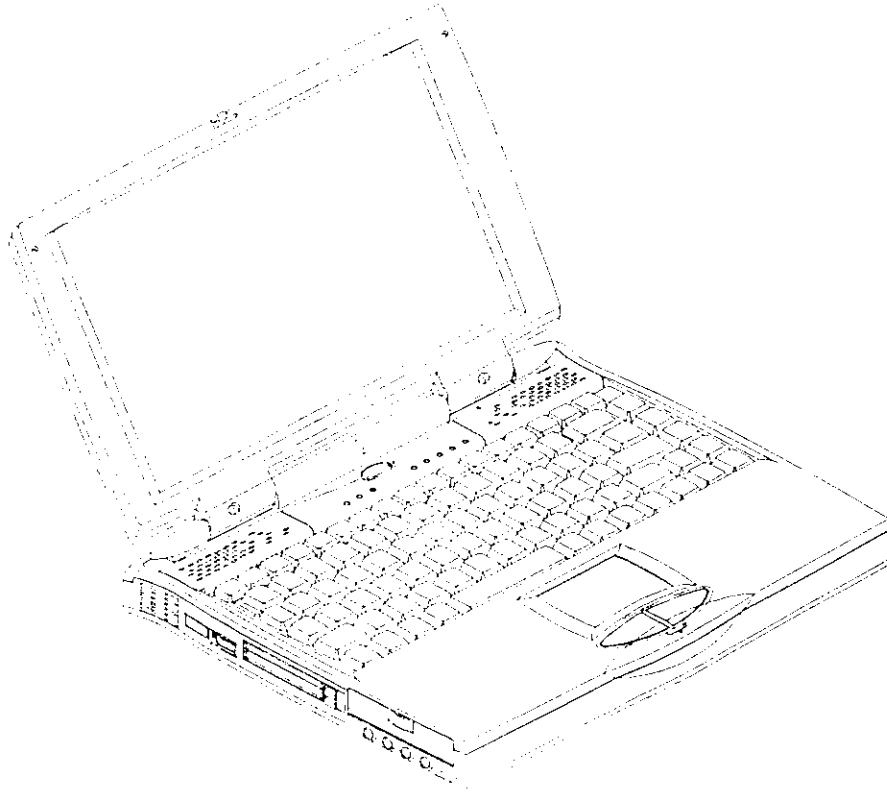


Appendix B
User's Manual

**ALL-IN-ONE ERGONOMIC
NOTEBOOK COMPUTER WITH UP
TO A 13.3" LCD**



USER'S GUIDE

About This Manual

This manual is designed to assist users in using their all-in-one Ergonomic Notebook computer. Information in this document has been carefully checked for accuracy; however, no guarantee is given as to the correctness of the contents. The information contained in this document is subject to change without notice.

Edition

1st Edition, June 1998 by Omega Trends and Stuart Schuman

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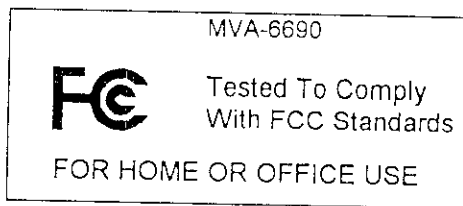
Federal Communications Commission Statement

This Equipment has been tested and found to comply with the limits for a class B digital device, pursuant to Part 15 of the Federal Communications Commission (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.

FCC Compliance Label

The following *FCC Compliance Label* is fixed to the bottom of your Notebook. Consult your dealer if this label is missing.



Warning

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

Use only shielded cables to connect I/O (input/output) devices to this equipment. ✓

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

CANADIAN DOC NOTICE

This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus as set out in the Radio Interference Regulation of the Canadian Department of Communications.

"Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la class B prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada"

Personal Inventory

This Notebook computer system is designed for years of productive and pleasurable computing. Use this section to keep notes about details of your purchase.

Date of Purchase:	
Dealer's Name:	
Phone:	
Address:	
E-Mail Address:	

Type of LCD screen display *Noted on the outside box

13.3" Color TFT LCD

12.1" Color TFT LCD

1. Others: _____

Serial Number:	
CPU Type:	
Hard Disk Capacity:	
Memory Capacity:	
Optional Equipment:	

Maintenance

Follow these steps and you will increase the working lifetime of your Notebook. You will also reduce the chance of damage to your computer and personal injury to yourself.

1. Make sure the computer is turned off before unplugging it.
2. When possible, use a high-quality electrical surge protector when your computer is powered by the AC adapter. It is also a good idea to unplug your computer when it is not in use.
3. Do not use the computer in a dusty or dirty work area. Dust can cause contamination to the unit which can result in malfunction or damage.
4. Ensure that your hands are clean when you use the Touchpad to prevent oil and dirt build-up which can impair Touchpad operation.
5. Clean your computer's exterior casing occasionally with a soft cloth. If you use a cleanser, make sure that it is only a mild detergent. Never use solvents like thinner or benzene, or abrasive cleansers because these may damage the cabinet. Make sure that the computer's power is off when you clean it. After cleaning, allow 30 minutes drying time.
6. Remember to clean your display at regular intervals. Spray window cleanser onto a soft cloth and then wipe the display. Do not spray the cleanser directly onto the display.
7. Clean your keyboard when needed. This can be done with a soft cloth as well as with a keyboard vacuum cleaner.

Safety Instructions

Computer

1. Follow all warnings and instructions marked on the Notebook.
2. Do not open the computer in a vertical position. Always use the computer in a horizontal position.
3. Do not operate your computer near a source of heat or in direct sunlight.
4. Do not use the computer in a potentially flammable work area.
5. Do not use your computer on an unstable working surface. This will prevent your computer from falling or being knocked over and damaged.
6. Do not store objects on the top of your computer. Do not exert pressure on the computer. It may damage the LCD display.
7. If you are traveling with your computer, remember to carry your computer as hand luggage. Do not check it in as baggage.
8. Do not use the Notebook near water or other liquids, or in rainy/moist situations. If liquid gets into your computer, turn it off and take it to your dealer for inspection.
9. Do not place the Notebook on an unstable cart, stand, or table. The Notebook may fall, causing serious damage to the computer.
10. Never push objects of any kind into the slots on the Notebook's cabinet as they may touch dangerous voltage points or short out parts that could result in a risk of fire or electric shock.

11. Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
12. Do not press on the LCD cover. Do not place any object on the cover when it is closed. Doing so may cause the LCD to break.
13. Do not attempt to service the Notebook yourself. Unplug this product from the wall outlet and refer servicing to the authorized dealer.
14. When replacing components, be sure to replace only with components approved by the manufacturer or the authorized dealer. Unauthorized substitutions may result in safety hazards and/or violate the warranty.

Power

1. This electronic device should be operated from the type of power source indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
2. This computer is shipped with its own AC adapter. Do not use the computer with a different adapter.
3. Do not allow anything to rest on the power cord. Do not place the Notebook where people will walk on the cord.
4. When you disconnect cords, remember to pull them by the plugs and not by the cords themselves. This will prevent damage to the cords, plugs, ports, and jacks.
5. If an extension cord is used with this Notebook, make sure that the total ampere ratings of the products plugged into the extension cord do not exceed the extension cord ampere rating. Also, make sure that the total current of all products plugged into the wall outlet does not exceed 15 amperes.

The Battery

1. Do not disassemble the battery. The chemicals inside can damage skin and clothing.
2. Keep the battery pack away from fire.
3. Do not soak the battery pack in water or expose it to rain.
4. Replace only with the same or equivalent type of battery recommended by the manufacturer or the authorized dealer.
5. The battery will lose its charge when stored for a long time. When this happens, fully charge the battery, then fully discharge the battery and then fully charge it once again. This helps the battery hold its charge after absence of activity.

CAUTION!

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions. Do not place the battery contacts near metal objects.

ABOUT THIS GUIDE

This guide describes how to operate, configure, and troubleshoot the Notebook computer. With this easy-to-use guide, you will be able to quickly familiarize yourself with all aspects of the Notebook computer.

Organization

This guide contains the following chapters:

Chapter 1 — Welcome to the Notebook!

This chapter identifies the Notebook's external components and provides an overview of the Notebook's hardware features. There is also a section on preparing the Notebook for transport.

Chapter 2 — Getting Started

This chapter is designed to help you start using the Notebook right away. Information is included on powering on the Notebook, the Power On Self Test (POST), installing a disk operating system (DOS), Ergonomics, the special function keys and powering off the Notebook.

Chapter 3 — Operating the Notebook

This chapter provides information pertaining to the Video Display Controls used to adjust the LCD screen's appearance. Also included in this chapter is a brief overview of the keyboard, the LED Status Indicators, using the Touchpad, using the FDD and HDD, a description of the Notebook's audio features, and a section on using PCMCIA cards.

Chapter 4 — Connecting Peripheral Devices

This chapter overviews the peripherals that can be connected to the Notebook, the necessary requirements for using these peripherals with your Notebook and instructions on how to connect these devices to your Notebook.

Chapter 5 — The Power System

This chapter contains information on the Notebook's power system, including the AC Adapter, the battery system, recharging the battery, and tips for conserving battery power. Also included is a detailed description of power management.

Chapter 6 — The BIOS Setup Program

This chapter introduces the BIOS (basic input/output system) Setup Program, discusses how to move around in the BIOS Setup Program, as well as how to specify and save your new settings. A detailed list of the optional settings among the different menus is also provided.

Chapter 7 — Installing Device Drivers

This final chapter provides instructions on how to create a Zero-Volt Suspend Partition on your Notebook's hard drive. This chapter also provides the information required to install the device drivers necessary to run your Notebook's peripheral devices.

Appendix A — Specifications

This appendix lists your Notebook computer's operating specifications.

Appendix B — Switch Settings

This appendix lists your Notebook computer's switch settings.

Appendix C — Troubleshooting

In a question and answer format, this section provides you with solutions to possible problems that may arise.

Abbreviations

Abbreviation	Meaning
ACPI	<i>Advanced Configuration and Power Interface</i>
AMD	<i>Advanced Micro Devices</i>
APM	<i>Automatic Power Management</i>
ASKIR	<i>Amplitude shift keyed infrared port</i>
ATA	<i>AT Attachment (Advanced Technology Attachment)</i>
ATAPI	<i>AT Attachment Packet Interface</i>
BIOS	<i>Basic Input/Output System</i>
CMOS	<i>Complementary Metal Oxide Semiconductor</i>
CPU	<i>Central Processing Unit</i>
DIMM	<i>Dual In-line Memory Module</i>
DMA	<i>Direct Memory Access</i>
DRAM	<i>Dynamic Random Access Memory</i>
D-STN	<i>Dual Scan STN (Super Twisted Nematic)</i>
ECP	<i>Enhanced Capabilities Port</i>
EDO DRAM	<i>Enhanced Data Output DRAM. This type of memory is 30 to 50 percent faster than conventional DRAM. Unlike conventional DRAM, EDO DRAM does not have to be refreshed between each data access; therefore, the cycle time is much shorter.</i>
EIDE	<i>Enhanced IDE (Integrated Drive Electronics)</i>
EPP	<i>Enhanced Parallel Port</i>
FDC	<i>Floppy disk controller</i>
FIR	<i>Fast Infrared</i>
GB	<i>Gigabyte (1GB = 1,073,741,824 bytes or</i>

	1,024MB)
HP SIR	<i>Hewlett-Packard Serial InfraRed</i>
I/O	<i>Input/Output</i>
IDE	<i>Integrated Drive Electronics (internal hard disk drive interface)</i>
IEEE	<i>Institute of Electrical and Electronics Engineers</i>
IrDA	<i>Infrared Data Association</i>
IRQ	<i>Interrupt ReQuest</i>
ISA	<i>Industry Standard Architecture</i>
JEIDA	<i>Japanese Electronic Industry Development Association. A Japanese trade and standards organization. The PC card specifications JEIDA 4.1 and PCMCIA 2.0 are the same.</i>
KB	<i>Kilobyte (1KB = 1,024 bytes)</i>
LAN	<i>Local Area Network</i>
LCD	<i>Liquid Crystal Display</i>
LCM	<i>Liquid Crystal Module</i>
LED	<i>Light Emitting Diode</i>
Li-Ion	<i>Lithium Ion (battery)</i>
MB	<i>Megabyte (1MB = 1,048,576 bytes or 1,024KB)</i>
MESI	<i>Modified Exclusive Shared and Invalid (protocol)</i>
MIDI	<i>Musical Instrument Digital Interface</i>
MMU	<i>Memory Management Unit</i>
MPEG	<i>Motion Picture Experts Group</i>
MS-DOS	<i>Microsoft Disk Operating System</i>
NiMH	<i>Nickel Metal Hydride</i>
NTSC	<i>(National TV Standards Committee) The US color TV standard administered by the FCC. It cur-</i>

rently broadcasts at 525 lines of resolution that are transmitted as 30 interlaced frames per second (60 half frames per second, or 60 "fields" per second in TV jargon).

PAL	(Phase Alternating Line) A European color TV standard that broadcasts an analog signal at 625 lines of resolution 25 interlaced frames per second (50 half frames per second).
PCI	Peripheral Component Interconnect
PCMCIA	Personal Computer Memory Card International Association
PGA	Pin Grid Array
PIO	Programmed Input/Output
POST	Power On Self-Test
RAM	Random Access Memory
ROM	Read Only Memory
RTC	Real Time Clock
SIR	Serial Infrared
SMI	System Management Interrupt
SPP	Standard Parallel Port
SRAM	Static Random Access Memory
SVGA	Super Video Graphics Array
S-Video	Super Video. S-video hookups use a special 5-pin connector rather than the common RCA phono plug.
TFT	Thin Film Transistor
USB	Universal Serial Bus
VGA	Video Graphics Array
XGA	Extended Graphics Array
ZV Port	Zoomed Video Port

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NOTES

Chapter 1

AN INTRODUCTION TO YOUR NOTEBOOK!

Congratulations on your Notebook purchase! Your new Notebook is a lightweight, compact personal computer featuring the most innovative advances in portable computing technology. Designed for a wide range of general business and personal productivity applications, your Notebook is an invaluable companion in the office, at home or on the road.

The Notebook's modular design provides maximum expandability without compromising portability. The high-performance Intel Pentium CPU and enhanced IDE hard drive provide you with extra processing power for handling complex graphics and large sound files. Two PCMCIA slots give you the ability to use standard PCMCIA cards, such as a LAN adapter or memory cards. The Notebook also features a 3½" FDD that is interchangeable with the CD-ROM drive. Optional items include memory expansion cards, a Fax/Modem module, a spare battery pack, and a car adapter.

The 16-bit 3D stereo sound Yamaha audio system is fully compatible with Sound Blaster Pro, and Microsoft Sound System for Windows. The two stereo speakers and internal microphone allow you to take full advantage of the Notebook's multimedia capabilities.

The Notebook combines state-of-the-art ergonomics with sophisticated architecture to provide you with a portable personal computer that is compact, powerful, and easy to use.

This User's Guide describes all features of the Notebook in an easy-to-read yet thorough manner. The primary goals of this chapter are to identify the Notebook's external components and to provide a quick reference of the Notebook's functions for experienced computer users.

Unpacking the Notebook

The Notebook comes securely packaged in a sturdy cardboard shipping carton. Upon receiving your Notebook, open the carton and carefully remove the contents. If anything is missing or damaged, please contact your Notebook dealer immediately. The shipping carton should contain the following items:

- The Notebook computer
- 20X or higher CD-ROM (optional with some models)
- An AC Adapter
- An AC Power cord
- DR-36S, NiMH Battery Pack or a DR-202, Li-Ion Battery Pack
- Software Drivers and Utility Diskettes (multiple floppy diskettes or one CD disc and one floppy diskette)
- This User's Manual
- A Carrying Bag (optional)
- TV-Out Cable

Do not throw the packaging materials away. You may need them later to transport or ship the computer for repairs.

Note!

Using a computer for extended periods of time with a poor workstation set-up and incorrect work habits can cause health problems. The science of ergonomics studies the relationship between health and a suitable work environment. There is a section on ergonomics at the end of Chapter 2 in this manual. For more information on ergonomics, contact your nearest computer bookstore or local library. The Internet also has information on this and other related subjects.

Optional Devices

To further enhance the utility of your Notebook computer, there are several optional products available from your dealer.

- 16MB/32MB/64MB EDO RAM Module
- Additional Battery Pack
- Removable IDE Hard Disk Drive

Opening and Closing the Notebook

At the front of the Notebook you will find a green retaining latch on the display panel which locks the display in a closed position when the Notebook is not in use. To raise the display panel follow these steps:

1. Slide the display panel latch to the right until the display panel releases, and then raise the LCD screen.
2. Tilt the display to a comfortable viewing position.

To close the Notebook, lower the LCD screen and press down gently; the retaining latch will click shut.

Note!

When closing the Notebook, be careful to lower the LCD screen gently. Slamming the LCD screen shut could damage the Notebook's circuitry.

Overview of the Notebook's Hardware Features

This section provides an overview of the Notebook's features. For more detailed information see the specification section in Appendix A. The Notebook's hardware has the following features:

CPU

The central processing unit (CPU) is the Notebook's key hardware feature; it acts as the brain of the computer, performing all the computing functions and orchestrating the actions of the system. The Notebook supports the following Intel Pentium and AMD Processors:

233MHz Intel Pentium Processor with MMX

266/300MHz AMD- ..

The supported CPUs operate at less than 3 volts and therefore consume less energy and generate less heat than 5-volt CPUs.

Contact your Notebook dealer for more information.

External Cache

The Notebook supports an external 256KB (with support for 512KB) L2 write back cache with Synchronous Pipeline Burst mode. The external cache enhances system performance, especially in the Windows environment.

Upgradeable System Memory

The Notebook has two 144-pin, 64-bit Access SO-DIMM Memory Module slots. Memory can be upgraded up to 128MB by using one or two 16, 32, or 64MB 144-pin, 3.3V, FPM/EDO RAM SO-DIMM modules.

Power Management *The Notebook has sophisticated power management features built into the BIOS Setup program. The Integrated Smart Charger Circuit is designed to conserve power and extend the life of the battery between charges.*

Display *The LCD assembly can be used simultaneously with an external monitor and comes with the following display options:*

- *13.3" TFT (1024x768) High Color*
- *12.1" SVGA-TFT (800x600) True Color*
- *1024 X 768 X 64K supports LCD/CRT and simultaneous mode*

VGA Graphics Accelerator *The video subsystem includes 2MB of embedded SDRAM memory, a HiQVideo Accelerator with Integrated Memory, a CRT GUI Accelerator & Multimedia Engine, a 64-bit Graphics Engine with support for simultaneous display and full power management. The video subsystem also supports a ZV (Zoomed Video) port.*

Built-In FDD *The Notebook comes with a built-in FDD (Floppy Disk Drive). The FDD can use either 720KB double density or 1.44MB high density 3.5-inch floppy diskettes, with 3 mode 1.2MB format support for NEC PC compatibility.*

Removable HDD Module	<i>The Notebook comes with a 2.5" (12.7mm maximum height) hard disk installed. The hard drive can easily be removed and replaced with a second hard drive for the purpose of data backup or expansion.</i>
Built-in CD-ROM	<i>The built-in CD-ROM drive (20 speed or higher) allows you to take advantage of the wide array of multimedia titles available.</i>
Pointing Device	<i>The Touchpad is a pressure-sensitive pointing device which allows you to move the cursor around the screen and make selections just as one would with a conventional mouse. You can use the Touchpad concurrently with an external PS/2 mouse.</i>
Windows 95 Enhanced Keyboard	<i>The Notebook keyboard uses a standard QWERTY layout with the addition of special function keys (e.g., "Hot-Keys" for LCD brightness & contrast and sound volume control) and an embedded numeric keypad for number intensive data entry. The Notebook's enhanced keyboard design emulates a full-size desktop keyboard and supports multiple language formats. Your keyboard supports Windows 95 by incorporating two Windows specific keys. With the two Windows 95 keys you will be able to access and take advantage of many of the time-saving features of Windows 95 software. An optional 89-key OADG and Microsoft Windows compliant keyboard for Japanese language is also available.</i>

PCMCIA Interface	<i>Two PCMCIA expansion sockets provide an interface for two Type II cards, or one Type III card. The PCMCIA interface in your Notebook uses a PCI bus and supports a CardBus and ZV port. PC cards accommodate a number of expansion options, including memory cards, modems, hard disks, and network adapters.</i>
Serial Port	<i>A standard 9-pin RS-232 serial port (16550 UART compatible)</i>
Parallel Port	<i>A 25-pin parallel port which is most commonly used to connect a printer or Pocket LAN to the computer. The parallel port supports EPP, ECP and SPP capabilities.</i>
USB Port	<i>A Universal Serial Bus (USB) port is available for you to connect a USB compliant device, such as a keyboard or mouse. Contact your dealer for details</i> <i>The USB has a total bandwidth of 1.5MB per second and at full capacity can accommodate up to 128 peripheral devices.</i>
Infrared Port	<i>The Notebook features an IrDA compatible Fast Infrared (FIR) and Serial Infrared (SIR) communication module. The FIR module enables you to make wireless serial communication between the Notebook and other IR equipped devices such as a printer or another Notebook computer.</i>

- 3D Audio** *The Notebook's audio system includes a sophisticated built-in Yamaha OPL3-SA2 16-bit stereo audio-sound generator that is compatible with Sound Blaster Pro. The Notebook's sound system includes 3D audio sound effects, two built-in stereo speakers and a microphone. The Notebook's audio system includes software to support Wave-table Synthesis.*
- Wavetable synthesis provides more realistic sound than the FM synthesis method, which generates the sound waves entirely via electronic circuits. Wavetable synthesis creates musical sounds by storing digitized samples of the actual instruments. The more notes sampled, the better the resulting sound recreation.*
- Audio Ports** *The Notebook comes with three audio jacks: Line-in, Line-out, and Mic-in.*
- External Keyboard or PS/2 Mouse Port** *The Notebook has a 6-pin connector for connecting a full-size keyboard or a PS/2 mouse.*
- VGA Port** *At the rear of the Notebook there is a 15-pin VGA connector (supports DDC2B) for connecting an external CRT monitor.*
- TV Out Port** *Connect a television set to the Notebook's TV Out port (supports V-video) to use the TV as an external monitor.*

**Keyboard
Controls**

The Notebook provides a host of hot key features that are a permanent part of the computer's operation. Some affect the LCD video display, while others control the sound volume.

**Battery and
AC Power
System**

The Notebook can operate on two power sources, an AC Adapter or the rechargeable battery module pack. The system will automatically recharge the battery pack when it's in the Notebook by using the AC Adapter. By using the power management features described in Chapter 5, the Notebook can operate on battery power for approximately 2 hours. Each battery pack takes between 2–2.5 hours to recharge when the computer is turned off. For extended battery-powered operation, additional battery modules may be purchased.

Identifying External Components

Please refer to the text and diagrams below to identify all external components and accessories of the Notebook computer.

Front Right View (3-in-1 model)

Please refer to *Figure 1-1* and the descriptions that follow to identify the components on the front and right side of the Notebook.

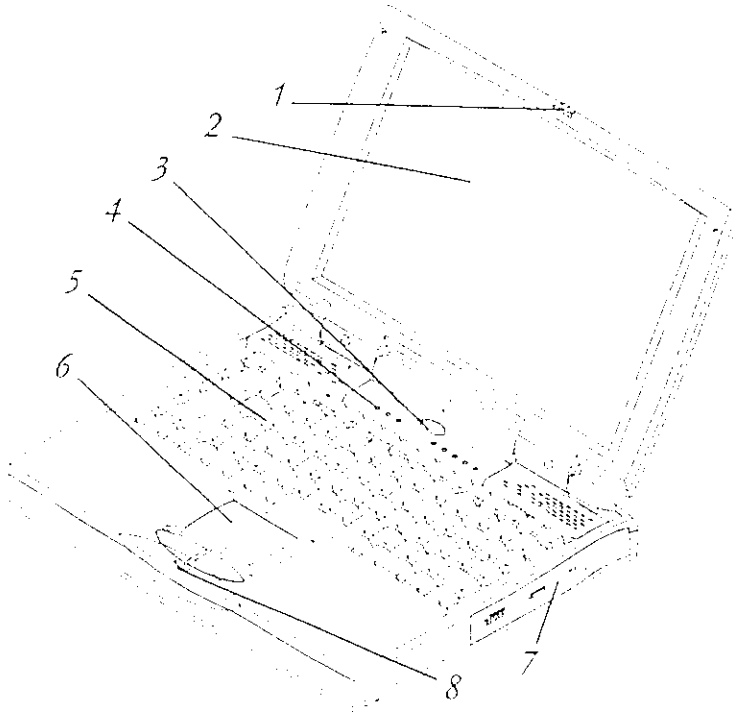


Figure 1-1: Front Right View of the Notebook (3-in-1 Model)

1. **Display Panel Latch**
This latch is used to release the display panel from its

locked or closed position.

2. **Display — 12.1"VGA/SVGA LCD Screen**
The 12.1-inch TFT SVGA and DSTN SVGA LCD panels all have standard resolutions of 640x480 and 800x600 True Color Support.
3. **Power Button**
Press this button to turn the computer on or off.

Note

Your Notebook comes with a special on/off feature designed to protect your data from accidental shutoffs. In order to power on/off your Notebook, you must press this button for at least one full second.

4. **System Status Indicators**
These system status indicators inform you of the computer's current operating status at a glance. The different display indicators are: CD-ROM activity, FDD activity, HDD activity, Scroll Lock, Caps Lock, Number Lock, Battery Status indicator, DC-In and (above the power button) the Power Management Status indicator.
5. **Keyboard**
The low-profile keyboard emulates all the functions of a full-size keyboard including an embedded numeric keypad and a full array of special function keys. The keyboard also includes two Windows 95 keys. The Notebook keyboard is available in several languages.
6. **Touchpad**
The pressure sensitive Touchpad provides all the functions of a two-button mouse and can be used concurrently with an external PS/2 mouse.

7. Removable CD-ROM Module

The CD-ROM module is removable and can be replaced with the removable FDD module. The CD-ROM allows you to take advantage of the variety of multimedia CD titles now available on the market. You can also listen to audio CDs.

8. Built-in Microphone

The built-in microphone allows you to record voice annotations, music or other sound files.

Front Right View (4-in-1 model)

Please refer to *Figure 1-2* and the descriptions that follow to identify the components on the front and right side of the Notebook.

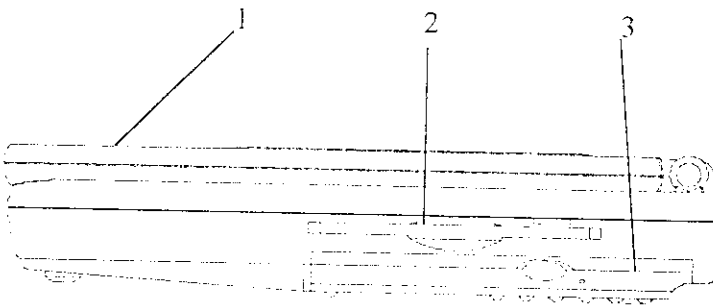


Figure 1-2: Front Right View of the Notebook (4-in-1 Model)

1. Display Lid

This is the notebook's display lid, release the latch at the front of the notebook to raise the lid.

2. Built-in FDD

This model comes with a built-in FDD module. The FDD module allows you to run and write data from a floppy diskette.

3. Built-in CD-ROM

This model comes with a built-in CD-ROM module which allows you to take advantage of the variety of multimedia CD titles now available on the market. You can also listen to audio CDs.

Front Left View

Please refer to *Figure 1-3* and the descriptions that follow to identify the components on the left side of the Notebook.

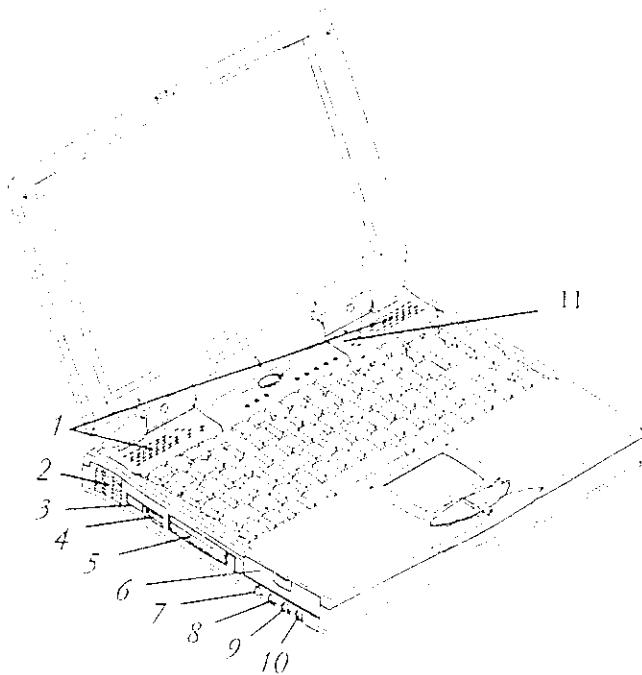


Figure 1-3: Front Left View of the Notebook

1. **Built-in Stereo Speakers**
The Notebook provides three audio-output choices: wearing a headphone connected to the Audio-out port for private listening; connecting external stereo speakers to the Line-out port for high quality sound; or for convenience, using the internal stereo speakers.
2. **Cooling Fan**
This fan blows cool air over the Notebook's CPU and other internal components. Keep this fan unobstructed to allow proper ventilation to the Notebook's internal components.
3. **IrDA V1.1 FIR/SIR Module**
The FIR/SIR Module allows wireless communication between the Notebook and another IrDA compliant computer or device.
4. **USB Port**
This port was designed in full compliance with the Universal Serial Bus specification 1.0. Any USB supported peripheral device, e.g., joystick, digital camera or printer, can be connected to this port.
5. **PCMCIA Slots**
Two PCMCIA Type II cards can be inserted into these slots. The lower slot also supports one Type III PCMCIA card. The PCMCIA has a built-in ZV Port (Zoomed Video Port) providing a high transfer rate for video applications. The ZV Port is activated by plugging in an MPEG PC Card that is ZV Port-compliant.
6. **Removable Hard Drive Module**
The HDD module can be easily removed and replaced with a second hard drive for the purpose of data backup or expansion. Do not attempt to remove the HDD while the Notebook is on (for instructions on removing the HDD, refer to Chapter 3, *Removing the HDD Module*).
7. **TV Out Port**
This port allows you to view the Notebook's Video output on a television monitor.

8. **Audio Line-In Connector**
This stereo jack is used to connect external audio sources.
9. **Mic-in Connector**
This mono microphone jack is used to connect an external microphone.
10. **Audio Line-Out Connector**
This stereo jack is used to connect external speakers or headphones.
11. **Backlight On/Off Switch**
With the computer powered on, this switch turns the LCD backlight off when you close the LCD lid.

Rear View

Please refer to *Figure 1-4* and the descriptions that follow to identify the components on the rear side of the Notebook.

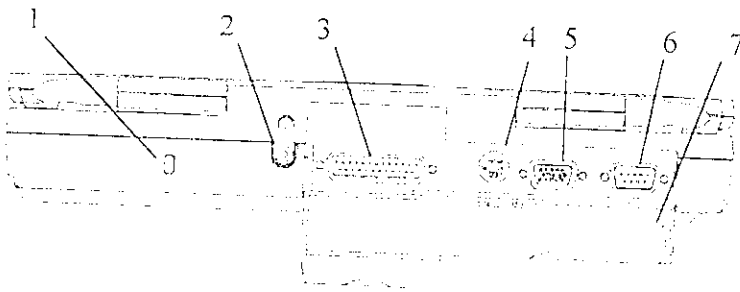


Figure 1-4: Rear View of Notebook

Open the main port cover located on the rear of the Notebook. Please see *Figure 1-4*.

1. **Kensington Security Lock**
You can use the Kensington Security Lock to lock your Notebook to a desk or other large stationary object to protect against theft.

2. **DC-In Jack**
Connect the AC Adapter power lead to this jack.
3. **Parallel (LPT1) Port**
This port is normally used to connect a printer to the Notebook.
4. **PS/2 Mouse or Keyboard Port**
This port is for connecting an external PS/2 mouse or a keyboard to the Notebook.
5. **Serial (COM1) Port**
This port is used to connect RS-232 serial devices to the Notebook. Three types of serial devices are mice, serial printers, and Fax/Modems.
6. **VGA Display Port**
This port is used to connect an external monitor (CRT).
7. **Main Port Cover**
Open this cover to access the Notebook's ports when connecting peripheral devices.

Note!

For information on connecting peripheral devices, please refer to Chapter 4.

The Bottom View

Please refer to *Figure 1-5* and the descriptions that follow to identify the components on the bottom of the Notebook.

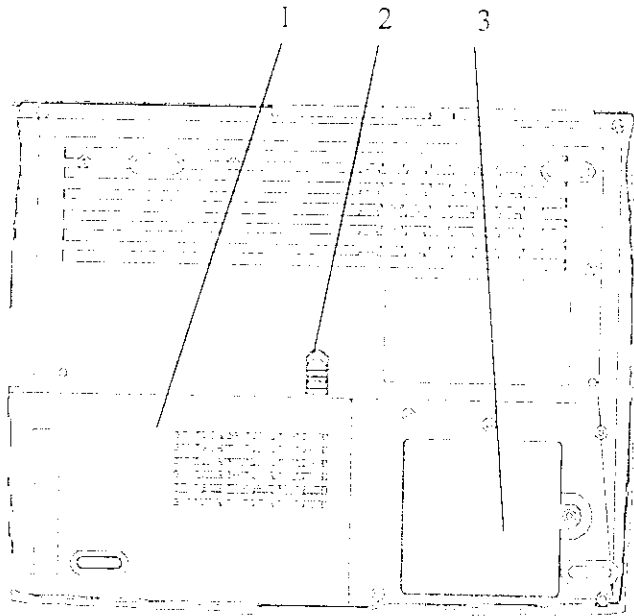


Figure 1-5: Bottom View of Notebook

- 1. NiMH/Li-Ion Battery Bay Cover**
Your Notebook comes equipped with a battery pack module. The battery is not installed when the Notebook is shipped (for instructions on installing the battery see Chapter 5 *Inserting the Battery Pack*). After the battery runs down, the module can be recharged or removed and replaced with a charged battery. Additional battery packs are optional.

2. **Battery Release Latch**
Slide the latch to remove the battery bay cover.
3. **RAM Module Cover**
Remove the screw from the RAM Module cover and remove the cover to gain access to the RAM modules.

Preparing the Notebook for Transport

To prepare the computer for transport, you should first disconnect all peripherals. Make sure the computer is turned off before you do this. After disconnecting all peripherals, close the rear port cover to protect the connectors. The Notebook's hard disk head is self-parking. This means that the Notebook can be directly turned off from the DOS prompt. Close the LCD panel and check that it is latched securely to the computer. Make sure the floppy drive (if installed) does not contain a diskette. When a diskette is inserted in the floppy drive the eject button pops out. If you attempt to transport the Notebook with a diskette in the drive, you risk damaging the eject button.

The computer has an optional soft carrying case. It will keep out dirt and dust and protect your Notebook's casing from becoming scratched or cracked.

If you intend to use battery power, be sure to fully charge the battery pack and any spares. Remember the Adapter charges the battery pack as long as it is plugged into the computer and an AC power source.

This concludes Chapter 1. The next chapter provides important information for getting the Notebook up and running for the first time.

NOTES

Chapter 2

GETTING STARTED

This chapter explains what you need to do after turning on your Notebook. Experienced computer users may need only read through this chapter and Chapter 1 while using the rest of the manual merely as a reference.

Powering Up the Notebook for the First Time

To connect the Notebook to an AC power source, please refer to *Figure 2-1* and the following instructions :

1. Identify the two cables that come with the AC Adapter. One is the power cord. It connects the AC Adapter to a power source, such as an electrical outlet or uninterruptible power supply UPS. The other cord connects the Notebook to the AC Adapter module. Connect the AC adapter cord from the AC adapter to the DC-In jack on the back side of the Notebook (see # 1 in *Figure 2-1*).
2. Connect the female end of the AC power cord to the AC adapter (see # 2). Use only the AC adapter that came with the Notebook. Adapters for other electronic devices (including other Notebook computers) may look similar, but can damage your Notebook.
3. Connect the male end of the AC power cord to an electrical outlet(see # 3).

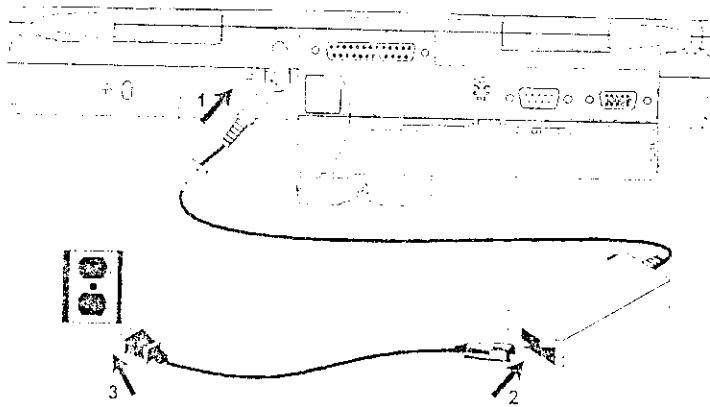


Figure 2-1: Connecting the Notebook to an AC Power Source

4. Open the Notebook and adjust the LCD screen to a comfortable viewing position.
5. Press and hold down the power button for at least one second. The Notebook's sign-on message should appear on the screen and you will hear a short beep, after which the Notebook will run through a series of software-controlled diagnostic tests called the Power On Self Test (POST). You may need to adjust the brightness, contrast and LCD screen angle to attain a clear display. For instructions on how to adjust the brightness and contrast controls please refer to the "Special Function Keys" description at the end of this chapter.
6. If you need to run the BIOS Setup program to set up or modify the system configuration, please refer to Chapter 6 of this manual for detailed information on the BIOS Setup.

Note!

The best kind of AC power source to connect your Notebook to is a UPS (Uninterruptible Power Supply). Lacking this, use a power strip with a built-in surge protector. Do not use inferior extension cords as this may result in damage to your Notebook.

The Notebook comes with its own AC adapter. Do not use a different adapter to power the computer, and do not use the AC adapter to power other electrical devices.

When you connect the AC adapter to the Notebook and to an electrical outlet, the outlet supplies power to the Notebook and recharges the battery.

Whenever possible, keep the AC adapter plugged into the Notebook and an electrical outlet to conserve battery power. Although not necessary, it is also a good idea to protect the display panel by always lowering it when the Notebook is powered off.

CAUTION!

Never turn off or reset your Notebook while the hard disk or floppy disk is in use and the FDD and/or HDD status icon is lit; doing so can result in loss or destruction of your data. Always wait at least 5 seconds after turning off your Notebook before turning it back on; turning the power on and off in rapid succession can damage the Notebook's electrical circuitry.

The Power On Self Test (POST)

When you turn on the Notebook, it will first run through a series of software-controlled diagnostic tests called the Power On Self Test (POST). The software that controls the POST is installed as a permanent part of the Notebook's architecture. The POST includes a record of the Notebook's hardware which is used to make a diagnostic check of the system. This record is created by using the BIOS Setup Program. If the POST discovers a difference between the record and the existing hardware, it will display a message on the screen prompting you to correct the conflict by running the BIOS Setup program. Refer to Chapter 6 for instructions on how to run the BIOS Setup program.

In most cases the record should be correct when you receive the Notebook. If so, the POST will finish and the Notebook will look for a Disk Operating System to load into memory. The self test will run every time you turn on the computer.

When the test is finished, you should only get a message reporting that there is a non-system disk or disk error if the hard disk was not pre-loaded with an operating system. This indicates that the hard disk is ready to be prepared for use with the operating system you intend to use.

After you prepare the hard disk for use, you should not see this message again unless you try to start the Notebook with a non-system floppy diskette inserted in the floppy drive. In this case, you will see the following message:

```
Invalid System Disk
Replace the disk, and press any key when
ready
```

Remove the diskette and press the [Enter] key.

Installing a Disk Operating System

When starting the Notebook for the first time, please be aware that you must have a Disk Operating System (DOS) program installed on the hard drive. You might have the Microsoft Windows or MS-DOS already installed on your Notebook. If your dealer did not install an operating system for you, please consult your Disk Operating Software manuals for instructions on how to install an operating system.

Resetting the System

After installing a software application package on your hard disk drive, you may be prompted to reset the system to load the changed operating environment. To reset the system, or "reboot," press the [Ctrl] + [Alt] + [Delete] keys simultaneously. This is known as a "warm boot." This key combination acts as a "software" reset switch when you encounter hardware or software problems which lock up the Notebook.

If this key combination does not shut down the Notebook, you can reset the Notebook by using the Notebook's power-on button. Should the Notebook lock up for some reason, pressing this button resets and powers the Notebook off.

A Word about Ergonomics

Ergonomics is the study of how people with their different physical characteristics and ways of functioning relate to their working

environment (the furnishings and machines they use). The goal of Ergonomics is to incorporate comfort, efficiency, and safety into the design of keyboards, computer desks, chairs, and other items in an effort to prevent physical discomfort and health problems in the working environment. Because more and more people are spending large amounts of time in front of computer monitors, scientists from many fields including anatomy, psychology, and occupational safety are involved in the study of ergonomically sound work environments.

If your budget permits, buy ergonomically designed furniture such as chairs, shelves, and desks that fit your physical characteristics and work methods. Most furniture manufacturers have not considered the particular shape of your body when designing workstations. If you are going to be sitting for extended periods of time, an ergonomically designed chair may be well worth the extra expense.

You can, however, create an ergonomically improved workstation without spending much money. Listed below are a few tips to help you work effectively without a lot of physical discomfort:

- Place the Notebook's LCD screen so that it is a little *above* eye level to prevent neck strain.
- Try to place the Notebook so that there is little glare from the sun on the Notebook's LCD screen.
- Use a thick book as a foot rest.
- Walk around the room every hour.
- Every half hour look away from the computer screen for a few minutes.
- Place everything that you need for work within easy reach.

Special Function Keys

The following table lists the hot key functions for the Notebook computer.

Key Combinations	Definitions
<i>[Fn] + [F1]</i>	<i>Suspends to Hard Disk.</i>
<i>[Fn] + [F2]</i>	<i>Suspends to DRAM.</i>
<i>[Fn] + [F3]</i>	<i>Decreases display contrast (DSTN panel only).</i>
<i>[Fn] + [F4]</i>	<i>Increases display contrast (DSTN panel only).</i>
<i>[Fn] + [F5]</i>	<i>Decreases display brightness.</i>
<i>[Fn] + [F6]</i>	<i>Increases display brightness.</i>
<i>[Fn] + [F7]</i>	<i>Decreases the audio volume output.</i>
<i>[Fn] + [F8]</i>	<i>Increases the audio volume output.</i>
<i>[Fn] + [F9]</i>	<i>Switches between LCD display and external monitor.</i>
<i>[Num Lock]</i>	<i>Enables the numeric keypad. When an external keyboard is connected, the numeric keypad on the Notebook keyboard is disabled.</i>

Powering Off the Notebook

To power off the Notebook from the Windows operating system, please refer to the following instructions:

1. Save your work and close all open applications. Click on the **Start** button in the bottom left-hand corner of the screen to show the Start menu
2. Click on the bottom button entitled **Shut Down** to display the following Shut Down Windows dialog box.

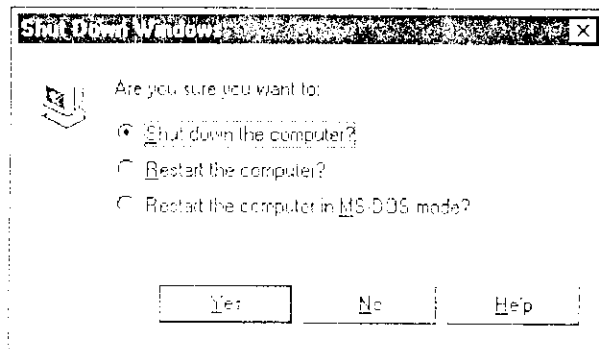


Figure 2-2: Shut Down Windows Dialog Box

3. Select **Shut down the computer?** and click on the **Yes** button. Your Notebook will shut down automatically.

This concludes Chapter 2. The next chapter provides a detailed description on operating the Notebook.