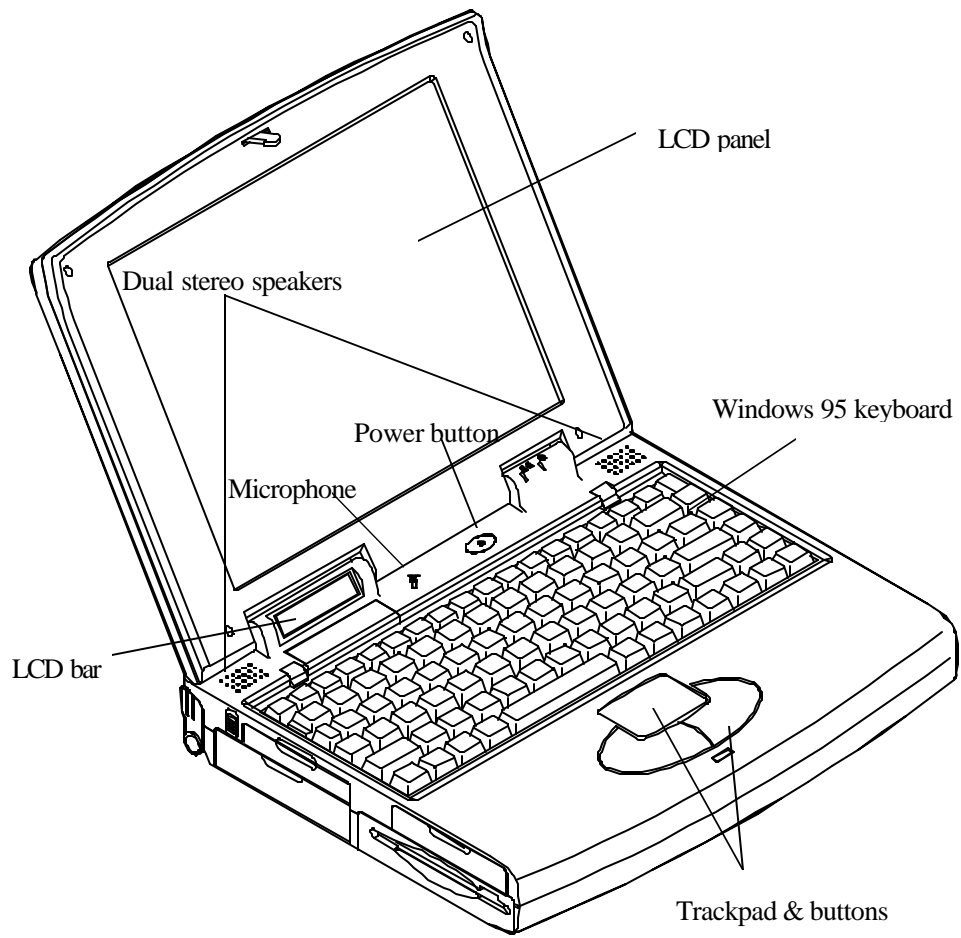
These are two built-in output devices on each side for audio system.

## **Trackpad Pointing Device**

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.











## **Windows 95 Keyboard**

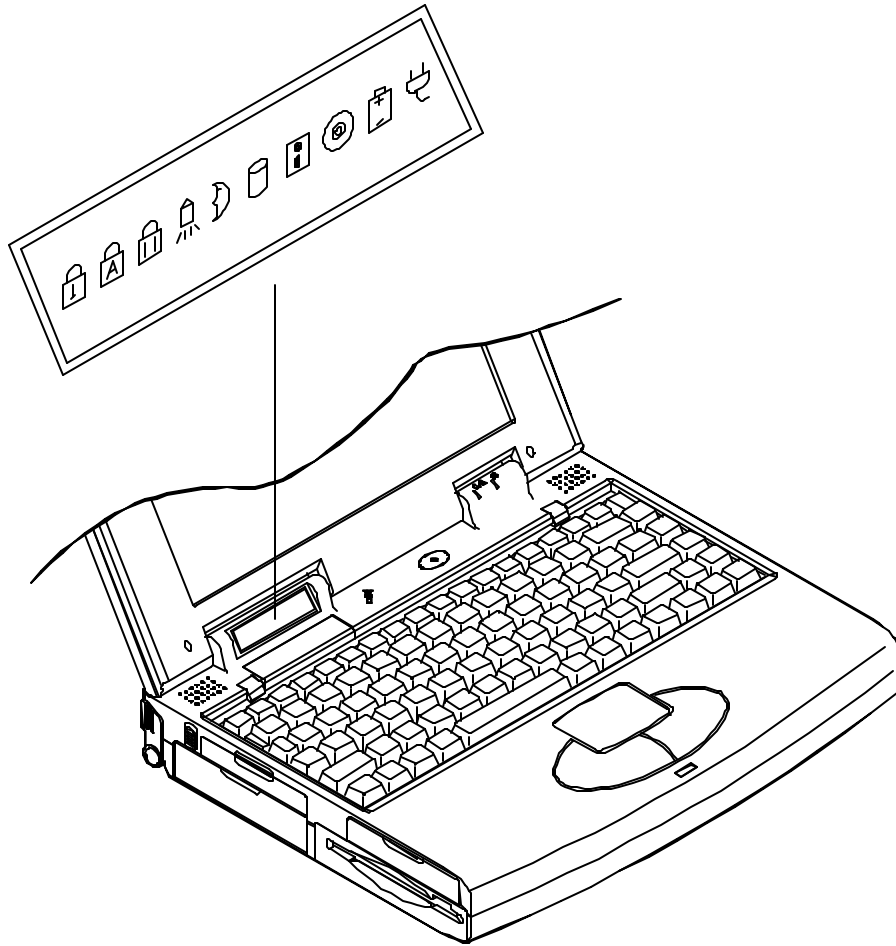
The Notebook utilizes an 86 key Windows 95 keyboard. It is detachable for various language versions.



## Icon Indicators in the LCD Bar

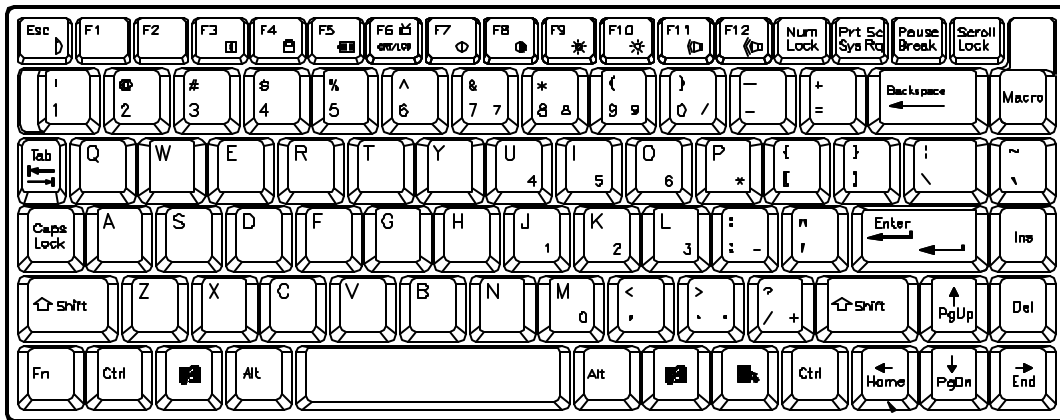
The Notebook Computer features a LCD bar to show the current status of your Notebook by their icon indicators' on or off states. Each icon is identified with a symbol defined in the following:

	<b>AC Power in Use</b>	The system is using AC power for operation.
	<b>Battery Low (<i>Flash</i>)</b>	The battery power is reaching a critically low level.
	<b>CD-ROM in Use</b>	The CD-ROM drive is being accessed.
	<b>FDD in Use</b>	The floppy disk drive is being accessed.
	<b>HDD in Use</b>	The hard disk drive is being accessed.
	<b>Suspend to Memory</b>	The system has entered the <i>Suspend to DRAM</i> Mode.
	<b>Turbo Speed</b>	The CPU is running at the maximum speed.
	<b>Scroll Lock</b>	The scroll lock function is activated.
	<b>Caps Lock</b>	The caps lock function is activated.
	<b>NumLock</b>	The embedded numeric keypad function is locked.



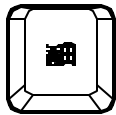
# The Keyboard

The Notebook Computer utilizes an 86 key keyboard detachable for various language versions. It is laid out slightly differently from a standard AT keyboard, but it offers all of the same functions plus some special specific features of the system.

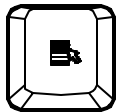


## New Keys for Windows 95

The keyboard provides two keys that have special functions in Windows 95.



This key activates the **Start** menu.



This key has the same function as the secondary mouse button.

# *Chapter 3*

## *System Operating*

This chapter shows how to access and change various hardware components. The following topics will be discussed:

- Upgrading processors.
- Expanding memory.
- Configuring TV-output.
- Using embedded numeric keypad.
- Using **Fn** key. (Cursor Control Keys, Numeric Keypad, Hot Keys)
- Using storage drives (hard disk, floppy disk, CD-ROM).
- Using PC Card sockets.

# Upgrading CPU

**Before you begin working with any internal components of the Notebook, removal all batteries 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.**

The system is capable of hosting a wide range of Intel processor's speed and voltage, providing users with a Zero-Insertion-Force (ZIF) socket to facilitate removal and installation of CPUs.

## Setting CPU Speed

1. Turn the Notebook over.
2. Remove the CPU cover.
3. Remove the two screws that fasten the bracket mounted on the heat sink.
4. Remove the four screws that fasten the heat sink mounted on the CPU.
5. Locate the DIP Switch S2 to set the proper configuration for CPU frequency.

Intel								
P54C/LM	75	90	100	120	133	150	166	200
<b>P55C</b>			<b>233</b>			<b>150</b>	<b>166</b>	<b>200</b>
S2-1	Off	On	Off	On	Off	On	Off	Off
S2-2	On	Off	Off	Off	Off	Off	Off	Off
S2-3	Off							
S2-4	Off							
S2-5	Off	Off	Off	On	On	On	On	Off
S2-6	Off	Off	Off	Off	Off	On	On	On

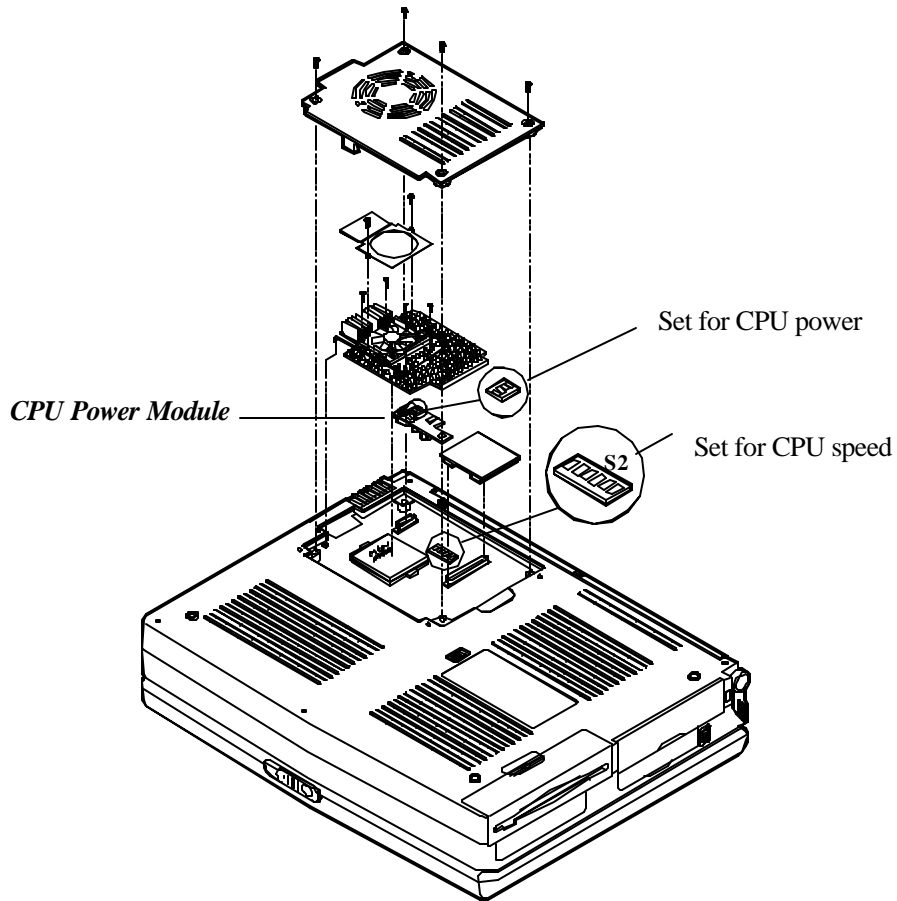
Cyrrix		
6x86LV	P150+	P166+
S2-1	On	Off
S2-2	Off	
S2-3	On	
S2-4	Off	
S2-5	On	
S2-6	Off	

AMD			
K5	PR133	PR150	PR166
S2-1	Off	On	Off
S2-2	Off	Off	Off
S2-3	Off		
S2-4	Off		
S2-5	On	On	On
S2-6	Off	On	On

## Setting CPU Power

Find the 4-pole DIP Switch on the *CPU Power Module* to set the power voltage of the CPU you just installed. Refer to the user guide of the installed CPU to make sure which power voltage you should set. **Incorrect setting will cause damage to both the system and the CPU.**

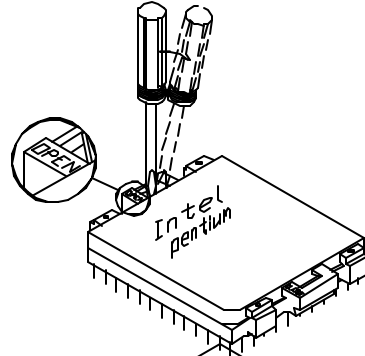
1	2	3	4	CPU Power
On	Off	Off	Off	2.2 V
Off	On	Off	Off	2.45 V
Off	Off	On	Off	2.8 V



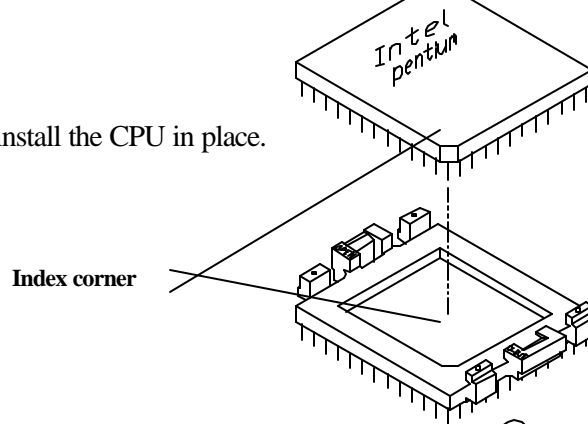
## ZIF Socket Operation

A ZIF (Zero Insertion Force) socket is provided to facilitate CPU removal and installation for you. **You may need to contact your dealer for the proprietary tool to work with the ZIF socket. Improper tool or incorrect operation may damage the socket.**

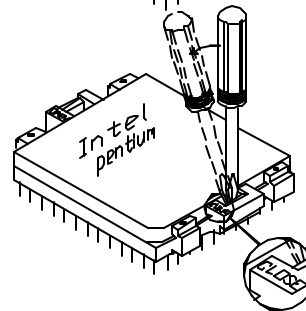
- Insert **the proprietary tool** into the OPEN position of the ZIF socket. Move the screwdriver to the right to unlock the CPU.



- Align the **index corner** to install the CPU in place.



- Insert **the proprietary tool** into the CLOSE position of the ZIF socket and lever to the left to lock the CPU.

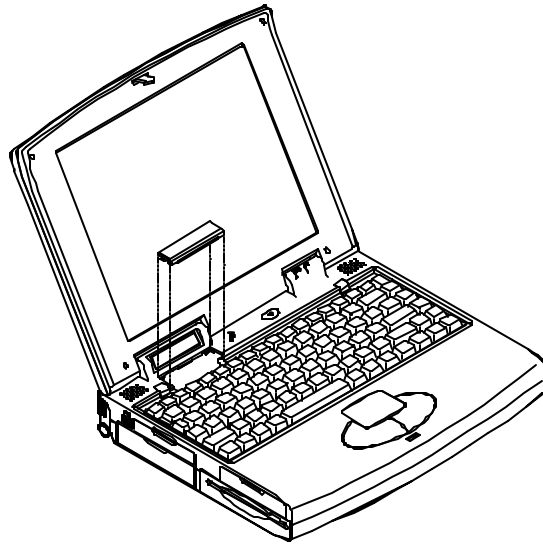


# Expanding Memory

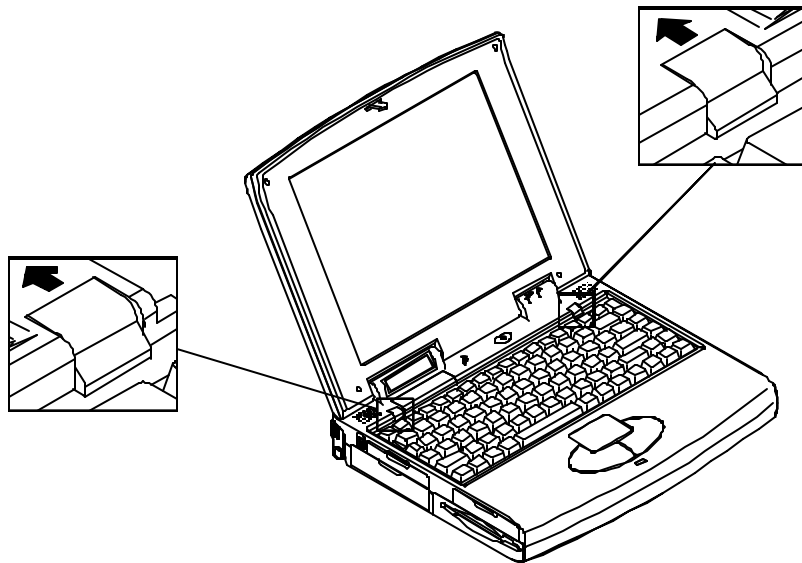
The system has two memory sockets for different RAM Modules to expand the memory up to 72MB. These RAM Modules are 144-pin SODIMM (Small Outline Dual In-line Memory Module) type. With the following memory configurations, the total memory size will be automatically detected by the POST routines:

64-bit Bank 0	64-bit Bank 1	Power	Speed	RAM Size
(1Mx16)x4	None	5V	70ns	8MB
None	(1Mx16)x4			8MB
(1Mx16)X4	(1Mx16)x4			16MB
(1Mx16)X8	None			16MB
None	(1Mx16)X8			16MB
(2Mx8)x8	None			16MB
None	(2Mx8)x8			16MB
(1Mx16)X8	(1Mx16)x4			24MB
(1Mx16)X4	(1Mx16)X8			24MB
(1Mx16)X8	(1Mx16)X8			32MB
(4Mx4)X16	None			32MB
None	(4Mx4)x16			32MB
(2Mx8)x8	(2Mx8)x8			32MB
(2Mx8)x8	(1Mx16)X8			32MB
(1Mx16)X8	(2Mx8)x8			32MB
(2Mx8)x16	None			32MB
None	(2Mx8)x16			32MB
(4Mx4)x16	(1Mx16)X4			40MB
(1Mx16)x4	(4Mx4)x16			40MB
(4Mx4)x16 + (1Mx16)x4	None			40MB
(2Mx8)x16	(2Mx8)x8			48MB
(2Mx8)x8	(2Mx8)x16			48MB
(4Mx4)x16 + (1Mx16)x4	(1Mx16)X4			48MB
(4Mx4)x16 + (1Mx16)x4	(1Mx16)X8			56MB
(4Mx4)x16	(4Mx4)x16			64MB
(4Mx4)x16 + (1Mx16)x4	(4Mx4)x16			72MB

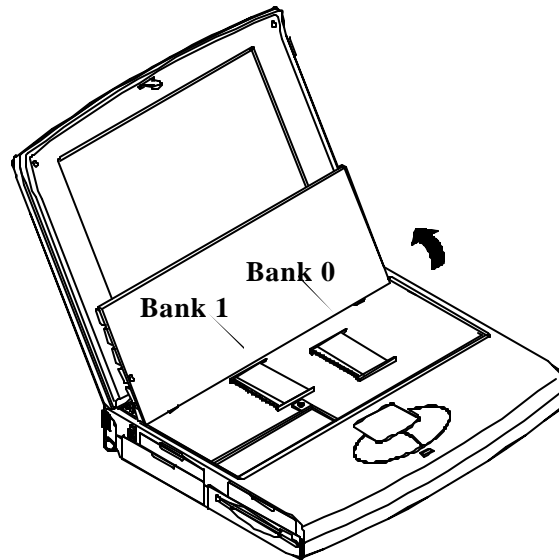
1. Remove the access door located in front of the System Status LCD Bar by sliding it towards the front.



2. Press the two keyboard latches so that the keyboard can be elevated from its normal position.



3. Carefully lift the keyboard assembly out so that the SODIMM sockets are exposed.



### **Installing the SODIMM**

1. Locate the notch on the left side of the SODIMM.
2. With the notched end of the SODIMM toward the left side of the socket, insert the SODIMM at an angle of approximately 20° into the socket; then press it firmly toward the socket.
3. Pivot the SODIMM until it snaps into place.

### **Removing the SODIMM**

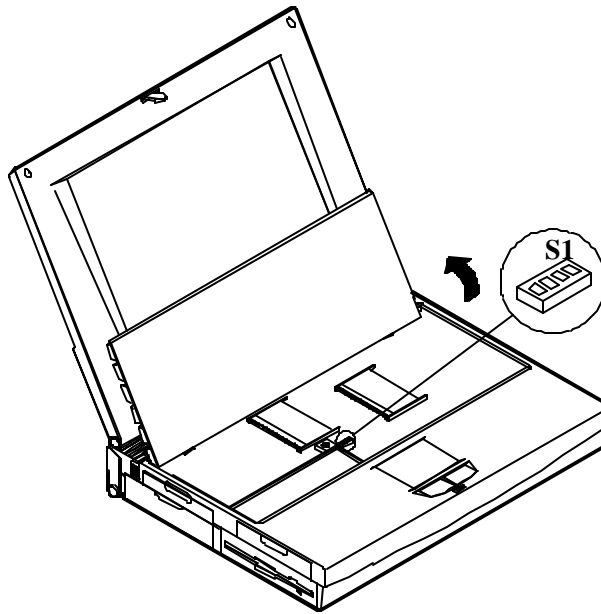
1. Press out on the latches on both edges of the socket at the same time to release the SODIMM.
2. The SODIMM may pop up to detach from the socket.
3. Remove gently the SODIMM.

# Configuring TV-Output

The Notebook is equipped to output video signals to a TV set through the RCA 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.

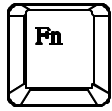
TV-output capabilities allow display of realistic game, video, and multimedia on the large-screen TV. The Notebook uses hardware filtering technologies to reduce flicker for qualified presentation.

	NTSC	PAL
<b>S1-1</b>	On	Off
<b>S1-2</b>	Off	On
<b>S1-3</b>	On	Off
<b>S1-4</b>	Off	On



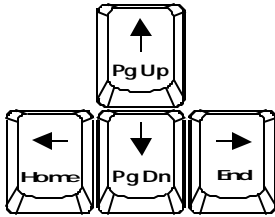
## Using the Fn Key

Located on the bottom-left edge of the Notebook Computer keyboard is the Fn key. It is a special key only found on the Notebook Computer and it is used for operation of:



- The PgUp, PgDn, Home, End keys.
- The Embedded Numeric Keypad.
- The Hot Keys.

## PgUp, PgDn, Home, End Keys

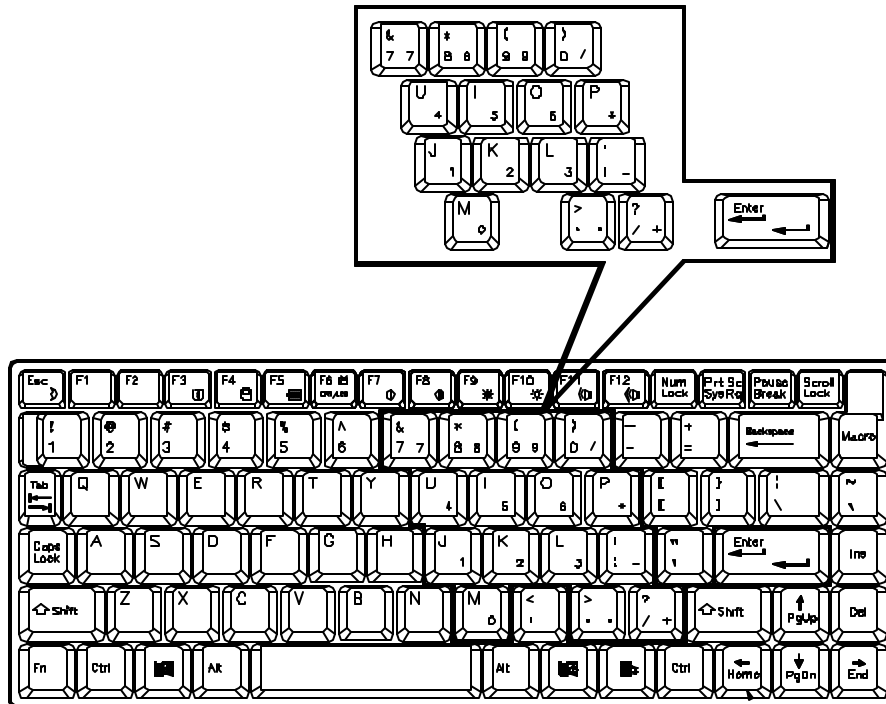


Four cursor control keys, also called Arrow or Direction keys, are located below the Enter key. The colored function will need to be used with the system function key. Hold the **Fn** key, then press one of the four keys.

## Embedded Numeric Keypad

The colored keys in the middle of the keyboard are capable of providing numeric keypad functions. Follow the easy steps to access the Numeric Keypad:

- Press the **NumLock** key to lock the numeric keypad.
- Notice if the NumLock indicator turned on the system status LCD bar.
- Press the **Fn** key along with the specified keys to operate the Numeric Keypad.



## Hot Keys

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



The display may not completely fill the entire LCD screen. This Hot Key will stretch the display to fill the entire viewing area of the LCD screen.



The Hot Key allows you to switch the display among the LCD panel only, external monitor only, LCD and external monitor simultaneously, or TV only.



The Hot Key increases the LCD screen contrast. This Hot Key is available for the Dual Scan LCD only.



The Hot Key decreases the LCD screen contrast. This Hot Key is available for the Dual Scan LCD only.



The Hot Key decreases the LCD screen brightness.



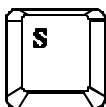
The Hot Key increases the LCD screen brightness.



The Hot Key will reduce the volume of the built-in speakers.



The Hot Key will increase the volume of the built-in speakers.



The Hot Key will save the contrast and brightness levels for the LCD panel.



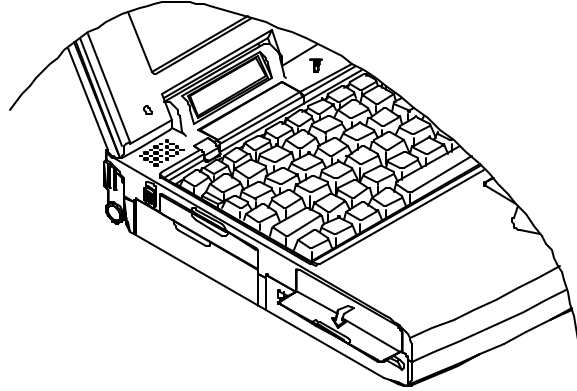
The Hot Key will put the system in a suspend state to save power. This is especially useful when the AC adapter is not in use so that the battery life may be maximized.

## Using Hard Disk Drive

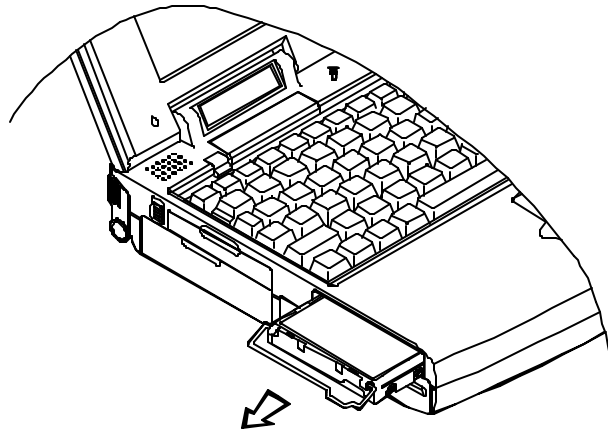
The hard disk drive can be removed since it is mounted on a removable tray. This tray can house 2.5" IDE hard disk drive with a height of 12.7mm or less. The BIOS supports drives with capacities greater than 528MB through the Logical Block Addressing (LBA) mode. The System Configuration Utility that is included with the BIOS can be used to configure the system to accept different drives.

### Removing

1. **Make sure the system is powered off.**
2. Open the hard disk drive door on the left side of the Notebook.

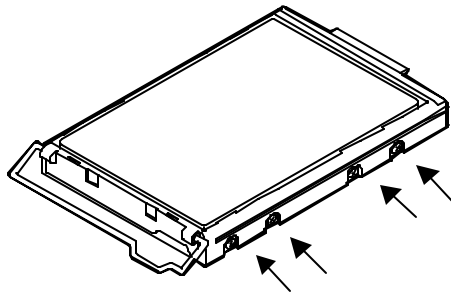


3. Pull gently and firmly the hard disk away from the compartment.



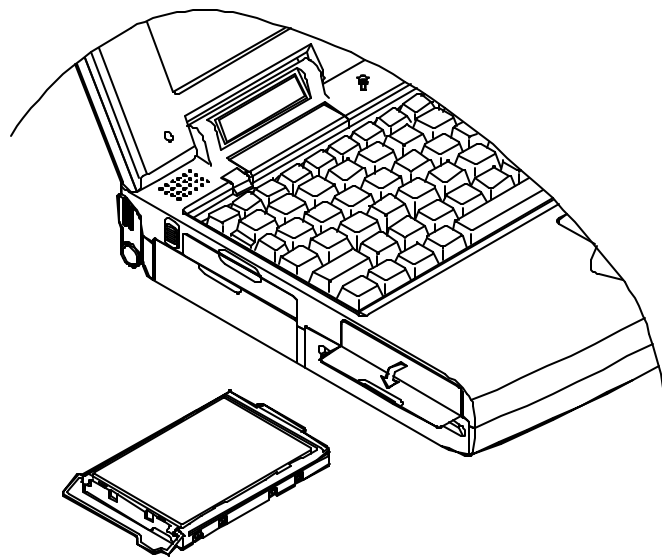
## Working with Hard Disk Drive Tray

The hard disk drive is contained within a tray. Two screws on each side of the tray need to be removed so that the hard disk drive can be taken out of the tray to replace with another one. **The location of the two screws may be various depending on different hard disk models.** When removing the hard disk drive from the tray, be carefully when disconnecting the cable from the hard disk drive not to bend any pins or “crimp” the cable.



## Inserting

When inserting the hard disk back into the Notebook, be sure to firmly seat the hard disk drive tray into the compartment. You will feel the tray “click” into position when it is seated properly.

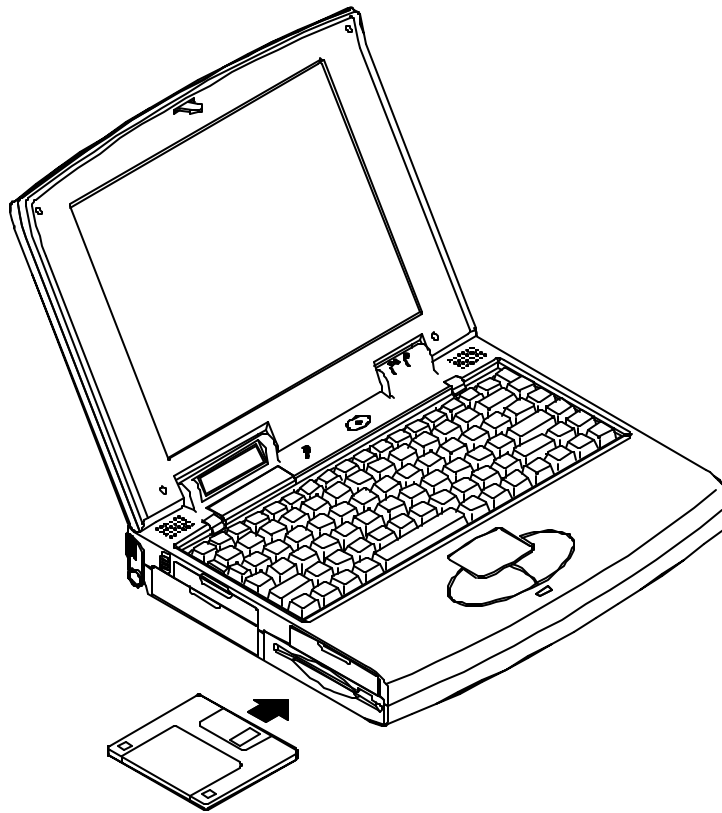


# Using Floppy Disk Drive

The Notebook comes standard with a 1.44MB, 3.5" floppy disk module. It is labeled drive A: and may be used as a boot drive if properly set in the System Configuration Utility. The compartment that the floppy disk currently resides may be replaced with the Secondary Battery Pack as discussed in Chapter 1.

## Inserting/Removing Diskettes

- With the label side up, and the metal shutter toward the disk drive, gently insert the diskette into the drive until the diskette is properly seated.
- To remove the diskette from the drive, press the ejection button on the top-right side of the drive and remove the diskette.

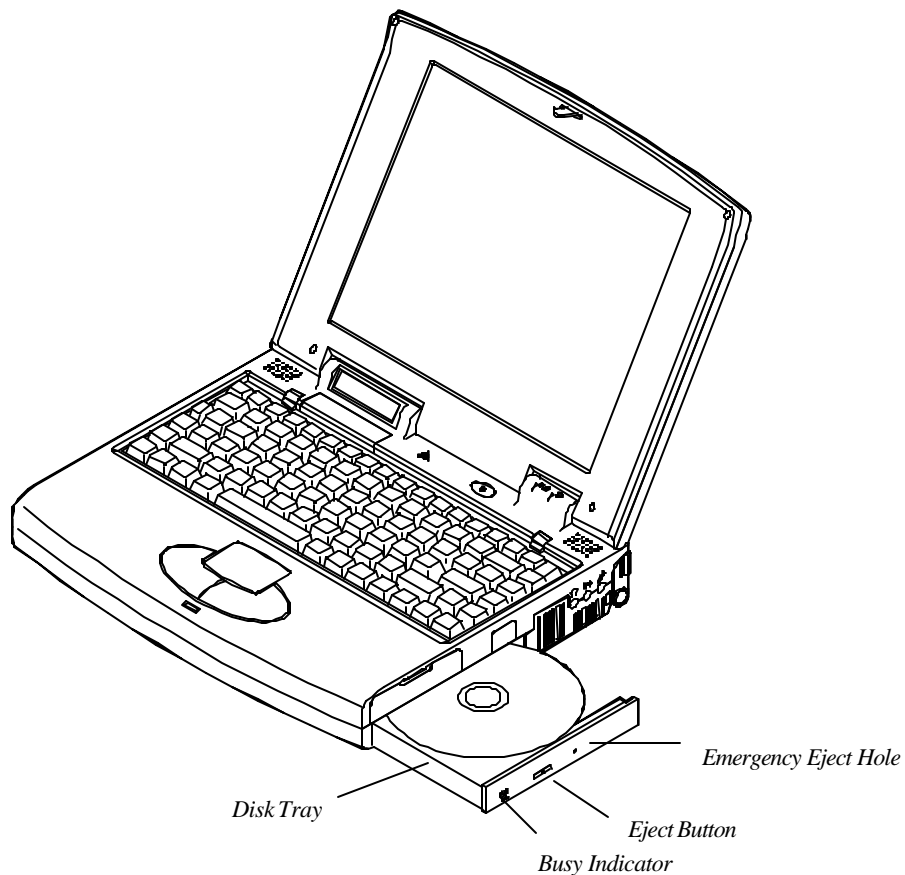


# Using CD-ROM

The Notebook comes standard with a 5.25" CD-ROM that is internally mounted. It is labeled drive D:

**Do not disassemble the CD-ROM from the Notebook. Only certified technicians should perform repairs to the CD-ROM.**

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 get started. The *Busy Indicator* will light up while data is accessed or audio is playing. When system power is unexpectedly interrupted, insert an instrument such as a straightened paper clip into the *Emergency Eject Hole* to manually eject the tray.



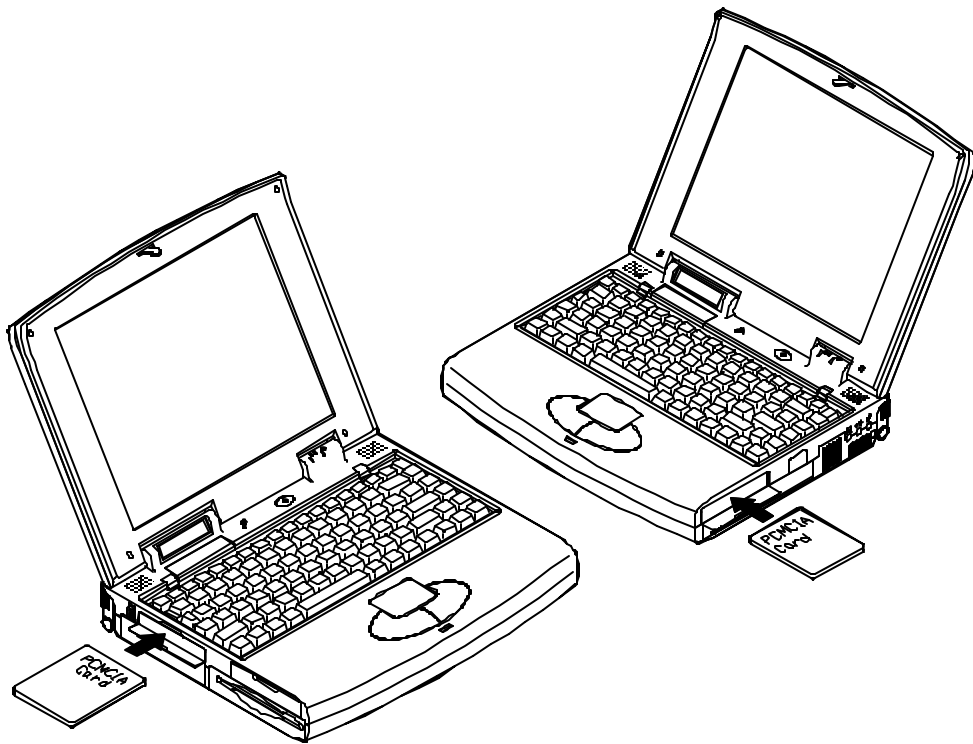
## Using PC Card Sockets

The Notebook provides system expanding capabilities with three PC card sockets (previously referred to as PCMCIA) by inserting various PC cards. All sockets support 5V/3.3V 16-bit PC cards. Two sockets are available in the right-side panel and one in the left side. The lower socket on the right-side panel is **ZV (Zoomed Video)** capable.

The PC cards may be LAN, fax/modem, communication devices, or expanded memory. PC cards have three types: Type I measures 3.3mm thick; Type II 5.0mm; and Type III 10.5mm. You may accordingly use two Type II PC cards or one Type III PC card with the 68-pin connector in the right-side sockets.

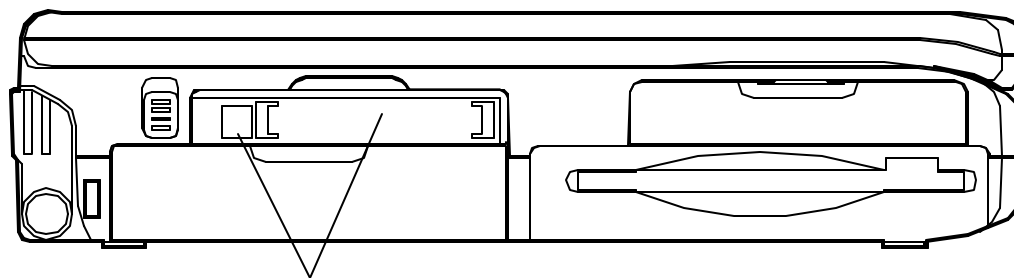
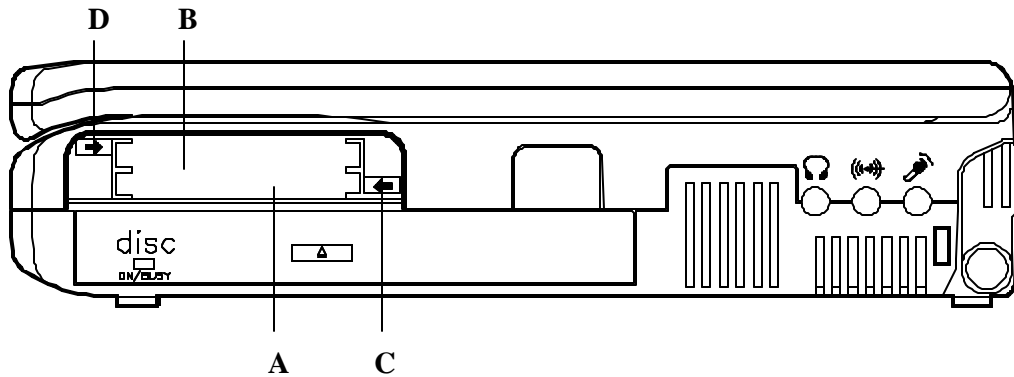
### Inserting and Removing PC Cards

- To insert a PC Card, align the card with the slot and push it firmly until it locks into place.



- To remove a PC Card, press the appropriate eject button and the card will be ejected from its slot.

- A            Socket A
- B            Socket B
- C            Eject button for Socket A
- D            Eject button for Socket B



Socket C and the eject button

## Configuring PC Cards

The Notebook is configured to accept PC Cards. However, most cards require additional software drivers to be loaded at the time of installation. These drivers are usually provided by the manufacturers of the PC Cards on diskettes. Follow the installation instructions that accompany the specific PC Card you are using.

# *Chapter 4*

## *BIOS Utilities*

The Notebook Computer has several built-in software utilities to help you get the most from the system hardware. This chapter discusses:

- The Power-On-Self-Test (POST).
- The System Configuration Utility (SCU).

### **Power On Self Test (POST)**

The BIOS performs a series of power-on-self-test (POST) to diagnose hardware errors when the system first starts up. During the POST procedure, the POST verifies that the hardware is installed and operational. If a hardware problem exists, the POST routine may halt execution (depending upon the severity of the problem).

## POST Messages - Normal Operation

If no configuration errors are detected, the system will be operated after the POST process is completed.

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

**System PCI BIOS for SiS-510X Version 1.01.26**  
**Copyright 1983 - 1996 SystemSoft Corp. All Right Reserved.**

System Processor: 200 MHz Intel Pentium CPU  
System External Cache: 256 KB Enabled  
Video Chip: Trident Cyber 9385 with 2 MB Video RAM  
SystemSoft Plug-n-Play BIOS Ver 1.0a

Base Memory	640 Kb
Extended Memory	39936 Kb
Shadow Memory	256 Kb
Reserved Memory	128 Kb
Total Memory	40960 Kb

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

## POST Messages - Error Detected

If a configuration is detected as a non-fatal error, a WARNING message will be displayed. You should either press F1 key to continue, or press Ctrl-Alt-S key combination to enter the System Configuration Utility.

**System PCI BIOS for SiS-510X Version 1.01.26**  
**Copyright 1983 - 1996 SystemSoft Corp. All Right Reserved.**

System Processor: 200 MHz Intel Pentium CPU  
System External Cache: 256 KB Enabled  
Video Chip: Trident Cyber 9385 with 2 MB Video RAM  
SystemSoft Plug-n-Play BIOS Ver 1.0a

Base Memory	640 Kb
Extended Memory	39936 Kb
Shadow Memory	256 Kb
Reserved Memory	128 Kb
Total Memory	40960 Kb

WARNING - NO BOOTABLE FLOPPY DRIVE 0 INSTALLED  
WARNING - FLOPPY INFORMATION INVALID - RUN SCU

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

# System Configuration Utility (SCU)

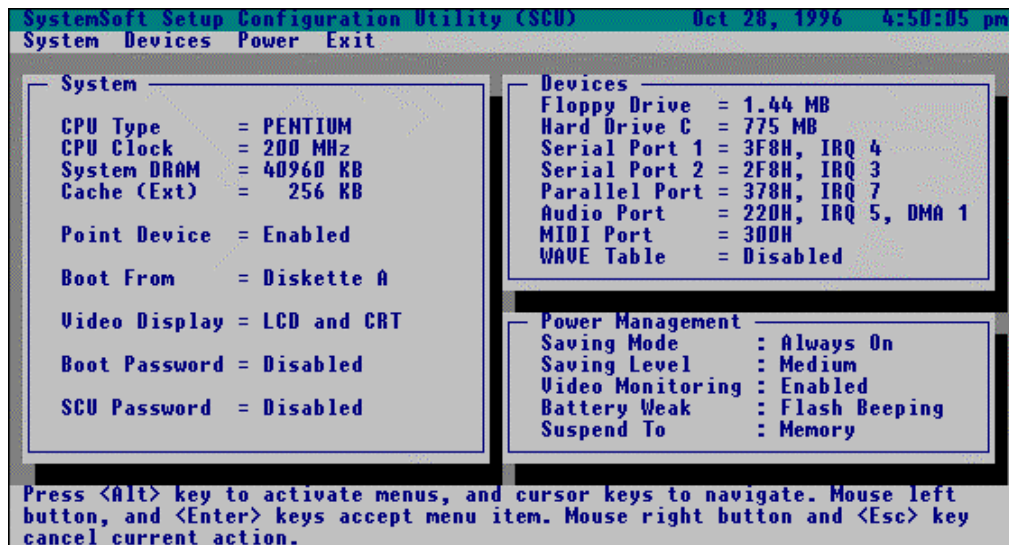
The System Configuration Utility (SCU) is a ROM-based configuration utility that displays the system's configuration status and provides users with a tool to set their system parameters. The settings are stored in non-volatile battery-backed CMOS RAM which saves the information even when the power is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

## Invoking the System Configuration Utility

The System Configuration Utility (SCU) will be accessed when simultaneously press 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 access its boot process. You must reboot the system and try again within the time limit if you like to enter the System Configuration Utility.



## Working with the Menu Bar of System Configuration Utility

Press simultaneously the Ctrl-Alt-S key combination 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 correspondent 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 System Configuration Utility

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

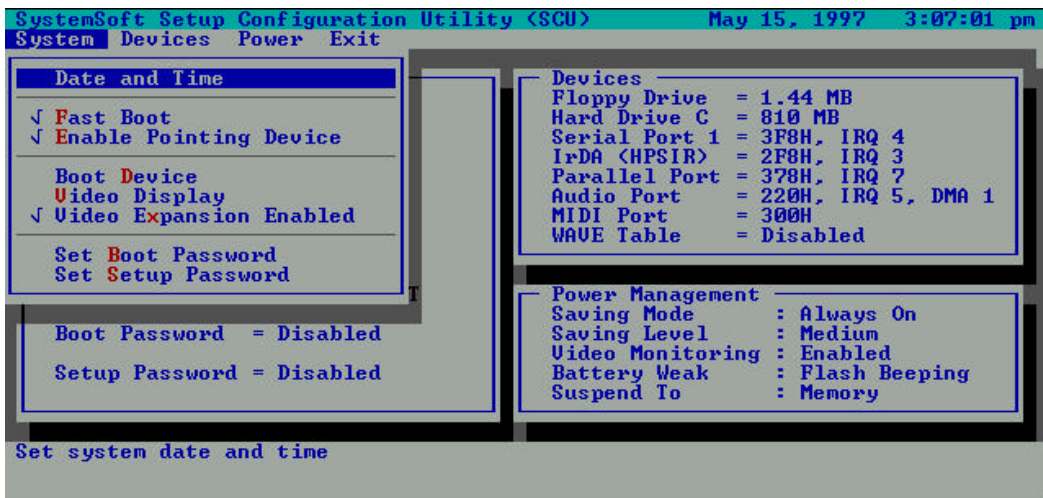
Action	Keys Used	Description
Select pull-down menu item	Down arrow (↓)	Move to the next pull-down menu item.
	Up arrow (↑)	Move to the previous pull-down menu item.
	The highlighted letter key	Move to the correspondent pull-down menu item.
Select a control	Tab	Move between the options.
Change values	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	Invoke 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

### System Menu

Clicking an option will **enable** the specific capability.

Item	Setting	Function
Date and Time	Day/month/year Hour/minute/second	Sets the current date and time.
Fast Boot		Initializes and quickly boot the system in a few seconds by passing certain diagnostic tests.
Enable Pointing Device		Enables the internal trackpad.
Boot Device	Diskette A	Specifies where the system boots from.
	Hard disk C	
Video Display	LCD and CRT	Enables both LCD and CRT simultaneously.
	Auto sense	The display auto-switches to CRT if one is sensed.
Video Expansion Enabled		Enables the LCD expanded mode.
Set Boot Password	Enter old password	You may enter a password up to 10 printable alphanumeric characters.
	Enter new password	
	Verify new password	
	Enable Booting password	Verifies password every time the system is booted.
Set Setup Password	Enter old password	You may enter a password up to 10 printable alphanumeric characters.
	Enter new password	
	Verify new password	
	Enable Setup password	Verifies the password every time you try to enter SCU.



## Devices Menu

Clicking an option will **enable** the specific capability.

Item	Setting		Function
Diskette Drive	None 1.44MB		Specifies a drive type for diskette drive A.
Hard Disk	Disk Type	None	No hard disk is installed in the system.
		Custom	Modifies the values for cylinders, heads, sectors per track, landing zone, write precomposition and size (MB).
		Auto-ID	Automatically configures the hard disk parameters for any supported IDE drive.
	Enhanced Options	LBA mode	Enables Logical Block Address (LBA) mode to overcome 528MB barrier.
		Multiple sector mode	Enables multiple sector mode to increase sequential data transfers.
		Fast PIO mode	Enables Fast Programmed Input/output (PIO) mode for high data transfer rate.
COM Ports	COM A settings	None	Specifies the COM A configuration.
		3F8H, IRQ4	
		2F8H, IRQ3	
		3E8H, IRQ4	
		2E8H, IRQ3	
	COM B settings	None	Specifies the COM B configuration.
		3F8H, IRQ4	
		2F8H, IRQ3	
		3E8H, IRQ4	
		2E8H, IRQ3	
	COM B definition	Serial port 2	Defines COM B hardware.
		IrDA (HPSIR)	
		IR (ASKIR)	
FIR			

Item	Setting		Function
LPT Port	Port setting	None	Specifies the LPT port configuration.
		378H	
		278H	
		3BCH	
Port definition	SPP mode	Standard Parallel Port.	
	EPP mode	Enhanced Parallel Port.	
	ECP mode	Extended Capabilities Port.	
IRQ setting	IRQ5	Specifies IRQ configuration.	
	IRQ7		
ECP DMA setting	DMA1	Specifies ECP DMA configuration.	
Port setting	DMA3		
	220H	Specifies the system's audio I/O port address.	
	230H		
	240H		
250H			
IRQ setting	IRQ9	Specifies the system's audio IRQ configuration.	
	IRQ5		
	IRQ7		
	IRQ10		
DMA setting	DMA0	Specifies the system's audio DMA channel configuration.	
	DMA1		
	DMA3		
MIDI Port	MIDI port	300H	Specifies the system's General MIDI I/O port address.
		310H	
		320H	
		330H	
Wave Table Enabled		Enables Wave Table synthesizer.	
Keyboard Numlock		Specifies NumLock is on at system boot time.	

Item	Setting		Function
Keyboard Repeat	Key repeat rate	2 cps	Defines the rate (character per second) at which the keyboard repeats while a key is depressed.
		6 cps	
		10 cps	
		15 cps	
		20 cps	
	Key delay	30 cps	Specifies the time (second) that will pass after a key is depressed before starts to repeat.
		¼ sec	
½ sec			
Keyboard Overlay		¾ sec	Sets the NumLock equals Pad Lock flag. All keypad keys will download their overlay legend while pressed.
		1 sec	

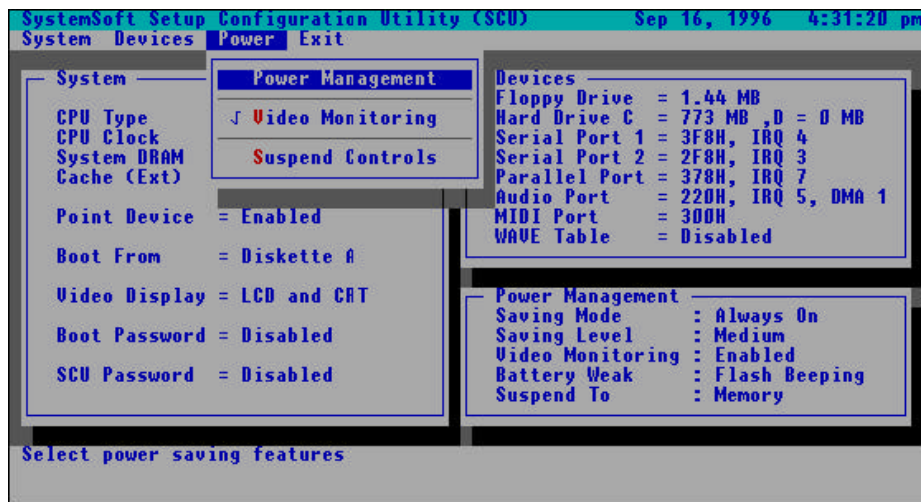


## Power Menu

Clicking an option will **enable** the specific capability.

Item	Setting		Function
Power Management	Power saving mode	Disabled	Disables the system's power saving features.
		Battery only	Enables the system's power saving features only during battery operation.
		Always on	Enables the system's power saving features during either battery or AC operation.
	Power saving level	Low battery saving	Enables the power saving to its lowest which results in maximum performance but shortest battery life.
		Medium battery saving	Enables the power saving to its medium which results in moderate performance and battery life.
		High battery saving	Enables the power saving to its highest which results in minimum performance but longest battery life.
Video Monitoring			Video RAM access will prevent the system from entering a standby mode.

Item	Setting		Function
Suspend Controls	Battery weak	Flash beeping	The warning icon flashes on the LCD bar and emits a series of the audio beeps.
		Suspend system	Automatically suspends the system upon a low battery condition.
		Flash only	The warning icon flashes on the LCD bar.
	Suspend mode	Suspend to memory	Specifies the suspend mode as 5-volt suspend mode.
		Suspend to disk	Specifies the suspend mode as 0-volt suspend mode.
	Modem ring resume		Resumes the system from suspend-to-memory mode when a modem ring is detected.
	Set resume alarm	Resume hour Resume minute	Sets the time to resume the system from suspend-to-memory mode.



## Exit Menu

Clicking an option will **enable** the specific capability.

Item	Function
Save and Reboot	Saves the current settings and reboots the system.
Exit (No Save)	Exits the SCU without saving any of the current changes.
Default Settings	Changes the current setup to the system default values.
Restore Settings	Restores the current setup to the original custom values.
Version Information	Displays the current BIOS version information.



# *Chapter 5*

## *Power Management*

The Notebook provides you with several ways to manage its power consumption while maintaining system performance. This chapter discusses the following topics:

- Advanced Power Management (APM).
- Power Management settings in the System Configuration Utility (SCU).

## Advanced Power Management (APM)

The Notebook provides built-in Advanced Power Management (APM 1.2) support to reduce power consumption. The functionality of APM 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.

## Power Management Settings in the SCU

The Notebook has power management settings within the SCU so that the power consumption can be minimized while maintaining optimal system performance.

### Standby Mode

Standby Mode is the device level power management. Most controllable peripheral devices such as the hard disk and the LCD display will be powered off. Standby Mode is discontinued when any system activity is detected, such as a key being pressed on the keyboard. **The system will not enter Standby Mode if the Video Monitoring option is enabled under Power Menu in the SCU.**

Windows 95 will repeatedly scan the CD-ROM IDE port unless configured otherwise. This will prevent the system from entering Standby Mode. To disable this setting in Windows 95, perform the following steps:

- Enter **Control Panel**
- Select the **System** icon.
- Select the **Device Manager** folder.
- Select **CD-ROM**.
- Select **Settings**.
- Remove the “✓” from **Auto insert notification**.

## Suspend Mode

Suspend Mode is the system level power management. The CPU and DMA clocks will be halted and all controllable peripheral devices will be powered off. The Notebook system can be placed into two different suspend modes:

- Suspend to Memory
- Suspend to Disk

### Suspend to Memory

*Suspend to Memory* is also known in a more technically descriptive term as “5-volt” Suspend Mode since it requires 5-volt of power when the system is in “Suspend” state.

When *Suspend to Memory* is activated, you will notice that the system exhibits the same characteristics as if you powered the system off. You will notice that the LCD Bar is still active, and the *Suspend to Memory* indicator is apparent. *Suspend to Memory* may be activated by the following events:

- Suspend hot key (Fn + Esc)
- Battery weak (SCU setting)

The Notebook system may resume from *Suspend to Memory* by the following events:

- Resume alarm time (SCU setting)
- Modem ring (SCU setting)
- Any keyboard key pressed

## Suspend to Disk

*Suspend to Disk* is also known in a more technically descriptive term as “0-volt” Suspend Mode since it does not require any power when the system is in “Suspend” state.

Before *Suspend to Disk* may be used, a non-DOS partition has to be created on the hard disk drive. Follow the instructions below:

1. Use your operating system’s FDISK program to delete all partitions of the hard disk if any already exists 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 whose size will accommodate **the installed DRAM (n)** plus 2MB integrated video RAM.

**A:\>0VMAKFIL /Pn**

For example, if the system DRAM is 72MB, 0VMAKFIL will create a partition of size greater than 74MB.

**A:\>0VMAKFIL /P72**

*Note:* Rewrite the sector signatures if you partition again the very hard disk.

**C:\>0VMAKFIL /PW**

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

When *Suspend to Disk* is activated, information will be written to the non-DOS partition which was created by the above mentioned command, and the system will then power off. *Suspend to Disk* may be activated by the following events:

- Suspend hot key (Fn + Esc)
- Battery weak (SCU setting)

The system can be returned from exactly where it was suspended when a resume event occurs. However, the system may not resume successfully from the Suspend Mode when connected to some external devices, such as PC Card. The system may resume from *Suspend to Disk* by the only event:

- Power (back) on

# *Appendix A*

## *Specifications*

### **CPU**

- ✓Intel Pentium 75/90/100/120/133/150/166/200/233MHz
- ✓Cyrix 6x86LV P150+/P166+.
- ✓AMD K5 PR133/PR150/PR166.

### **Memory**

- ✓5V power supply.
- ✓512KB secondary synchronous cache.
- ✓8MB expandable up to 72MB.
- ✓144-pin SODIMM package.

### **System BIOS**








- ✓256KB flash ROM.
- ✓PCI 2.1.
- ✓Plug and Play 1.0a.

### **Display**

- ✓10.4"/11.3"/12.1" TFT SVGA (800x600 pixels) LCD available.
- ✓12.1" DSTN SVGA (800x600 pixels) LCD available.
- ✓2MB display memory.
- ✓Video Port Manager (VPM) for Zoomed Video (ZV) port.
- ✓Simultaneous display with an external monitor.

### **Input/Output**

- ✓Built-in trackpad.
- ✓Serial port.
- ✓Parallel port.
- ✓CRT port.
- ✓PS/2 type port.
- ✓RCA jack.
- ✓Expansion port.
- ✓Game port.
- ✓Headphone jack.
- ✓Microphone-in jack.

- ✓Line-in jack.
-  **PC Card Sockets**
  - ✓Type II x3, or Type II x1 + Type III x1.
  - ✓One ZV-capable socket.
-  **Storage Drives**
  - ✓2.5" hard disk, transfer rate up to PIO Mode 4.
  - ✓3.5" floppy disk, high density 1.44MB.
  - ✓5.25" CD-ROM, IDE interface.
-  **Infrared Wireless Communication**
  - ✓IrDA.
  - ✓ASKIR.
  - ✓FIR.
-  **Audio**
  - ✓Sound Blaster Pro compatible.
  - ✓Microsoft Windows sound system compatible.
  - ✓MPU-401 and General MIDI compatible.
  - ✓FM and Wave Table synthesizer.
  - ✓Built-in microphone.
  - ✓Built-in dual speakers.
-  **Power Management**
  - ✓Standby Mode.
  - ✓Suspend to Memory.
  - ✓Suspend to Disk.
  - ✓APM 1.2.
-  **Rechargeable Battery Pack**
  - ✓Ni-MH 12V available.
  - ✓Li-Ion 10.8V available.
  - ✓Battery low warning.
  - ✓Auto-switching with AC power adapter.
  - ✓*Secondary Battery Pack (option).*
-  **AC/DC Power Supply**
  - ✓AC input: 100~240VAC, 47~63Hz.
  - ✓DC output: 20V.
  - ✓Charger output: 12V
  - ✓Total output: 50W.
  - ✓External Model: AC-D01

✓Alternative Model: F1650L

 **Keyboard**

- ✓Windows 95
- ✓Detachable for various language versions

 **Size & Weight**

- ✓302mm(w) x 234mm (d) x 54mm (h)
- ✓3.4 kg

 **Temperature Environment**

- ✓Operating 10°~35°C
- ✓Storage -10°~60°C

 **Humidity Environment**

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

# *Appendix B*

## *Pin Assignment*

### **Serial Port**

<b>Pin</b>	<b>Signal</b>
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)

### **Parallel Port**

<b>Pin</b>	<b>Signal</b>	<b>Pin</b>	<b>Signal</b>
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		

## Monitor Port

Pin	Signal	Pin	Signal	Pin	Signal
1	BRED	6	GND	11	N.C
2	BGREEN	7	GND	12	DDCDATA
3	BBLUE	8	GND	13	BHSYNC
4	N.C	9	N.C	14	BVSYNC
5	GND	10	GND	15	DDCCLK

## PS/2 Type Port

Pin	Signal
1	KBD-DATA
2	MUS-DATA
3	GND
4	VCC
5	KBD-CLK
6	MUS-CLK

## RCA Jack

Pin	Signal
1	Video-in
2	GND

## Game Port

Pin	Signal	Pin	Signal
1	VCC	9	VCC
2	SWA	10	SWC
3	TA	11	TC
4	GND	12	MSO
5	GND	13	TD
6	TB	14	SWD
7	SWB	15	MSI
8	VCC		

## PC Card Sockets

### Socket A:

Pin	Signal	Pin	Signal
1	GND	35	GND
2	A-CD3	36	A-CD1#
3	A-CD4	37	A-CD11
4	A-CD5	38	A-CD12
5	A-CD6	39	A-CD13
6	A-CD7	40	A-CD14
7	A-CE1#	41	A-CD15
8	A-CA10	42	A-CE2#
9	A-OE#	43	A-VS1
10	A-CA11	44	A-IORD#
11	A-CA9	45	A-IOWR#
12	A-CA8	46	A-CA17
13	A-CA13	47	A-CA18
14	A-CA14	48	A-CA19
15	A-WE#	49	A-CA20
16	A-RDYBY#	50	A-CA21
17	A-VCC-C	51	A-VCC-C
18	A-VPP	52	A-VPP
19	A-CA16	53	A-CA22
20	A-CA15	54	A-CA23
21	A-CA12	55	A-CA24
22	A-CA7	56	A-CA25
23	A-CA6	57	A-VS2
24	A-CA5	58	A-RESET
25	A-CA4	59	A-WAIT#
26	A-CA3	60	A-INPACK
27	A-CA2	61	A-REG#
28	A-CA1	62	A-BVD2#
29	A-CA0	63	A-BVD1#
30	A-CD0	64	A-CD8
31	A-CD1	65	A-CD9
32	A-CD2	66	A-CD10
33	A-WP#	67	A-CD2#
34	GND	68	GND

**Socket B:**

<b>Pin</b>	<b>Signal</b>	<b>Pin</b>	<b>Signal</b>
1	GND	35	GND
2	B-CD3	36	B-CD1#
3	B-CD4	37	B-CD11
4	B-CD5	38	B-CD12
5	B-CD6	39	B-CD13
6	B-CD7	40	B-CD14
7	B-CE1#	41	B-CD15
8	B-CA10	42	B-CE2#
9	B-OE#	43	B-VS1
10	B-CA11	44	B-IORD#
11	B-CA9	45	B-IOWR#
12	B-CA8	46	B-CA17
13	B-CA13	47	B-CA18
14	B-CA14	48	B-CA19
15	B-WE#	49	B-CA20
16	B-RDYBY#	50	B-CA21
17	B-VCC-C	51	B-VCC-C
18	B-VPP	52	B-VPP
19	B-CA16	53	B-CA22
20	B-CA15	54	B-CA23
21	B-CA12	55	B-CA24
22	B-CA7	56	B-CA25
23	B-CA6	57	B-VS2
24	B-CA5	58	B-RESET
25	B-CA4	59	B-WAIT#
26	B-CA3	60	B-INPACK
27	B-CA2	61	B-REG#
28	B-CA1	62	B-BVD2#
29	B-CA0	63	B-BVD1#
30	B-CD0	64	B-CD8
31	B-CD1	65	B-CD9
32	B-CD2	66	B-CD10
33	B-WP#	67	B-CD2#

34	GND	68	GND
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**Socket C:**

Pin	Signal	Pin	Signal
1	GND	35	GND
2	C-CD3	36	C-CD1#
3	C-CD4	37	C-CD11
4	C-CD5	38	C-CD12
5	C-CD6	39	C-CD13
6	C-CD7	40	C-CD14
7	C-CE1#	41	C-CD15
8	C-CA10	42	C-CE2#
9	C-OE#	43	C-VS1
10	C-CA11	44	C-IORD#
11	C-CA9	45	C-IOWR#
12	C-CA8	46	C-CA17
13	C-CA13	47	C-CA18
14	C-CA14	48	C-CA19
15	C-WE#	49	C-CA20
16	C-RDYBY#	50	C-CA21
17	C-VCC-C	51	C-VCC-C
18	C-VPP	52	C-VPP
19	C-CA16	53	C-CA22
20	C-CA15	54	C-CA23
21	C-CA12	55	C-CA24
22	C-CA7	56	C-CA25
23	C-CA6	57	C-VS2
24	C-CA5	58	C-RESET
25	C-CA4	59	C-WAIT#
26	C-CA3	60	C-INPACK
27	C-CA2	61	C-REG#
28	C-CA1	62	C-BVD2#
29	C-CA0	63	C-BVD1#
30	C-CD0	64	C-CD8
31	C-CD1	65	C-CD9
32	C-CD2	66	C-CD10

33	C-WP#	67	C-CD2#
34	GND	68	GND