User's Guide
Notebook Computer

Important Safety Instructions

Read all of these instructions. Save these instructions for later use.

- Follow all warnings and instructions marked on the product.

- Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.

- Do not use this product near water. Never spill liquid of any kind on the product.

- Do not place this product on an unstable cart, stand, or table.

- Slots and openings in the cabinet are provided for ventilation. To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register. This product should not be placed in a built-in installation unless proper ventilation is provided.

- Before connecting this product to a power source, check the AC-DC adapter voltage rating to ensure that the required voltage and frequency match the available power source.

- This computer is powered by an internal battery pack or by an external AC-DC Adapter, which is supplied with the computer. Use of another battery pack or AC-DC adapter may present risk of fire or explosion. To disconnect power from all circuits in this product, disconnect the AC-DC adapter and remove the battery pack.

- Do not allow anything to rest on the power cord.

- Do not place this product in a location where someone may trip over the cord.

- If an extension cord is used with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total of all products plugged into the wall outlet does not exceed 15 amperes.

- Never push objects of any kind into this product through the cabinet slots, as they may touch dangerous voltage points or short out parts; that could result in a risk of fire or electric shock.

- Except as explained elsewhere in this manual, do not attempt to service this product yourself.

- Handle battery with care. If dropped, they may be damaged.

- Do not allow the battery to be exposed to direct sunlight for extended periods of time.

- Do not attempt to disassemble the battery. If the battery is disassembled and the electrodes are exposed to outside, the battery may generate heat and smoke by chemical reaction.

- Do not expose the battery to moisture or chemicals.

- Charge the battery only as described in this document.

- Do not short circuit the battery terminals as the resulting high currents can damage the battery.

- The battery should not be used to power other products.

- Do not dispose of a used battery in a fire or incinerator, as an explosion may result.

- Do not subject the battery to temperature extremes. Battery temperature should not less than -20 degrees Centigrade or greater than 50 degrees Centigrade.

- Unplug this product from the wall outlet and refer problems to the service representative under the following conditions:

  - When the power cord or plug is damaged or frayed.

  - If liquid has been spilled into the product.

  - If the product has been exposed to rain or water.

  - If the product does not operate normally when the operating instructions are followed, adjust only those controls that are covered by the operating instructions. Improper adjustment of other controls may result in damage.

  - If the product exhibits a distinct change in performance.

Battery Disposal

Warning
Do not put rechargeable batteries or products powered by non-removable rechargeable batteries in the garbage.

Contact your customer service representative for information on how to dispose of batteries that you cannot use or recharge any longer.

Follow all local regulations when discarding old batteries.

FEDERAL COMMUNICATIONS COMMISSION (FCC) RADIO FREQUENCY INTERFERENCE STATEMENT

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE:

This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generate 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.

CAUTION: Changes or modifications not expressly approved by the manufacturer responsible for compliance could void the user's authority to operate the equipment.

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet helpful: "Something About Interference." This is available at FCC local regional offices. Our company is not responsible for any radio or television interference caused by unauthorized modifications of this equipment or the substitution or attachment of connecting cables and equipment other than those specified by Our company. The correction will be the responsibility of the user. Use only shielded data cables with this system.

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CANADIAN RADIO INTERFERENCE REGULATIONS

This apparatus does not exceed the class B limits for radio noise emissions set out in the radio interference regulations of the Canadian Department of Communications.

Le présent appareil n'émet pas de bruits radioélectriques dépassant les limites applicable aux appareils digitals de la classe B prescrites par le règlement de brouillage radioélectrique dicté par le Ministère des Communictions du Canada.

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Introduction

About This Manual

Thank you for purchasing our notebook computer

This notebook computer leads the industry with technology and features.

It is equipped with a fast Tillamook Pentium processor and a wide 13.3 " XGA LCD(factory option).

Additonal industry leading features include 32MB of EDO RAM expandable to 96MB; fast CD-ROM drive(including 20X CD-ROM drive); 512KB Pipelined Burst SRAM L2 Cache; internal .

This notebook computer is also an unparalleled mutimedia machine with a SoundBlaster Pro compatible sound system, full duplex stereo speakers and a fast CD-ROM drive.

Purpose

This document provides you with all the information you need to use your notebook computer. Use this manual when you want to customize your notebook's features, to trouble shoot your notebook should problems occur, or to find out detailed information about your notebook.

Conventions

This User's Guide uses the following conventions:

[F1]

A letter, number, symbol, or word enclosed in square brackets and printed in bold type represents a key on your keyboard.
For example the instruction:

    Press [F1]

means press the key labeled F1 on your keyboard.

[Ctrl] + [Alt] + [Del]

Two or three key names with a plus sign between them indicate multiple key entries. For example:

    Press [Ctrl] + [Alt] + [Del]

means that the keys marked [Ctrl], [Alt], and [Del] must be simultaneously pressed.

KB

A KB suffix to a numerical value indicates size in kilobytes.
For example: 512 KB.

MB

An MB suffix to a numerical value indicates size in megabytes.
For example: 8 MB.

HDD

An abbreviation for Hard Disk Drive.
For example: The HDD can be easily removed and replaced.

FDD

An abbreviation for Floppy Disk Drive.
For example: This notebook computer an integrated 3.5 inch FDD.

LCD

An abbreviation for Liquid Crystal Display, the display device used in
the notebook computer.
For example: The power save level is displayed on the LCD.

LED

An Abbreviation for Light Emitting Diode.
For example: The LED's on the battery pack indicates remaining power.

CRT

Abbreviation for Cathode Ray Tube - a generic term for monitor.
For example: This notebook computer supports the LCD panel and an
external CRT simultaneously.

Release Notes

Some important information may not be available at the time this
manual is printed. If applicable, new information is included in Release
Notes in your notebook package.

I Getting Started

This chapter provides the essentials needed to get your notebook computer up and running quickly.

Unpacking

The notebook computer box contains the following items:

- Notebook computer
- AC Adapter and AC Power Cord
- Rechargeable Battery Pack
- 3.5 inch External Floppy Diskette Drive Pack
- External CD-ROM Drive Pack
- User's Guide
- Bundle Software and Utility CDs or Diskettes

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Selecting a Safe Environment

Use the following guidelines when using your notebook:

1   Avoid using the notebook in excessive dust, moisture, electromagnetic fields or heat.

2   Avoid situations where liquids may be spilled onto the notebook.

3   Remove all objects from the keyboard before closing the lid.

Installing the Battery

This section details how to install the battery with the notebook turned off.

Use the following steps to install the battery:

1   Remove the battery from its protective bag.

2   Slide the battery into the battery slot (the battery terminals must go first).
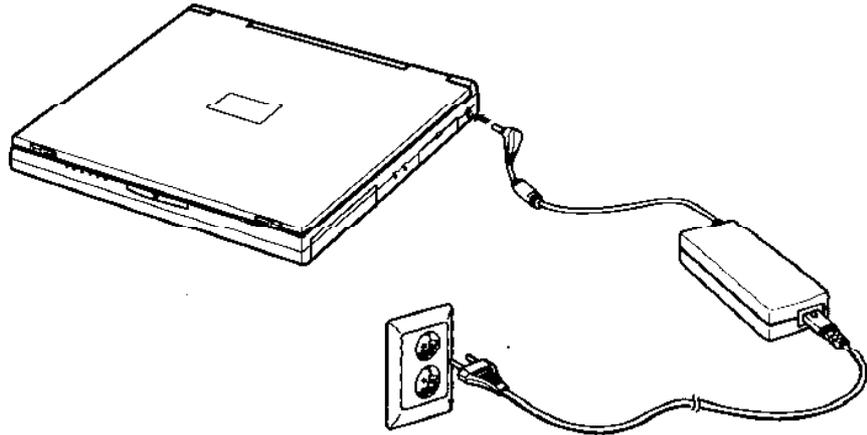
Figure 1-1. Installing the Battery
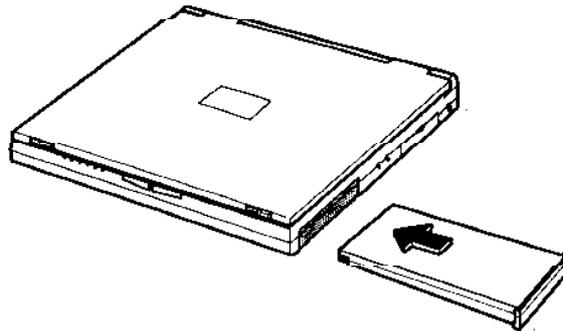
Connecting the AC Adapter

Use the following steps to connect your notebook to AC power:

1   Connect the DC power plug into the DC-In connector on the back of the notebook.

2   Connect the DC power plug to the AC adapter.

3   Insert the plug end of the power cord into a AC wall outlet.

Figure 1-2. Connecting the AC Adapter


Charging the Battery

To charge your battery, connect the AC adapter. Leave the AC adapter connected until the battery is fully charged. If the notebook is turned off, it will take about 3 hours for LiIon battery. For more details on batteries and power system, please see Chapter 2.

Opening the LCD

Use the following steps to open the LCD.

1 With the front of the notebook facing you, slide the front of the latch to the outside and raise the LCD (Figure 1-3).

2 Tilt the LCD to a comfortable viewing position.

Figure 1-3. Opening the LCD
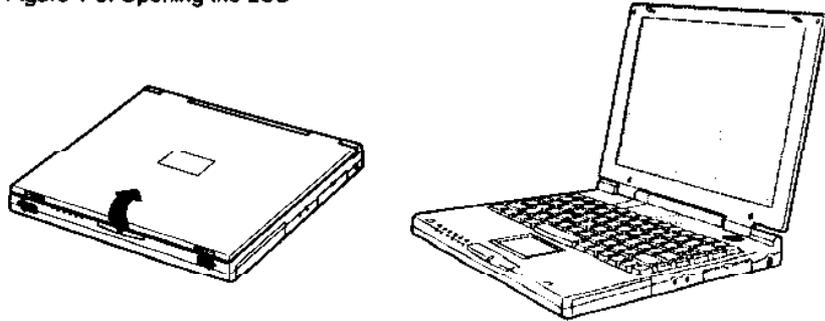
Turning On the Notebook

Use the following steps to turn the notebook on:

1 The power switch is located above the keyboard.
   Push the round power switch to turn the notebook on
   After a few seconds, the screen is displayed.

2 Adjust the brightness and contrast by pressing
   [Fn]+[☼▼/ ☼▲ /◑▼/◑▲].

When you turn the power on, the notebook automatically performs a POST (Power On Self Test). When the test completes successfully, the notebook loads the operating system from the HDD or FDD.

Figure 1-4 Turning the Notebook On and Off
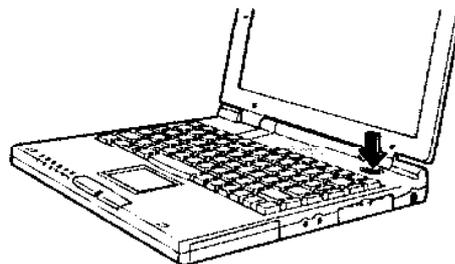
Turning Off the Notebook

Use the following steps to turn off the notebook.

Warning: Failure to perform the following steps may result in lost data.

1   Save all data and exit your current application.

2   Click the start button located in the lower left corner of the window screen, and then click on shut down.

3   If you forget to save changes to documents, Windows 98 will prompt you to save changes before shutting down.

4   If you confirm you want to shut down the computer, it will turn off automatically.

You can manually turn off the computer in MS-DOS mode or Windows 3.1 by pressing the round power switch located above the keyboard.

Warning: To avoid damaging files in Windows 98, always shut down Windows before you turn off the system. If you want to turn on the power again, wait at least 10 seconds after power off.

Setting the Hibernation Feature

Hibernation is new technology that can maximize the battery life of your notebook computer. It automatically turns off all system power while you are not using the notebook. However, before turning the system off, Hibernation saves all information currently in its memory and stores it in a special location on your hard disk drive. When you start using the notebook again, Hibernation returns you to the same place you were before stopping.

Warning: Hibernation was factory installed on your hard disk. Re-installing it through the system utility, PHDISK.EXE, will destroy previously saved data on your disk. If you find it necessary re-install Hibernation, back up your hard disk. Please refer to PHDISK.EXE section for more detailed information.

Controls, Indicators and Connectors

The following section contains figures and corresponding tables detailing the connectors and indicators on each side of the notebook.
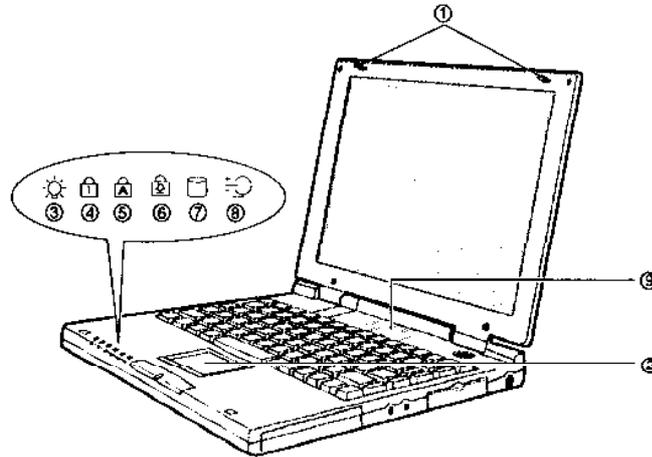
Figure 1-5. Controls, Indicators and Connectors (front)

Table 1-1. Controls, Indicators and Connectors (front)

Item	Description
1	LCD release latch which opens the notebook.
2	Integrated touchpad which performs all standard mouse functions.
3	Lights when the notebook is on. It blinks every second when the battery level is very low, and every three second when the system is in the Power-On-Suspend state.
4	Lights when number lock is on.
5	Lights when caps lock is on.
6	Lights when scroll lock is on.
7	Indicates that the HDD/FDD is being accessed.
8	Amber - Indicates that the battery is being charged. Green - Indicates that the notebook is powered from the AC adapter or the battery is fully charged.
9	System power switch which turns on or off the system.

Figure 1-6. Controls, Indicators and Connectors (back and Left)
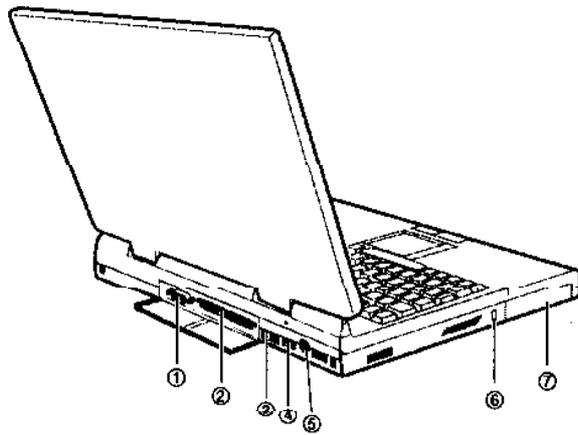
Table 1-2. Controls, Indicators and Connectors (back and Left)

Item	Description	Pins
1	COM(Serial) Port	9
2	Expansion Port for the Port Replicator	160
3	FIR(Fast Infrared) port	
4	USB (Universal Serial Bus) port	
5	PS/2 External Keyboard or Mouse Port	6
6	Kensington Lock	
7	PC Card slots	

Figure 1-7. Controls, Indicators and Connectors (left)
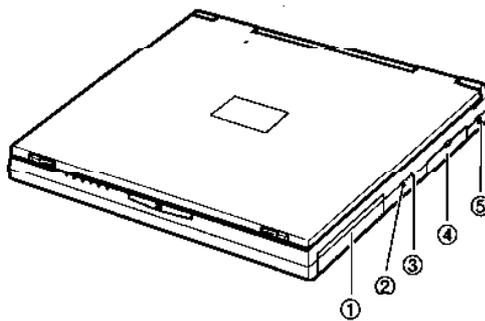
Table 1-3. Controls, Indicators and Connectors (right)

Item	Description
1	Battery Compartment
2	Headphone jack
3	External Microphone jack
4	External FDD/CD port
5	DC-IN Connector
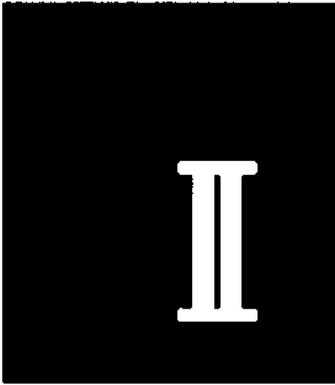
II Operation

Keyboard

The keyboard (Figure 2-1) features the followings:

- IBM 104 Key Keyboard Compatibility
- Dedicated Windows function keys
- 12 Function Keys
- Embedded Numeric Keypad
- Cursor Control Keys
- Hot Keys

Figure 2-1. Keyboard

Embedded Numeric Keypad

The embedded numeric keypad emulates the numeric keypad typically found on a full size 101/104 key keyboard.

Press the [Num Lock] key to toggle the numeric keypad between ON and OFF. The Num Lock LED lights when Num Lock is ON.

* When Num Lock is ON:

  a) The keys displayed in the upper right corner of the numeric keypad (see Figure 2-1) are enabled.
  For example, to generate a *4*, press the [u] key.

  b) The regular keyboard keys of the numeric keypad can be temporarily enabled by simultaneously pressing the [Fn] key.
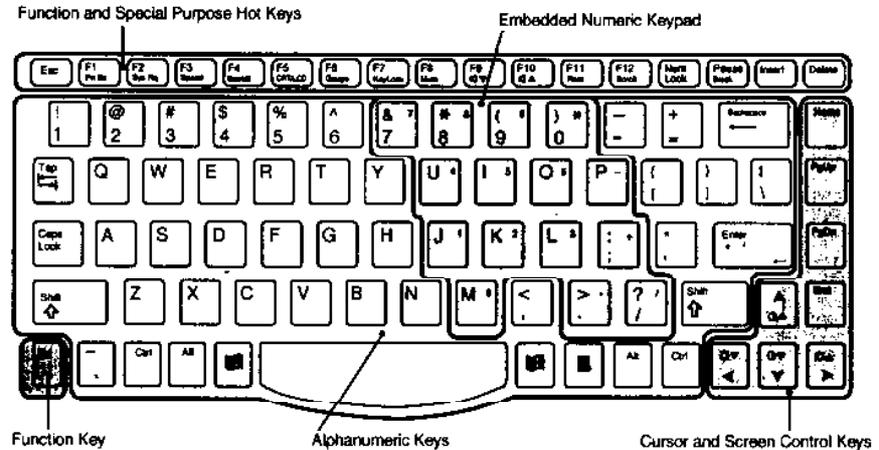 For example, to generate a *u*, press [Fn] + [u].

* When Num Lock is OFF:

  a) The cursor control keys become active when [Fn] and a numeric keypad key are simultaneously pressed.
  For example, to generate a *left cursor key* press [Fn] + [u].

  Note When the external keyboard is connected to the system, the embedded numeric keypad operates same as the Num Lock is off.

Special Function Keys

Three hot keys provide special functions for Windows 98. The key with the Windows logo is a convenient method to access the Start menu. Consult the Windows 98 manual for the menu's functions. Press the [ESC] key to exit the menu. The other labeled key accesses the Windows 98 system menu for arranging icons, creating new folders, and customizing the properties of the LCD display. The Windows 95 manual explains these functions in detail. Press the [ESC] key to exit the menu.

Some special keys have been established to perform important tasks when pressed and held with the [Fn] key.

[Fn] + [Speed]
Toggle the system power management level between Turbo and Non-Turbo mode if the system is powered by battery.

[Fn] + [Backlit]
Turn off the LCD backlight. Significantly less power is used when the LCD backlight is off. To turn on the LCD backlight press or move mouse any key.

[Fn] + [CRT/LCD]

This allows you to choose among the internal LCD, external CRT and both.

[Fn] + [Gauge]

The system displays a picture that indicates the amount of remaining battery power and the current power management setting if the system is powered by battery.

[Fn] + [Key Lock]

This locks the keyboard and activates the password protection if the password is set in the BIOS setup.

[Fn] + [Mute]

Toggles the audio output enable or disable

[Fn] + [Rest]

Forces the Notebook to enter the Power-On-Suspend or Save-to-Disk state.

[Fn] + [◁▼/◁▲]

Change the Audio Output Volume level.

[Fn] + [☼▼/☼▲]

Change the brightness of the LCD.

[Fn] + [◑▼/◑▲]

Change the contrast of the LCD if it's DSTN type. It has no meaning if the system has TFT LCD.

Note If you press some kind of above Special Function Keys while the system makes sound, the sound will be delayed for a moment. It can be heard a little strange, but it's not malfunction.

Cursor Control

The cursor keys are located in the lower right corner of the keyboard. When the keys are in cursor mode, they move the cursor one space or line at a time. They have the following:

[◀]   Moves the cursor left one space.
[▶]   Moves the cursor right one space.
[▼]   Moves the cursor down one line.
[▲]   Moves the cursor up one line.

Touchpad

The Touchpad is an easy to use, maintenance free pointing device controlled by your fingertip. This pointing device makes using Graphical User Interfaces such as Windows 98 easy-to-use. Simply run your fingertip over the $2\frac{1}{4}$ by $1\frac{3}{4}$ surface and the cursor follows along. The Touchpad is positioned in a comfortable location below the keyboard.

- Single Tap/Mouse Click
  a) You can select screen objects by moving the cursor over the desired object then lightly tapping on the Touchpad surface or pressing the left mouse button once.

- Double Tap/Double Click
  a) You can accomplish a double click by either lightly tapping on the Touchpad surface twice or pressing the left mouse button twice. This activates the screen object selected.

- Drag and Drop
  a) Dragging and dropping or selecting text is also easily accomplished with a Touchpad. In order to drag and drop, you lightly tap on the Touchpad twice and leaving your finger on the Touchpad surface after the second tap. You can then move your finger to the desired location.

Consult the Microsoft Windows 98 manual for further information about the use of the mouse.

Memory

The notebook contains 32MB of memory and can be expanded to 96MB of main memory.

Digital Audio

This notebook supports Digital Audio for Windows. This Audio subsystem provides digital sound record and playback. The internal microphone can record the digital sound with maximum 44KHz sampling rate. The headphone jack supports an external speaker with amplifier or a headphone. Audio subsystem includes a Music synthesizer with DAC (Digital-Analog Converter) logic.

This notebook provides internal condenser microphone and internal stereo speaker. The specifications of audio system are as follows:

- SoundBlaster® Pro compatible
- Music synthesizer with DAC
- MIDI file playback at windows environment
- Maximum stereo 16-bit, 44.1KHz sampling rate support
- WSS (Windows Sound System) compatible
- 3D SOUND

Note The external headphone jack only supports stereo plugs. If a monophonic plug is connected, it will not function properly.

LCD Display and Video System

PCI Bus technology has been used to provide outstanding video performance (screen refresh, scrolling, painting, etc.). A 32-bit PCI Bus provides a high speed data path through the PCI bus between the video subsystem and the processor. It provides superior performance over systems that only use the AT or VESA local bus.

Display Modes

Both the LCD and External CRT can simultaneously display the same images. This is useful during presentations where either an external CRT or overhead projection device is used.

SVGA

SVGA support (900 × 600 maximum) is available when using the notebook with both LCD and CRT.

Integrated LCD

The color LCD screen supports up to 65,536 simultaneous colors on models with Active Matrix displays.

Note Due to the characteristics of the liquid-crystal material, the contrast of the LCD screen may vary with ambient temperature, light and viewing angle.

Simultaneous Display

You can use the integrated LCD panel, an external monitor or both simultaneously. There are two ways to specify your desired Simultaneous Display mode.

Press [Fn] + [CRT/LCD] or in Windows 98.

1 Double-click on *My Computer.*

2 Double-click on *Control Panel.*

3 Double click on *Display.*

4 Click on *Refresh.*

5 Select *desired display mode* under Active Display.

Power System

This notebook computer can be powered by one of the following:

- AC Adapter
- Battery Pack
- Optional Automobile Adapter

AC Adapter

The AC Adapter converts AC power to DC power and supplies DC power to the notebook. The adapter automatically adjusts itself to a wide range of AC voltage input (100 to 240 volts, 50/60 Hz). AC power either charges the battery or powers the notebook.

Charging the Battery

Your notebook's battery is automatically charged when you connect the AC Adapter. Your battery will be charged faster if the system is turned off. While your notebook is off, it will take about 3 hours to charge LiIon battery.

If you are charging your battery with the notebook turned on, we recommend that you finalize the charge with the notebook turned off. Of course, you can use an optional battery charger. By this method, you can charge a battery while it is not in the computer.

Replacing the Battery

To replace the battery, perform the following steps (Figure 2-2):

1 Turn off your notebook or put your notebook in the Save-to-Disk REST state.

2 Side the latch, on the bottom side of the system, by pulling it front.

3 Remove the battery pack by pulling it out of the computer.

4 Insert a charged battery to the computer(the battery terminals must go first).

Battery Care

Battery has long life under normal circumstances, but you can increase the performance by following these steps:

- Do not leave the battery fully discharged for extended periods of time.

- Battery normally discharge power when not used for long periods of time. Be sure to recharge the battery every 6 months when not in use.

- Do not charge the battery in temperatures over 35°C or below 5°C.

- As a battery ages, it holds less charge. If you attempt to charge a battery and the battery indicator light does not turn amber even when the battery is not fully charged, you may need to purchase a new battery. Be sure to recycle or dispose of old batteries properly.

Note When using a new battery pack for the first time or after prolonged storage, the initial battery charge may be shorter than normal. Normal charge life resumes after a few discharge-recharge cycles.

Battery Power Indicator

The power indicator displays the amount of battery life available at any given time. It also permits you to change the Power Save Level without having to enter Setup.

Note The Power Save Level changes you make through the fuel gauge are permanent. When you turn off your system, the changed setting will be in effect.

To execute this function, press **[Fn]** + **[Gauge]**. The power save level is displayed on the LCD if the system is powered by battery (Figure 2-3)

Figure 2-3. Battery Power Gauge

.**Note** Due to the characteristic of battery cells, the Battery Level can be very inaccurate for about 10 minutes after charging.

The fuel gauge has 2 sections:

- Section 1 - The current Power Management System level is shown. This section of the fuel gauge can display Turbo or Non-Turbo. These options are described below:

  - Turbo : high performance state
  - Non-Turbo : low power consumption state

    If you would like to change the Power Management level (displayed in section 1), press [F1] to toggle through the options.

Note While the fuel gauge is displayed, all keys (except: [F1], [Esc]) are disabled.

- Section 2 - This displays the battery level by four grade.

Press the [Esc] key to exit the fuel gauge screen.

Note Battery levels displayed in the fuel gauge may not match actual levels in condition of different environment, but the whole battery using time isn't affected by the wrong gauging.

Note The power indicator function does not work when the system is powered by AC adaptor.

Battery Power Alarm Indicator

The notebook continuously monitors the battery level and warns you when the battery reaches a level where it cannot reliably sustain normal operation.

There are two predetermined threshold values that produce warnings, Low Battery (First Warning) and Very Low Battery (Final Warning).

- Low Battery When the battery level becomes low, the First Warning occurs. A series of low pitched beeps sounds and the power on LED starts to blink every second. You should:

  a) Save your data.

  b) Connect the notebook to AC power or place the system into the Save-to-Disk REST mode.

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- Very Low Battery - If you do not respond to the Low Battery warning, the System enters Rest state automatically after a while. Just before this happens, the notebook will emit a series of high pitched beeps.

- If the Very Low Battery warning occurs, you should:

  a) Connect the notebook to AC power.

  b) Once external power is provided, press power button to resume operation.

  Warning According to the BIOS setup, the system can enter Power-On-Suspend Rest or Save-to-Disk Rest state. If the system is in Power-On-Suspend Rest state while its remaining battery capacity is low, it cannot be in the state long. So you should connect the notebook to AC power before it really turns off without saving any data.

Maximizing Battery Life

The following techniques can be used to maximize the continuous operating time while on battery power.

- Make sure to begin with a fully charged battery.

- Use the setup function to Enable Power Management for maximum power saving.

- Use the minimum LCD brightness setting.

- PC Cards can continuously draw power. Therefore, whenever possible, remove any unnecessary PC Cards.