TransPort NX User's Guide

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From the Editors...

This may be your first time setting up a computer, in which case, we hope that this manual will be an effective resource for you and make this as much of a learning process, and not a hassle.

There exists the possibility that you have already set up your machine, and you've taken the manual out for a detailed look at your system's features. You may want to know about possible configuration changes and modifications that can be made, or simply match wits with the glossary and see if you can come up with the correct definition for BIOS without peeking.

Another reality is one of frustration, hair-pulling and the like. Many folks only open the manual when "something isn't working right." Reconfiguring the CMOS screens may have seemed like a good idea at the time, but now you are only getting cranky beeps. Now what?! You may be trying to get help on-line but a blank screen isn't going to help you out much there, and you've pulled the user's guide out as a last resort.

Fair enough.

If the reason you got the user's guide out is based on the last possibility... first things, first... take a deep breath.

The system user's guide is designed to help you in all of the above situations, and give you a ready reference to the capabilities of your system.

A troubleshooting section may save you a call to technical support, should you be staring at a blank screen right now.

We want to make this guide as useful as possible and welcome your comments. Please provide the page and the manual part number (MAS001579-02) when you send comments to: manuals@micronpc.com.

Whatever reason brought you to reading the user's guide, Welcome!!! We hope it makes your experience with Micron even better.

About This Manual

Whether you are a new or experienced computer user, you will benefit more from this manual if you are familiar with its organization.

Getting Started

Chapter One: This section lists the special features of your TransPort NX computer and available options. It also includes a description of the parts you should have received and gives you step-by-step procedures for setting up and starting the computer

System Features

Chapter Two: This section outlines the layout and functionality of your TransPort NX.

Running BIOS Setup

Chapter Three: This section describes how to operate the Setup Utility that is provided in the computer's ROM BIOS. Several options are available in BIOS, such as the ability to protect and supervise your notebook with password protection.

Data Storage

Chapter Four: This section explains the powerful ability of your TransPort NX to utilize the Hard Disk drive, Removable Disk drive and CD-ROM.

Power Management

Chapter Five: This section provides information on how to keep your TransPort NX supplied with power.

Optional Accessories

Chapter Six: This section provides an overview of devices that may be used with the TransPort NX, such as an external monitor and keyboard. It also provides an overview to the port replicator, which can turn your notebook into a functional desktop computer.

Software Utilities

Chapter Seven: This section explains the MRestore CD, which includes Drive Image, Partition Magic and Drive Copy--three very powerful software tools--plus the ZVHDD (save-to-disk) utility.

Troubleshooting

Chapter Eight: This section provides a simple guide to common troubleshooting techniques.

Appendices

Appendix A: Specifications
Appendix B: Regulatory Information
Appendix C: Safety Guidelines
Appendix D: Fax/Modem Information
Appendix E: Alternative Device Drivers
Appendix F: Caring for Diskettes and CDs
Appendix G: Abbreviations
Appendix H: Glossary

Index

A comprehensive index is provided. You can look up areas of interest or need without searching through the Table of Contents.

Peripheral Manuals

In addition to this manual, you will also want to consult the manuals for your operating system and application software.

Manual Conventions

The following conventions are used throughout this manual:

NOTE: *Notes contain important information that is set off from the text.*

WARNING: ***Caution messages appear before procedures which, if not observed, could result in loss of data or damage to equipment. Failure to heed these warning could negate the user warranty.***

CAUTION: ***Warning messages appear before procedures which, if not observed, will result in loss of data or damage to equipment, and/or could result in physical harm. Failure to heed these warning could negate the user warranty.***

Table of Contents

Chapter One - Getting Started

Congratulations on your new TransPort NX. With proper care and usage, your notebook will be a valuable asset at home, office, and on the road.

Figure 1. TransPort NX

Unpacking the TransPort NX

The TransPort NX comes securely packaged in a sturdy shipping carton. Upon receiving your TransPort NX, open the box and carefully remove the contents. If anything is missing or damaged, please contact Micron Electronics immediately. All systems should include the following items:

- The TransPort NX computer
- An AC adapter
- An AC power cord
- Main Battery
- Software and Micron Customer Resource Center CD and/or MRestore CD
- User's manual

NOTE: *Items included may vary. Please check the packing slip included with your TransPort NX for the exact items you should have received.*

Personal Inventory

This TransPort NX computer system is designed for years of productive and pleasurable computing. Use this section to keep notes about details of your purchase. Update this section when you add new options.

Date of Purchase: _____

Micron Technical Support: 1-888-FIX-MYPC (1-888-349-6972)

Address:

Micron Electronics
900 East Karcher Road
Nampa, Idaho 83687

Technical Support File Library: http://support.micronpc.com/library

Technical Support Internet Mail:

1. To send an E-mail to Technical Support, visit the Micron Electronics Website: http://support.micronpc.com/contact/support.
2. Click on the **Support Department** for your specific need.

Web site: www.micronpc.com

Record the System's operating information:

Serial Number: _____

Order Number: _____

Bill Customer Number: _____ (On Packing Slip)

CPU Type: _____

Hard Disk Capacity: _____

Memory Capacity: _____

Operating Environment

You can use your computer under a wide range of environmental conditions. However, to ensure long use and continued high performance, consider the following factors when setting up your computer:

- Set the computer on a flat, stable surface. To prevent damage to the computer's hard disk drive avoid using the computer where it will be exposed to strong vibration.
- Place the computer away from electromagnetic or radio frequency interference (for example, television/stereo sets, copying machines, and air conditioners).
- Avoid using or storing the computer where it will be exposed to extreme temperatures. In particular, do not leave the computer in direct sunlight, over a radiator, or near a heat source for a long period of time. High temperature can damage the circuitry.
- Avoid exposing the computer to high or low humidity. Extreme humidity can contribute to disk drive failure.
- If you are using the computer with the AC adapter, do not allow anything to rest on the power cord. Do not place the computer where people can step on or trip over the cord.

The openings on the computer are provided to protect the computer from overheating. To ensure reliable operation, leave about 10 cm (4 inches) around the computer for unobstructed air circulation. Avoid exposing the computer to dust or smoke.

CAUTION: ***If your system arrives in cold weather, do not apply power to the computer or monitor until it has reached room temperature.***

Heat, Cold, Humidity, and Glare

Find a spot for your computer that's not too hot, too cold, too dark, or too bright. Glare can make it hard to read the screen. Overheating can destroy computer components, so allow plenty of room for air to circulate around the case. Do not place your TransPort NX in direct sunlight.

WARNING: ***Do not expose the notebook to cold (frost) or heat, do not leave the notebook in a car, and do not drop it, spill fluids on it, or open the case. This can destroy the notebook and void the warranty. The system's Liquid Crystal Digital (LCD) video display may be damaged by exposure to intense sunlight, which builds up excessive heat inside the display enclosure. Only exposure to indirect or subdued sunlight is recommended.***

Work Location

Your TransPort NX generally will run well wherever you're comfortable. But extremes of temperature and humidity can be challenging to your system's parts. There are, however, some things you can tolerate that the computer can't — things like static electricity, dust, water, steam, and oil. So, whenever you decide to pull over for roadside computing, choose a clean, comfortable work area for your system.

Connecting to a Power Source

You can use the provided AC adapter to supply your computer with power from an AC wall outlet. Your computer also comes with a rechargeable battery pack for using the computer without an external power source.

Connecting the AC Adapter

Use the provided universal AC adapter to supply your computer with power from an AC wall outlet. You can also use the AC adapter to charge the computer's battery pack.

The AC adapter converts high-level AC voltage to the much lower level DC voltage appropriate for the computer. The adapter's AC input voltage can range anywhere from 100 to 240 volts, covering the standard voltages available in almost every country.

The power cord for the AC adapter requires a two-hole grounded AC outlet. An optional four or six-plug power strip is a convenient addition, especially if you have only one wall plug and several devices that need electricity. You can buy power strips with built-in electrical surge protection. This provides limited protection from spikes in the local voltage that can cause damage.

To connect the computer to an external power source:

1. Plug the AC adapter's connector into the DC-IN connector on the right side of the computer.
2. Connect the power cord to the AC adapter and then to a wall outlet.

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

Figure 2. Connecting the AC Adaptor

CAUTION: ***The best kind of AC power source to connect your TransPort NX 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 TransPort NX. The TransPort NX 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. Damage to the computer that is directly caused by using a different power source will not be covered under warranty.***

Surge Suppressors

Your computer has its own electrical filters, fuses, and protections, and even its own built-in surge suppressor. We strongly recommend using a high-quality, external surge suppressor. An external surge suppressor looks like an extension cord with several grounded outlets. It will shield your computer from lightning strikes, surges, shorts, and other electrical hazards.

Turning on the TransPort NX

Before turning on your computer, make sure you are familiar with its features. See ”Chapter Two - System Features” for more information.

Now that your TransPort NX is opened and connected to a power source, it’s time to turn it on. Press the power button located above the system status indicator panel. Hold the button down for a second or two and release.

The Power-On Self Test (POST) will run automatically. After the POST is completed, the computer reads the operating system from the hard disk drive into computer memory. This is commonly referred to as “booting” a computer.

You are now ready to run software programs and use devices such as printers, disk drives, and the CD-ROM.

To turn the TransPort NX off, save your work and close all open applications, click on **Start**, then **Shut Down**. In the **Shut Down Windows** dialog box, select **Shut Down** and click **Yes**.

CAUTION: ***Never turn off or reset your TransPort NX 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 five seconds after turning off your TransPort NX before turning it back on; turning the power on and off in rapid succession can damage the TransPort NX’s electrical circuitry.

Before you run your system for the first time on battery power, remove the battery from its package and install it in the system. Recharge the battery fully to prepare the battery pack for maximum service.

Except for PC cards, never connect or disconnect any equipment or components while the system power is on.

When using the feet in the rear of the notebook, the computer will operate cooler as the result of better ventilation. There is one fan on the left side of the notebook, which will turn on when the CPU temperature exceeds 60 degrees. The fan will turn off when the CPU temperature is below 50 degrees.

WARNING: ***If the temperature continues to rise above the CPU allowable limit--either due to a defective fan, the notebook being operated in an excessively hot environment or a soft surface that covers the ventilation holes--then the notebook will enter Save-to-disk mode (S2D). If there is no Zero-Volt Data-Suspend Utility (ZVHDD) partition, the notebook will shut down and all unsaved data will be lost. See “Zero-Volt Data-Suspend Utility (ZVHDD)” on page 113.***

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.

If your budget permits, buy ergonomically designed furniture such as chairs, shelves, and desks that fit your physical characteristics and work method. If you are going to be sitting for extended periods of time, an ergonomically designed chair may well be worth the extra expense.

You can, however, create an ergonomically improved workstation without spending much money. The following tips will help you work effectively without a lot of physical discomfort:

- Purchase a chair with armrests and good back support.
- Don’t slouch when sitting; keep your back straight.
- Place the LCD panel or external monitor so that it is a little above eye level when using a word processor.
- Remember to Scroll Down often to ensure you are reading or typing at the top of the screen; this will help to prevent neck strain.
- Try to place the LCD panel or external monitor so that there is little glare from the sun on the monitor
- Walk around the room every hour.
- Every half hour look away from the computer screen for a few minutes.
- Place everything that you need to work within easy reach.

Chapter Two - System Features

This section provides a description of the TransPort NX and an overview of the notebook's system features.

Opening the TransPort NX

At the front of the TransPort NX you will find a retaining latch on the display panel which locks the display in closed position when the TransPort NX is not in use.

Follow these steps to raise the LCD display cover:

1. Gently press the release button on the front of the notebook and raise the display until it is at a comfortable viewing angle. To close the display, press the top cover down until the latch snaps into place. The display folds down to form a cover over the keyboard when the notebook computer is not in use.
2. When you close the notebook make sure there are no items on the keyboard or palmrest, as these might damage the LCD panel.

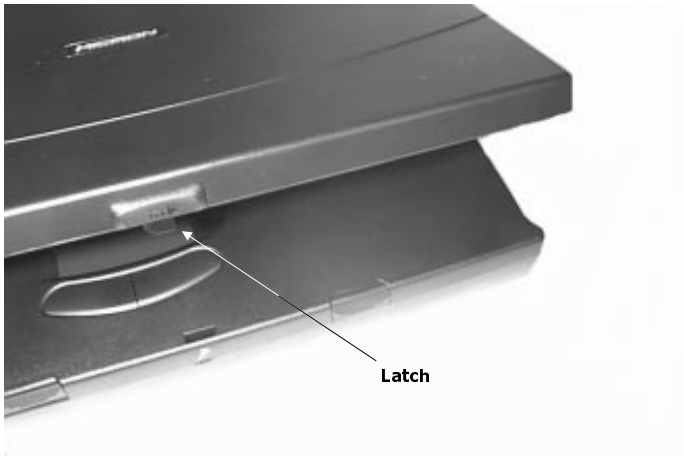

Figure 3. Opening the TransPort NX

Left View

The following section describes the left side of the TransPort NX.

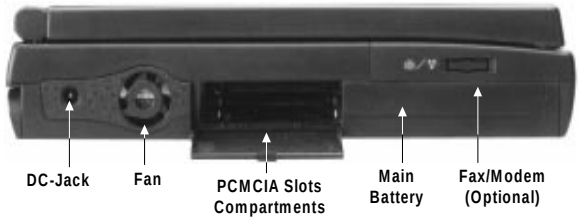

Figure 4. Left View of the TransPort NX

DC-Jack

Plug the AC adapter into this connector.

Fan

This fan prevents the TransPort NX's CPU and other internal components from becoming overheated. Keep this fan unobstructed to allow proper ventilation to the NX's internal components.

PCMCIA Slots Compartments

Open this cover to access the PCMCIA sockets. The computer's PCMCIA sockets let you extend the capabilities of your computer by inserting PC cards. The cards are hot swappable, meaning you can change cards without having to reboot your computer. There are a wide variety of PC cards available, including data storage, fax/modem, Local Area Network (LAN), wireless communication cards, and more. See "Using PCMCIA Cards" on page 38.

Main Battery

Your TransPort NX comes equipped with a factory-installed battery pack module. After the battery runs down, the module can be removed and replaced with a charged battery. Additional battery packs are optional. See "Batteries" on page 64.

Fax/Modem (Optional)

If equipped, there will be a connector for modem and fax use. This allows you to send information via the internet, conduct e-commerce, or simply surf the web, all on your TransPort NX. See "Optional Fax/Modem" on page 75.

Right View

The following section describes the right side of the TransPort NX.

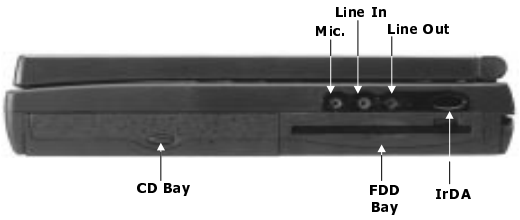

Figure 5. Right View of the TransPort NX

Microphone Jack

This mono microphone jack is used to connect an external microphone.

Line In

This jack is for auxiliary input. The auxiliary input can be used to connect an external audio source (cassette player, CD player, etc.) to your TransPort NX. With the proper software you will be able to record this input signal.

Line Out

This is for speaker output. You can plug amplified external speakers or headphones into the speaker output jack, or connect the audio out jack to an audio device such as a cassette recorder to record the TransPort NX's audio output.

CD Bay

Your TransPort NX comes with a swappable 20X (or faster) 5.25" IDE CD-ROM drive. See "Removable CD-ROM" on page 29.

FDD Bay

Your TransPort NX has a 3.5" floppy disk (FDD) installed. The FDD is capable of reading and writing 3.5" 1.44MB floppy diskettes. When the FDD is reading from or writing to a disk, the FDD icon on the LED indicator panel will illuminate.

IrDA

The Infrared Data Port allows your TransPort NX to become truly wireless. You can use this port to transfer large amounts of data very quickly to any other machine (NX computers, printers, etc.) which is also equipped with an IrDA-compliant IR port. This allows you to print documents without any inconvenient cable hookups.

Rear View

The following section describes the rear view of the TransPort NX.

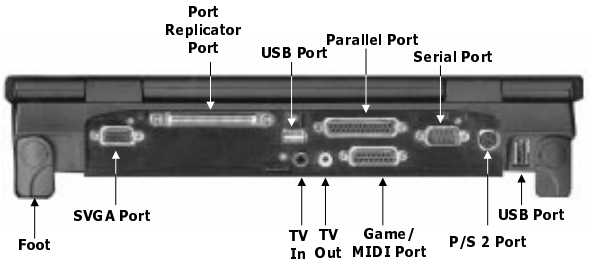

Figure 6. Rear view of the TransPort NX

Foot

The foot option allows for more comfortable, ergonomic use of the TransPort NX. This not only improves the ergonomics when you type, but also helps cool the notebook down. It is recommended that the feet be used.

SVGA

This port allows you to easily connect an external VGA/SVGA display monitor into your TransPort NX using the 15-pin female connector.

Port Replicator Bay

Connect the optional port replicator to the 204-pin port replicator connector. This will further enhance your TransPort NX's portability by making it easy for you to connect and disconnect peripheral devices to your TransPort NX.

USB Ports

Your computer includes two Universal Serial Bus (USB) ports. USB is the latest development in Plug-and-Play technology. It will eventually replace the need for separate connectors for external keyboards, serial ports, and parallel (printer) ports. With broad industry support, USB is sure to play an important role in the design of future peripheral devices. As more and more of these devices become available, your computer will be ready to use them.

Parallel Port

This port allows you to easily connect a parallel printer or plotter using this 25-pin bi-directional female port.

Game/MIDI Port

This port allows you to easily connect games controllers for enhanced play.

Serial Port

This port is used to connect RS-232 serial devices to the TransPort NX. Three types of serial devices are; external mice, serial printers, and fax/modems.

PS/2 Port

This connector accepts an external keyboard with a 6-pin (PS/2-compatible) connector. To connect a keyboard with a 5-pin connector, use a 5-pin to 6-pin transfer cable. You can connect an external keyboard, numeric keypad, or IBM PS/2 compatible mouse to this socket, marked with the keyboard/mouse icon.

NOTE: *After a PS/2 mouse is plugged into the system, it will not be ready for use until you press [FN]+[F12]. Only the pointing stick **or** the PS/2 mouse will be available at any one time. If you wish to resume using the pointing stick, press [FN]+[F12] again. The touchpad will remain active with either option.*

TV OUT / In Ports

These composite Ports allow you to view the NX display on a TV, or a TV on the NX display. See “Chapter Six - Optional Accessories” on page 71.

Bottom View

The following section describes the bottom view of the TransPort NX.

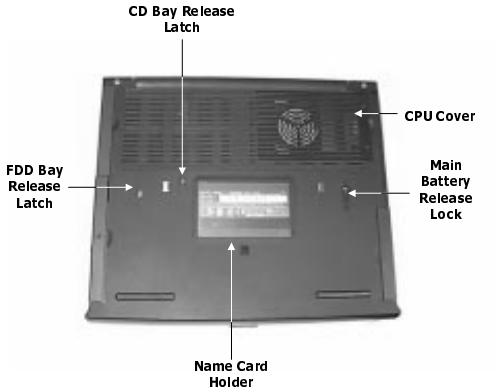

Figure 7. Bottom View of the TransPort NX

CD-ROM Release Latch Slide the CD-ROM release latch to release the CD-ROM drive or DVD-ROM drive.

FDD BAY Release Latch Slide this latch to release the FDD drive, LS-120 drive, Zip drive, second HDD, or second battery.

Name Card Holder This slot holds a card containing the unit serial number and FCC information.

CPU Cover This covers the CPU compartment providing easy access to allow for upgrades.

CAUTION: ***Only Micron service technicians should open this cover.***

Main Battery Release Latch Slide the battery lock to the left when removing the battery module from the battery bay.

Interior Features

The following section describes the TransPort NX features viewable when the cover is open.

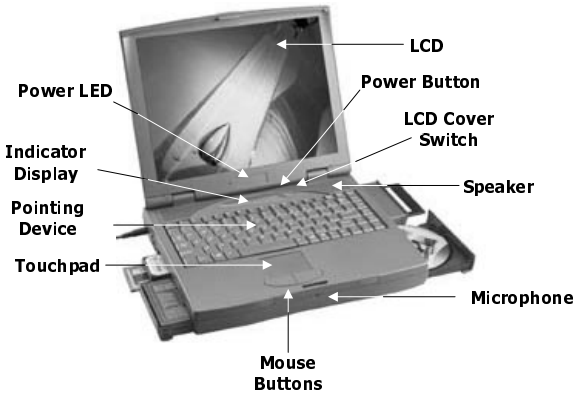

Figure 8. Interior Features of the TransPort NX

LCD

The LCD assembly comes with the following display option:

- 15.1" TFT XGA, 1024 x 768 x 64K color resolution

Power Button

The power button on your notebook has more uses than just ON and OFF, for security and power management reasons. See “Power Saving Modes” on page 61.

Power ON

If the notebook is OFF (no power on light) press down the power button to turn on the notebook.

Power OFF

To turn off the notebook press the power button. If the notebook doesn’t turn off immediately due to the notebook hang (lock-up) or another reason, then press down the power button for 5 seconds until the notebook turns off. Please note that when the system is still in POST stage, the user has to press the button for 5 seconds to power off the system.

Power LED

Indicates when the unit is receiving power or is in Standby mode.

Indicator Display

The system status indicator panel, located below the LCD screen, keeps you informed of the computer’s operating status. There are also three system status indicators (power, suspend, and battery charge) on the LCD cover.

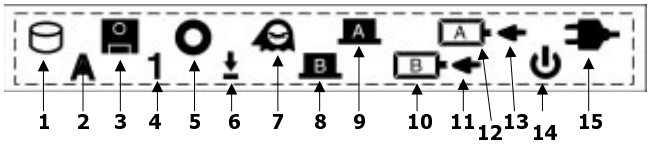

Figure 9. Indicator Display

1. **HDD** - This indicator lights when the system accesses the internal HDD.
2. **Caps Lock** - This indicator lights when the Caps Lock function is active. Press the Caps Lock key again to deactivate this function.
3. **FDD** - This indicator lights when the system accesses the FDD.

4. **Number Lock** - This indicator lights when the embedded keypad is toggled "ON" or an external keypad is in numeric mode.
5. **CD-ROM** - This indicator lights when the system accesses the internal CD-ROM.
6. **Scroll Lock** - This indicator lights when the Scroll Lock function is active. Press the Scroll Lock key again to deactivate this function.
7. **S2R Mode** - This indicator lights when the notebook is in the Save to RAM mode.
8. **PCMCIA Card Slot B** - This indicator lights when a PCMCIA card is installed.
9. **PCMCIA Card Slot A** - This indicator lights when a PCMCIA card is installed. Only slot A supports the ZV card.
10. **Secondary Battery Icon** - This indicator lights when the secondary battery pack is installed at System ON Mode or Power source is Adapter.
11. **Secondary Battery Indicator** - This indicator lights when the primary (main) battery pack is installed.
12. **Main Battery Icon** - This indicator lights when the primary (main) battery pack is installed.
13. **Main Battery Charge Indicator** - This indicator lights when the Main Battery is in charge mode. If this indicator flickers continuously for more than eight hours, then this indicates that the battery may be damaged.
14. **Power On/Off Icon** - The icon indicates a status of Power On or Off.
15. **AC Power** - This indicator lights when the system is operating on AC power.

Stereo Speakers

The internal speakers are located directly below the LCD panel on the left and right side of the TransPort NX. These speakers provide true stereo sound.

Touchpad

The dual-button touch pad is located below the keyboard. The touch pad is hardware-compatible with the IBM PS/2 mouse and software-compatible with the Microsoft mouse. See "Touch Pad" on page 34.

NOTE: *Intellimouse (in Wheel Mode) may cause erratic behavior if used in conjunction with the pointing stick, and/or touchpad. Please select [FN]+[F12] to switch to external PS/2.*

LCD Cover Switch

Slide this latch to the right to open the LCD cover.

Your TransPort NX computer is equipped with a replaceable color Liquid Crystal Display (LCD) screen. The LCD panel supports 1024 x 768 x 64K LCD resolution utilizing an AGP display adapter. The LCD screen and XGA display circuitry let you view text and the latest high resolution video images.

Mouse Buttons

The buttons below the touch pad correspond to the left and right buttons on a standard mouse.

Microphone

The built-in microphone is located to the right of the touch pad.

System Features

This section provides an overview of the TransPort NX's features. For detailed technical information see "Appendix A - Specifications" on page 129.

Central Processing Unit (CPU)

The microprocessor (CPU) is the key hardware feature; it is the brain of the computer, performing all the computing functions and orchestrating the actions of the system.

The TransPort NX supports the Celeron, Pentium II, Pentium II PE and Mobile PIII processors. All supported Intel processors are available with MMX technology. The MMX media enhancement technology was designed specifically for faster processing of multimedia and communications tasks. The TransPort NX also employs the Intel 440BX core logic.

CPU Upgrade

Your TransPort NX supports Intel's latest CPU technology, the MMO (Mobile Module). This makes it very easy for your dealer to exchange the CPU for you. There are two types of MMO modules from the Intel, your notebook is using the latest MMC-2 400-pin connector.

WARNING: ***We do not recommend that you upgrade the CPU by yourself. Please consult your dealer or an authorized service center for notebooks.***

The connector on the MMO is very sensitive, and if handled improperly may be broken (thus making the MMO useless).

L2 Cache

The TransPort NX supports a 512KB L2 write back cache with synchronous pipeline burst mode, 128 KB or 256KB of full bus speed on-die L2 write back cache with synchronous pipeline burst mode.

Upgradeable System Memory

The TransPort NX has a 64-bit memory bus. Memory can be upgraded to 384MB by the following options:

- One, two or three 32, 64, or 128MB 144-pin, 3.3V, SDRAM SO-DIMM modules.

When you want to upgrade memory: Turn off the computer, open the palmrest, and lift the keyboard carefully without scratching the very fragile LCD. Follow either procedure below to add or remove memory.

You will now see three memory slots as follows:

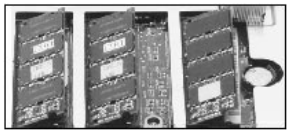

Figure 10. Memory Slots

To Remove Memory

1. Press both metal tabs on either side of the memory module away from the module until the module pops free.
2. Remove the module carefully at a 45 degree angle. Avoid touching the SDRAM module on any of its static-sensitive circuitry.
3. Store the module in a static free bag.

To Install Memory

1. Ensure the key on the memory slot is lined up with the key on the module (there will be two slots on the module; it will only fit into the slot one way).
2. Insert at a 45 degree angle.
3. Once it is in the slot, press down the module. You will hear a small clickwhen the memory module is firmly in place.

WARNING: ***Use only SDRAM memory modules!***

VGA Graphics Accelerator

The video subsystem includes 8MB of SGRAM video memory, a 3D graphics engine, and a high performance AGP 2X Bus with support for full power management. The video subsystem supports a ZV (Zoomed Video) port and simultaneous display (Simulscan) in all video modes, up to 1024x768 resolution.

Removable Hard Disk Drive Module

The TransPort NX comes with a 2.5" (17mm maximum3 height) hard disk installed. The HDD supports PIO mode 4 and ultra DMA 33. The hard drive can also be easily removed and replaced with a second hard drive for expansion. The TransPort NX supports HDDs with capacities of 1.44GB or above, and supports Ultra DMA/33 transfers allowing data transfer rates up to 33 MB per second.

Removable CD-ROM

The high speed built-in CD-ROM drive can be swapped with a Digital Versatile Disk (DVD) ROM drive.

Audio System

The TransPort NX's audio system includes a sophisticated built-in ESS PCI stereo audio-sound generator compatible with Sound Blaster and Microsoft Sound System. The sound system includes amplified output, two built-in 1 watt stereo speakers, manual volume control, and built-in microphone.

Audio Ports

The TransPort NX comes with four audio jacks: a line in for connecting audio equipment for use with the multimedia system; and a line out for connecting stereo speakers, a headphones jack, and a microphone jack.

Battery and AC Power System

The TransPort NX can operate on two power sources; an AC adapter, or the rechargeable battery module pack.

The AC adapter has automatic 100-240V line switching, which will automatically check the power voltage coming out of the wall and adjust it to the voltage your computer requires.

The system will automatically recharge the battery pack in the TransPort NX by using the AC adapter. By using the power management features, the TransPort NX can operate on battery power for approximately two to three hours. For extended battery-powered operation, additional battery modules may be purchased. See "Power Saving Modes" on page 61.

Security

The password protection feature of your TransPort NX prevents unauthorized people from accessing important files and information on your computer. See "Security Option" on page 48.

Input/Output Devices

Most of the TransPort NX's hardware features can be described as input and output devices. An input device is a hardware device used to enter information to be processed by the computer. Examples of input devices are the keyboard and the touch pad. An output device, (LCD display, monitor, or printer) receives data from the computer and displays the information in a human-readable format.

Other Devices

Other hardware components such as the serial port, parallel port and disk drives are both input and output devices. They can be used for transferring data to and from the computer.

LCD Display

The TransPort NX comes with a color LCD display panel.

The LCD screen display results can be adjusted by changing the LCD panel angle, and the display brightness.

Display	Resolution	Color Depth
15" TFT XGA	1024x768	64K color

TABLE 1. LCD Display

LCD Care

LCD screens are delicate devices that need careful handling. Please take the following precautions:

- When you are not using the computer, keep the LCD screen closed to protect it from dust.
- If you need to clean your LCD screen, use a soft tissue to gently wipe the LCD surface.
- Do not put your fingers or sharp objects directly on the surface or spray cleaner onto the display.
- Do not press on or store any objects on the cover when it is closed. Doing so may cause the LCD to break.

External CRT Display

You can hook up an external monitor through the 15-pin CRT connector. Three configurations are available:

- LCD only
- Simultaneous display of the LCD screen and CRT monitor
- CRT only

You can switch between these display configurations by pressing the key combination [Fn] + [F12].

TransPort NX Keyboard

The TransPort NX's keyboard uses a standard QWERTY layout with the addition of special function keys and an embedded numeric keypad, and supports Windows 95 by incorporating the two Windows specific keys so you can take advantage of many of the time-saving features of Windows 95.

The QWERTY layout means the alphanumeric keys located on the keyboard are in the same position as those found on a standard typewriter. This section covers the TransPort NX keyboard and identifies several keys which you will commonly use when working with either the disk operating software or other software.

Figure 11. TransPort NX Keyboard

Description of Function Keys

Key	Descriptions
[Esc]	Use the escape key to cancel any specific command you may have just keyed in.
[PrtSc/SysRq]	Pressing this key will cause whatever is on the screen at the time to be printed. In Windows 95,98, or NT the Screen will be copied to the clipboard. Note that in some software programs, this key may be used in conjunction with other keys for other specific functions. To use SysRq, press the [Fn] key and the [PrtSc/SysRq] key together.
[Scroll Lock]	When Scroll Lock is engaged, pressing the cursor control keys moves the cursor by fields of text. Press the scroll lock key once to engage this mode. Pressing it a second time will disengage the scroll lock function.

TABLE 2. Key Descriptions

Key	Descriptions
[Pause/ Break]	The break key is used in conjunction with the control key ([Ctrl] + [Break]) to cancel a command.
[Alt]	Used by itself, the alternate key has no effect in carrying out any commands, but functions with the [Ctrl] and [Del] key ([Alt] + [Ctrl] + [Del]) to reboot or restart your operating system program.
[Caps Lock]	The [Caps Lock] key corresponds to a typewriter's shift lock key, but it only affects letter keys. Even with the [Caps Lock] key engaged, if you want to generate the symbols and punctuation marks above the number keys, you must still use the [Shift] key.
[Shift]	Use this key to type letters in upper case.
[Ctrl]	Used by itself, the control key has no effect in carrying out any commands. Like the [Alt] key, it is always used in combination with other keys. Its function depends mainly upon the type of software you are currently using. Refer to the user's manual of the software you are using for details on how to use this key.

TABLE 2. Key Descriptions

Windows 95 Keys

There are two special Windows 95 keys on the keyboard.

Key	Definitions
	The key with the Window 95 logo activates the **Start** menu button on the bottom left of the screen.
	The other key, which looks like a menu with a small arrow, activates the properties menu and is equivalent to pressing the right mouse button while pointing at any object on the Windows desktop.

TABLE 3. Windows 95 Keys

Hot Key Controls

Key Combinations	Definitions
[Fn] + [F1]	NTSC/PAL TV Output mode.
[Fn] + [F5]	Increases brightness.
[Fn] + [F6]	Decreases brightness.
[Fn] + [F7]	Increases the speaker volume.
[Fn] + [F8]	Decreases the speaker volume.
[Fn] + [F12]	Toggles between internal pointing stick and external PS/2 mouse.
[Fn] + [B]	Enables/disables speaker and battery low warning beeps.
[Fn] + [T]	Toggles display to CRT, CRT & LCD or LCD.

TABLE 4. Hot Key Controls

Function Keys

Notice the twelve function keys in the top row of the keyboard, appearing in sequence from left to right. The functions of these keys vary with respect to the operating system and software in use. Refer to the appropriate software user's manuals for more detailed information on function key definitions.

Figure 12. Function Keys

Cursor Keys

The four direction (arrow) keys control the movement of the cursor on the screen. They do not affect the displayed characters.

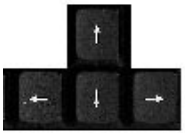

Figure 13. Cursor Keys

Embedded Numeric Keypad

The embedded numeric keypad consists of 15 keys that make number intensive input more convenient. Like the [Num Lock] key, these keys are labeled in blue on the keycaps. Numeric assignments are located at the upper right of each key.

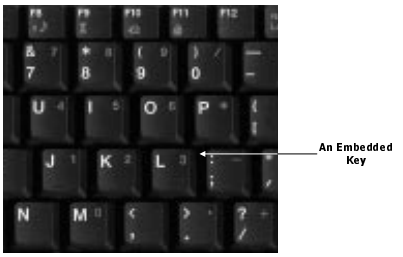

Figure 14. Embedded Keyboard

When the numeric keypad is engaged, the **NumLock** icon will appear in the **System Window**. The keypad is activated by pressing the [Fn] + [NumLk] key. If an external keyboard is connected, pressing the NumLock key on either the TransPort NX or external keyboard will enable/disable NumLock of both keyboards in unison. To disable the TransPort NX numeric keypad while keeping the keypad on an external keyboard activated, use the [Fn] + [NumLk] hot key on the TransPort NX keyboard.

System Status Window

Located above the keyboard, the **System Status** window display panel informs you of the TransPort NX's current operating status at a glance. Upon activating a certain function, a symbol or icon corresponding to that function will appear in the system window until you deactivate that feature. The symbol will remain in the window indicating that the feature is engaged.

Touch Pad

The TransPort NX's integrated touch pad is compatible with the PS/2 mouse. A device driver is not required for working with application software that supports PS/2 mouse operation.

NOTE: *Intellimouse (in Wheel Mode) may cause erratic behavior if used in conjunction with the pointing stick, and/or touchpad. Please select [FN]+[F6] to switch to external PS/2.*

Using the Touch Pad

The touch pad is a pressure sensitive pointing device that provides all the features of a two-button mouse. Its primary function is to move the cursor around the screen. To use your touch pad:

1. Place your fingers on the keyboard in the normal typing position. The touch pad is easily accessible by moving either your left or right thumb off the space bar and on to the touch pad.
2. Gently move your thumb across the pressure-sensitive touch pad in the direction you want the cursor to move. The pad detects the change in pressure and moves the cursor in the corresponding direction.
3. With a conventional mouse, selections are usually made by double-clicking the mouse's left button. The touch pad also supports this feature.
4. The touch pad offers another method of making selections in a software program. It is called double-tapping. This function corresponds to double-clicking with a mouse. Once the cursor has been moved to the object you want to select, lightly double-tap the pressure sensitive touch pad to select the desired object and start the application.
5. The buttons located below the touch pad are essentially the same in function as those on a two-buttoned mouse. Clicking these buttons makes selections, drags objects, or performs a variety of other functions depending on the software. To select an object, first move the pointer over the object you want to select, and then press the left button one time. The functions of these buttons are software specific.
6. Double-clicking is a common technique for selecting objects or launching programs from icons. Once you have moved the pointer over the object you wish to select, rapidly press the left button twice.

There are two ways to drag:

- Move the pointer to the desired location then press down the left button. While still holding down the left button, move the pointer to the desired location. Then release the button.
- Move the pointer to the desired location. Tap the touch pad twice quickly as if you were double-clicking, however do not remove your finger after the second tap. While maintaining contact with the touch pad, move the pointer to the desired location. Lift your finger to finish dragging.

Touch Pad Precautions

The touch pad is a pressure sensitive device. If not properly cared for, it can be easily damaged. Please take note of the following precautions.

- Make sure the touch pad does not come into contact with dirt, liquids or grease.
- Do not touch the touch pad if your fingers are dirty.
- Do not rest heavy objects on the touch pad or the touch pad buttons.

You can use the touch pad with Microsoft Windows as well as non-Windows applications.

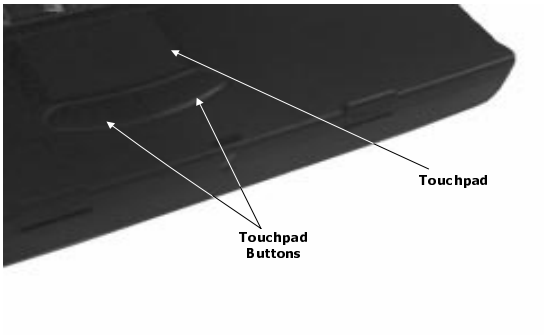

Figure 15. Touchpad and Touchpad Buttons

Installing a Touch Pad Driver

The touch pad is internally connected to the computer's PS/2 port. As with a mouse, the touch pad must be enabled and configured in order to function correctly with your software.

Using the Stick Pointer

1. Use your index finger to gently push the pointing stick in the direction you wish the cursor to move.

2. The stick point buttons work in conjunction with the stick point, just like the touchpad.

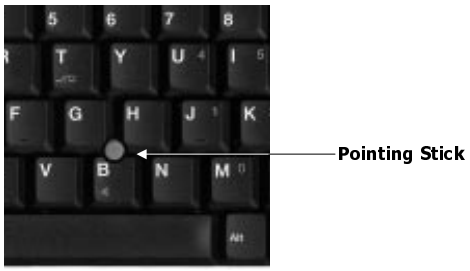

Figure 16. Pointing Stick

3. You can use the touchpad with Microsoft Windows as well as non-Windows applications.

IR Communication

The TransPort NX is equipped with an Infrared (IR) communication module located on the left side of the TransPort NX.

The IR module consists of one Light Emitting Diode (LED) and one photo sensor. The LED functions as a transmitter and the photo sensor acts as a receiver. The transmitter emits a signal stream consisting of data in the form of pulses of infrared light. The receiver picks up pulses of infrared light transmitted by other IR modules.

Use the IR module to perform wireless, serial communication. Use an FIR-specified application to transmit or receive data via the TransPort NX's FIR module.

The following table briefly describes each of the IR modes available. You must set these modes in BIOS. Please refer to "Chapter Three - Running BIOS Setup" for information on the BIOS Setup program.

IR Type	Description
FIR	Fast Infrared
IrDA	Infrared Data Association Protocol

TABLE 5. IR Modes

Follow the guidelines listed below when using the infrared communication module to transmit or receive data.

- Make sure the infrared communication field in the BIOS Setup program is set to FIR. Refer to ”Chapter Three - Running BIOS Setup.”
- Ensure that the TransPort NX’s FIR module is properly lined up with the other device’s infrared communication module. The angle between the two Infrared Communication modules should not exceed ±15°.
- There should be a clear, unobstructed path between the two infrared communication modules; otherwise the optical signal will be blocked. Likewise, do not place anything between the two infrared communication modules during data transmission.
- Make sure the distance between the TransPort NX’s FIR module and the other device’s infrared communication module does not exceed one meter.
- Do not move either the TransPort NX or the other device during transmission of data, otherwise data transmission will be distorted resulting in loss of data or a system crash.
- An error can occur if FIR transmission is conducted in an environment with high levels of noise. To avoid transmission errors do not transmit infrared communication signals near equipment with compressors, such as refrigerators or air conditioners.

PCMCIA Cards and Expansion Sockets

The TransPort NX features two PCMCIA (Personal Computer Memory Card International Association) expansion sockets designed to interface with one or two Type II cards, or one Type III card. This sophisticated innovation allows you to expand and customize your computer to meet a wide range of computing needs without sacrificing portability. PC cards accommodate a number of expansion options. Memory cards, modems, hard disks, and network adapters are just a small sample of the PC card products available on today’s market.

Using PCMCIA Cards

The PCMCIA (Personal Computer Memory Card International Association) is a widely accepted industry standard that defines the design and operation of PC cards. PC cards that conform to the PCMCIA standard are plug-and-play devices, which means that they can be inserted into the PCMCIA expansion sockets while the computer is powered on. This type of hot insertion does not apply to all PC cards. Refer to the documentation that came with your PC card for detailed information on the operation of PC cards.

Inserting a PCMCIA Card

When properly configured, the computer will emit a medium tone followed by a high tone when a PC card is inserted. When you eject a card, the computer will emit a high tone followed by a medium tone. You can insert and remove a PC card whether the computer is turned on or off.

1. Hold the PCMCIA card with the label side up and the connector side toward the socket.
2. Align the card connectors with the appropriate socket and carefully slide the card into the socket until it locks into place. The system will beep once to indicate that it has detected the PC card.
3. The Eject buttons are located next to each slot on the right. Note that there are two Eject buttons, one per slot. To remove a PC card push the respective Eject button, the button will pop out, push the button again to eject the PCMCIA. The upper button will eject a Type II PCMCIA card from the upper socket. The lower button will eject a Type II or Type III PCMCIA card from the lower socket. Then remove the card and store it properly.

Preparing the TransPort NX 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 covers to protect the connectors.

The TransPort NX's hard disk head is self-parking. This means that the TransPort NX 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 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 TransPort NX 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 TransPort NX'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.

Traveling with the TransPort NX

For safety, security, and convenience when traveling with your computer, follow these guidelines:

- Before traveling, save your data by backing it up onto floppy diskettes.
- Take along an extra backup copy of your data.
- Do not travel with a diskette in the floppy disk drive.
- Do not transport the TransPort NX with the power on. This may result in loss of data and/or damage to the hard disk drive.
- Before traveling, disconnect the AC adapter from the computer.
- Always carry either a spare fully charged battery pack or the AC adapter.
- When carrying the computer, take care not to bump it into things. The computer cannot take the kind of treatment that you might give a briefcase.
- Whenever possible, hand-carry the computer in its carrying case.
- If you must ship your computer as freight or baggage, pack it carefully. Use the original cartons and foam cushions, if possible. If they are not available, use sturdy cartons and cushion the computer well on all sides.

Power-on Self Test

The Power-On Self Test (POST) runs every time you turn on the computer. The POST checks memory, the main system board, the display, the keyboard, the disk drives, and other installed options.

A few seconds after you turn on your computer, a copyright message appears on your display screen. A memory test message will appear next. The test continues until all installed memory is tested. Normally, the only test routine visible on the screen will be the memory test.

Two kinds of malfunctions can be detected during the POST:

- Error messages that indicate a failure with the hardware, the software, or the BIOS. These critical malfunctions prevent the computer from operating at all or could cause incorrect results. An example of a critical error is a microprocessor malfunction.
- Messages that furnish important information (such as memory status, power-on, and boot processes). These non-critical malfunctions are those that cause incorrect results that may not be readily apparent. An example of a non-critical error would be a memory chip failure.

In general, if the POST detects a system board failure (a critical error), the computer halts and generates a series of beeps. If failure is detected in an area

other than the system board (such as the display, keyboard, or an adapter card) an error message is displayed on the screen and testing is stopped.

The POST does not test all areas of the computer, but only those that allow it to be operational enough to run any diagnostic program.

If your system does not successfully complete the POST, but displays a blank screen, emits a series of beeps, or displays an error code, contact Technical Support.

Operating System

When starting the TransPort NX for the first time, please note you have either Windows 95, Windows 98 or Windows NT 4.0 already installed on your TransPort NX.

Resetting the System

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 might lock up the TransPort NX.

If this key combination does not shut down the TransPort NX, you can reset the TransPort NX by using the TransPort NX’s power button. Should the TransPort NX lock up for some reason, pressing this button for five seconds powers the TransPort NX off.

Chapter Three - Running BIOS Setup

Your TransPort NX computer is configured with a customized Basic Input/Output System (BIOS), which is a set of permanently recorded program routines that give the computer its fundamental operational characteristics. The BIOS also tests the computer and determines how the computer reacts to specific instructions that are part of programs.

The BIOS is made up of code and programs that control the major input/output devices on the computer. The BIOS also contains a set of boot routines called the Power-On Self Test (POST) that check the computer when you turn it on.

When the TransPort NX is turned back on, the system is configured with the values stored in CMOS. With easy-to-use menus, you can configure such items as:

- Hard drives and peripherals
- Boot up drive sequence
- Password protection
- Power management features

The settings made in the BIOS Setup program intimately affect how the TransPort NX performs. It is important, therefore, to first try to understand all the Setup options, and second, to make settings appropriate for the way you use the TransPort NX.

About BIOS Setup

When you turn on your computer, the system is configured using default values. If necessary, you can change these system defaults by running the BIOS System Setup program when you boot your computer.

The BIOS System is a ROM (Read Only Memory) based software utility that displays the system's configuration and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed CMOS RAM which holds this information even when the power is turned off. Whenever the TransPort NX is turned on, the system is configured with the values found in CMOS memory.

Navigating Through BIOS Setup

The Setup program has been designed to make it as easy to use as possible. It is a menu driven program, which means you can scroll through the various sub-menus and make your selections among the various predetermined choices. If you accidentally make a setting and don't know which one to switch back to, use

the hot key in the Setup program to return to the previous value. The hot keys are discussed in more detail later in this chapter.

You should run the Setup program under the following conditions:

- You have set up the computer for the first time and you get a message prompting you to run the BIOS Setup program.
- You want to configure the TransPort NX to use a different booting device.
- You want to reset the system clock.

NOTE: *The above items are only a few examples and are by no means a complete list.*

Using Setup

The following function/arrow keys may be used to navigate within BIOS:

Up Arrow	Move to item
Down Arrow	Move to next item
Left Arrow	Move to the item in the left hand
Right Arrow	Move to the item in the right hand
Esc Key	**Main Menu**-Quit and note save changes to CMOS **Status Page Setup Menu** and **Option Page Setup Menu**-Exit current page and return to **Main Menu**
PgUp Key	Increase the numeric value or make changes
PgDn Key	Decrease the numeric value or make changes
+ Key (keypad)	Increase the numeric value or make changes
- Key (keypad)	Decrease the numeric value or make changes
F1 Key	General help, only for **Status Page Setup Menu** and **Option Page Setup Menu**
F5 Key	Restore the previous CMOS value from CMOS, only for **Option Page Setup Menu**
F7 Key	Load the default
F10 Key	Save all changes

TABLE 6. Function Keys Within BIOS

Legend Bar

At the bottom of the Setup screen you will notice a legend bar. Use the keys in the legend bar to navigate through the various setup menus.

Accessing the BIOS Setup Program

To access the BIOS Setup program, press the [Delete] key after the TransPort NX logo has screen or CRT.

In Case of Problems

If after making and saving system changes with Setup, you discover that your computer no longer is able to boot, the Award BIOS supports an override to the CMOS settings which resets your system to its defaults.

The best advice is to only alter settings which you thoroughly understand. To this end, we strongly recommend that you avoid making any changes to the chipset defaults. These defaults have been carefully chosen by both Award and your systems manufacturer to provide the absolute maximum performance and reliability. Even a seemingly small change to the chipset setup has the potential for causing you to use the override.

Save Changes and Exit Setup Program

See “Save & Exit Setup” on page 51 for detailed information on saving changes and exiting the setup program.

Main Menu

When the **Setup** program is accessed, the **Main Menu** appears.

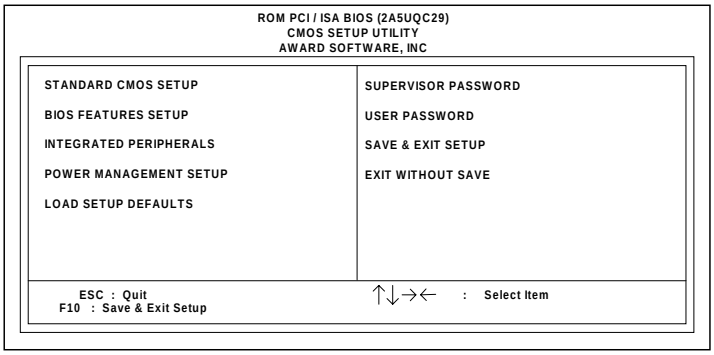

Figure 17. BIOS Main Menu

Once you enter the Award BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices, see the following pages for descriptions of these sub menus.

Standard CMOS Setup

Changes to the TransPort NX's basic system configuration can be made from this menu.

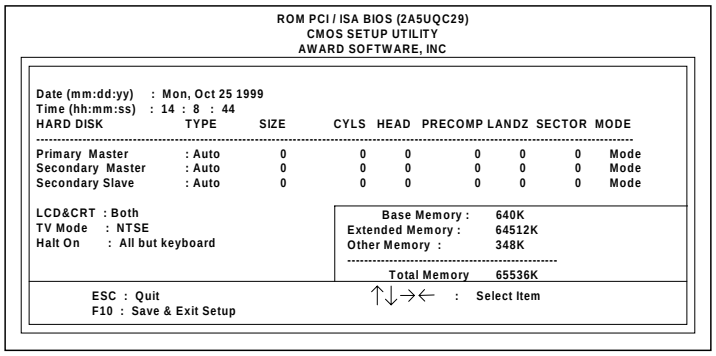

Figure 18. Standard CMOS Setup

Date

The date format is <day>, <date> <month> <year>. Your notebook supports all years from 1994 to 2079.

Time

The time format is <hour> <minute> <second>. The time is calculated based on the 24-hour military-time clock. For example, 1 p.m. is 13:00:00.

Primary Master

These settings are automatically predetermined by the BIOS and are not user changeable.

Secondary Master

These settings are automatically predetermined by the BIOS and are not user changeable.

Secondary Slave

These settings are automatically predetermined by the BIOS and are not user changeable.

Drive Type A

The category identifies the types of floppy disk drive installed in your notebook. There are two choices: No floppy installed and 1.44 MB.

LCD & CRT

The category selects the type of video adapter used for the primary system monitor. If a CRT (external monitor) is attached the default is both. The choices are: LCD, CRT and Both.

Halt On

This category determines whether the computer will stop if an error is detected during power up. If you select Keyboard, Disk or Both and the notebook have problem with the selected device it will not stop due to this error. If you don't want the notebook to stop even though there might be some non-fatal errors, then select No.

Memory

The various memory are for display only and cannot be changed by the BIOS. The total amount displays how much memory is installed in your notebook.

BIOS Features Setup

This section allows you to configure your system for basic operation. You can select the system default speed, boot-up sequence, keyboard operation, shadowing and security.

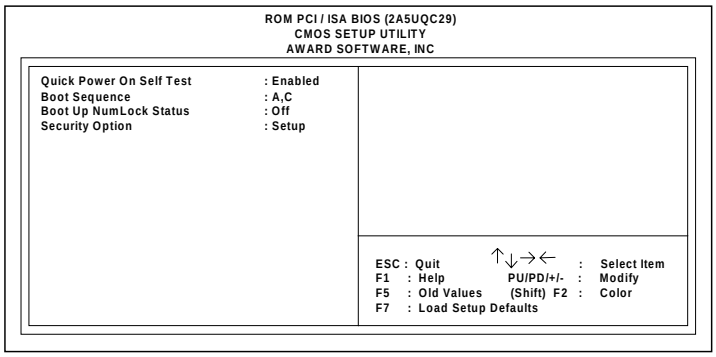

Figure 19. BIOS Features Setup

Quick Power On Self Test

This option slows the boot process and tests your system more thoroughly when disabled.

Boot Sequence

This category determines which drive to search first for the disk operating system (i.e., DOS or Windows).

Select the drive you would like the system to search first, most common is to have the operating system on the C drive only. It is also possible to boot from the LS-120 or ZIP if these are installed and contain system files.

Boot Up NumLock Status

Since the numeric keypad is embedded, we recommend that you turn this feature OFF, unless an external keyboard is attached.

Security Option

- This category allows you to limit access to the system and Setup, or just to Setup. Select System to enable a password to enter the system. Choose Setup if you don't want other people to enter your Setup.

NOTE: *To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press <Enter>, it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.*

Integrated Peripherals

Selecting **Advanced** from the menu bar displays the **Advanced** menu.

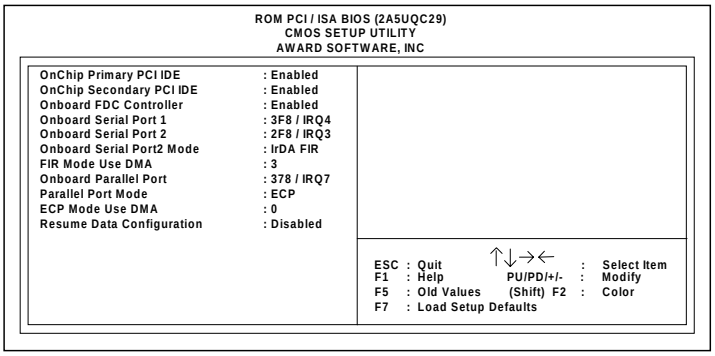

Figure 20. Integrated Peripherals

OnChip Primary PCI IDE	The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the first on-chip IDE channel.
OnChip Secondary PCI IDE	The chipset contains a PCI IDE interface with support for two IDE channels. Select Enabled to activate the secondary on-chip IDE channel.
Onboard FDC Controller	The chipset contains an interface with support for a floppy disk drive. Select Enabled to activate the on-chip floppy interface.
Onboard Serial Port 1	This selects the COM port IO address. Choices are: Disabled, 3F8/IRQ4, 2F8/ IRQ3, 3E8/IRQ4 and 2E8/IRQ3.
Onboard Serial Port 2	This selects the COM port IO address. Choices are: Disabled, 3F8/IRQ4, 2F8/ IRQ3, 3E8/IRQ4 and 2E8/IRQ3.
Onboard Serial Port 2 Mode	When you want to use modem or IR, you must select this function to decide which you use. Choices are: Modem, SharpIR, IrDA SIR, IrDA FIR.
FIR Mode Use DMA	When FIR is selected you can choose which DMA you wish to use; choices are 0, 1 or 3.
Onboard Parallel Port	This selects the Parallel port IO address. Choices are: Disabled, 3BC/IRQ7, 378/ IRQ7, 278/IRQ5.
Parallel Port Mode	This function select the Parallel port mode. If you choose EPP mode, you can select ‘EPP Version’, ‘1.7’ or ‘1.9’. Choices are: Compatible, EPP, ECP.
ECP Mode Use DMA	When ECP is selected you can choose which DMA you wish to use; choices are 0, 1, or 3.
Reset Data Configuration	This field allows you to reset all PCI devices and their configuration space.

Power Menu

Use the **Power** menu of the Setup program to enable and adjust the TransPort NX's advanced power saving features. Enabling these features will extend the life of the battery pack between charges. To make changes to power management settings, select **Power** from the menu bar. The following menu appear.

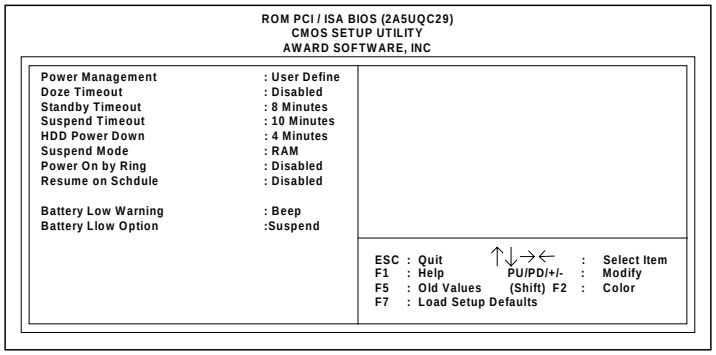

Figure 21. Power Menu

Power On By Ring

If you do suspend to RAM, you can use modem ring to wake up your computer.

Battery Low

When the battery of your computer is Low power, system will beep if this function is Enabled, if Disabled there will be no beep.

Battery Llow

If Enabled the notebook will beep until there is no more battery and the notebook will shut down and you will lose all data so it's recommended to save everything when you hear this beep. If you have a special partition created the Save-To-Disk option will save all the data to the HDD.

Resume on Schedule

When system suspend to RAM you can resume it by setting timer to wake it up. If you Enable the Resume on Schedule, it will appear as the next choice. HH/MM/SS: HH: hour, 0-23 MM: minute, 0-59 SS: second, 0-59

Save & Exit Setup	Once you are finished making your selections, choose this option from the exit menu to ensure the values you selected are saved CMOS. Changes you made to the Setup program must be saved to CMOS in order to make them operative. CMOS memory is sustained by an on-board battery even when the TransPort NX is turned off.
Exit Without Save	This option should only be used if you do not want to save the changes you have made to the Setup program.

Chapter Four - Data Storage

Data storage and retrieval are two of the most fundamental tasks you will perform when working with your computer.

Data Storage and Retrieval

The TransPort NX is equipped with a 3.5" floppy disk drive (FDD) and a hard disk drive (HDD). The hard disk drive is removable, allowing for easy upgrades. Sometimes referred to as “SmartBays”, these two types of drives and their associated circuitry comprise your computer’s main data storage and retrieval system.

Figure 22. SmartBays

Floppy Disk Drive

Your TransPort NX features a removable high-density 3.5-inch floppy disk drive, or an optional LS-120 (120MB) drive, module. The floppy disk drive interfaces with the rest of the TransPort NX’s system via a disk drive controller. The disk drive controller is an integral part of the computer’s main board architecture. The disk drive transfers data between the diskette and memory as requested by the system. The floppy disk drive is designated drive A: by the operating system.

The floppy diskette is the most widely used data storage medium for transferring data from one PC to another. The coated mylar disk is enclosed in a plastic case that protects the disk from damage caused by scratches, bending, and dust.

Using Floppy Diskettes

1. Insert the diskette into the drive with the label side up. Most diskettes have an arrow to indicate which end goes in first.
2. Slide the diskette all the way in until the Diskette Eject button pops out.
3. To eject the diskette, push the Diskette Eject button until the diskette pops out.

When the FDD is being accessed, a green LED below the FDD door will illuminate. A read/write head can carry out four basic operations as prescribed by the disk operating system (Windows 95):

- Read data currently stored on the diskette
- Write new data to the diskette
- Erase data from the diskette
- Format a diskette

Your computer's floppy disk drive accepts 720KB double-density (2DD) diskettes or 1.2MB and 1.44MB high-density (2HD) diskettes. These diskettes are sometimes labeled by the manufacturer as double density 1.0MB and high-density 2.0MB diskettes.

These labels, however, indicate the unformatted capacities of the diskettes. The TransPort NX FDD also supports a 1.2MB format in accordance with NEC PC compatibility.

Removing the Floppy Disk Drive

The floppy disk drive is removable and swappable with other modules to give you versatility while minimizing weight and size. To remove the floppy disk drive:

1. Save your work and turn off the computer.
2. Turn the TransPort NX over so that the rear ports are facing you.
3. Slide the FDD release latch toward the outside of the TransPort NX.

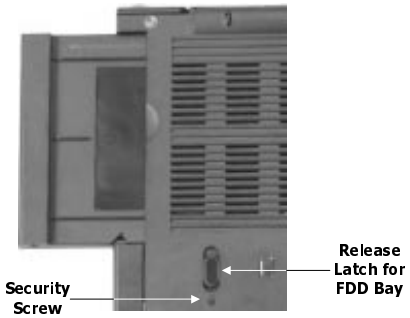

Figure 23. Removing the FDD

4. Pull on the FDD finger grip to slide the FDD module out of the bay.
5. To insert the FDD module, slide the module into the drive bay so that it mates with its connector. You will hear the release latch click shut.

WARNING: ***Never turn off or reset the TransPort NX while the FDD LED is on. Always store your diskettes in a dry, clean container, to protect them from the environment and magnetic fields.***

Removable Hard Disk Drive Module

A hard disk, like a floppy diskette, magnetically stores data and retains that data when the computer is turned off. Hard disk drives have higher capacities and operate at much faster speeds than floppy disk drives.

Your TransPort NX comes equipped with a hard disk drive already installed and prepared for operation. Your computer's hard disk drive is an integrated drive electronics drive, commonly referred to as an IDE drive, with a form factor of 2.5 inches. IDE drives have become an industry standard for PC hard drives because they provide a reliable, fast, and cost-effective mass storage solution. The formatted capacity of the TransPort NX's HDD is 1.44GB or above.

Disk Caching

A disk cache is used to increase hard disk performance. It sets aside a portion of the computer's system memory where frequently used data from the hard disk is temporarily stored. Because typical memory access time is several thousand times faster than disk access time, a disk cache can yield a phenomenal increase in your computer's overall performance.

The SMARTDRV.EXE program included with MS-DOS is an example of a program that can be used to implement a disk cache. This program allows you to specify the amount of memory to be used as a disk cache. Refer to a DOS manual for instructions on the SMARTDRV.EXE program. Windows 95, 98 and NT 4.0 have a built in cache utility.

NOTE: *If a program's documentation specifies to disable a memory cache, it's not referring to a disk cache program like SMARTDRV.EXE. Memory cache is different from a disk cache. A disk cache is used to speed up disk access, whereas a memory cache is normally used to speed up access to DRAM.*

Removing and Replacing the HDD

The TransPort NX's hard disk is easily removed and replaced to allow easy upgrades. To remove the hard disk drive:

1. Lift upward on the front two latches on the palmrest; slide back the palm rest and then lift it up.
2. Lift the black retainer up on the right side of the hard drive.
3. Slide the hard drive slowly to the right to remove.

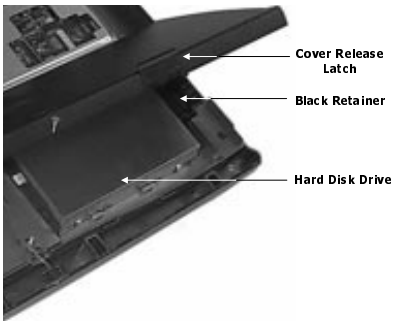

Figure 24. Removing the HDD

4. Installation is the reverse of removal.

CD-ROM

The TransPort NX comes with a built-in CD-ROM drive module. The CD-ROM drive employs sophisticated laser and drive technology, yet requires very little maintenance. Use the CD-ROM drive to run the latest multimedia CD titles providing a new educational and entertainment dimension to your personal computing experience.

The CD-ROM module can be swapped with a Digital Versatile Disk (DVD) module, or a second HDD. DVD discs are the same diameter as a CD-ROM, but can be recorded on both sides. Each side has a capacity of 4.7GB making each DVD equivalent to 14 CD-ROMs if both sides are used. DVD players are compatible with audio CDs, CD-ROMs, CD-I discs and video CDs, but not first-generation CD-ROM disks. TransPort NX does not allow DVD output to a television. Second HDDs allow further expansion and versatility for your TransPort NX, allowing you to store large multimedia files.

CD-ROM Features

The features of the CD-ROM include:

- Audio play feature to play music CDs
- Front panel load/unload button
- 640 MB capacity
- MSCDEX compatible
- Supports CD-DA, CD-ROM mode 1 and mode 2
- Multi-Session Photo CD, CD-I/Video CD (ps.)
- Low power consumption
- 12.7mm height

Removing the CD-ROM Drive

The CD-ROM drive is removable and swappable with other modules to give you versatility while minimizing weight and size. To remove the CD-ROM drive:

1. Save your work and turn off the computer.
2. Turn the TransPort NX over so that the rear ports are facing you.
3. Slide the CD-ROM release latch, holding it in place.
4. Pull on the CD-ROM finger grip to slide the CD-ROM module out of the bay.

Figure 25. Removing the CD-ROM

Installing the CD-ROM Drive

To insert the CD-ROM module, slide the module into the drive bay so that it mates with its connector. You will hear the release latch click shut.

Loading a Disc

To play a CD disc, follow the instructions listed below.

1. Push the CD-ROM Eject button on the CD drive door, found on the front of the computer. Gently pull the tray all the way out.
2. Carefully lift the CD-ROM by the edges and make sure the shiny surface is face down (the side with no writing on it).
3. Carefully insert the CD-ROM onto the tray. Push the CD-ROM down gently so that it snaps onto the center ring. Push the tray back into the drive.

Removing a Disc

To remove a CD-ROM, do the following:

1. Check the LED display and make sure that the computer is not accessing the CD-ROM drive.
2. Push the Eject button and pull the tray all the way out.
3. Carefully pick up the CD by the edges and – while pressing down on the center ring – remove the CD-ROM from the tray. Push the tray into the computer until it closes.

NOTE: *Do not insert any foreign objects into the disc tray. When not in use, keep the tray closed to prevent dust or dirt from entering the drive unit. If you experience difficulty when ejecting the CD disk tray, stretch a paper clip (or use a pin or a thin metal rod) and insert it into the emergency eject hole located on the right side of the front panel. The CD disk tray should eject immediately. This procedure can also be used to remove a CD from the drive when the* TransPort NX *is powered off.*

Reading CDs

The CD-ROM drive is designated drive D by default. However, it's treated as a low-priority device by the system. For example, if you have other drives installed, they take precedence over the CD-ROM. The CD-ROM will always surrender to the designated next priority drive.

There are a variety of CD products on the market. They go by various names, such as CD-I, CD-Title, Audio-CD or Video-CD. Before playing a CD, you should determine what type of CD it is, and run a playback program capable of running that type of CD.

Windows NT comes with a mini-application that will run different types of CDs. Try it by clicking start, applications, multimedia and media player.

Multimedia Sound System

Use the TransPort NX's built-in audio capabilities to take advantage of a wide range of education and entertainment multimedia software.

The multimedia sound system features a sophisticated on-board digital audio generator that produces realistic music and human voice sounds in 16-bit stereo.

The TransPort NX is equipped with two internal stereo speakers, a microphone, and both input and output audio ports for external audio units. An external microphone can be connected to the microphone jack. External speakers or headphones can be connected to the TransPort NX's audio-out jack. External audio devices can be connected to the Line in jack. All audio features are software controlled. The TransPort NX's multimedia sound system includes the following features:

- An ESS PCI chip set
- Supports Sound Blaster game compatibility
- Supports Windows Sound System compatibility
- Full Duplex operation
- Hardware and software master volume control
- 64-Voice Wavetable synthesizer with Directsound support
- Dynamic filtering reduces noise and distortion rate
- 16-bit digitized audio playback
- A built-in microphone for convenient recording
- Two built-in stereo speakers
- Digitized audio recording through the TransPort NX's built-in microphone or any external source

Chapter Five - Power Management

Powering Your Notebook Computer

This section contains information on the TransPort NX's power system, including the AC adapter, the battery system, recharging the battery, and tips for conserving battery power. Also included are detailed descriptions of power management and each of the power modes.

The power system is comprised of two parts, the AC adapter and the battery system. The AC adapter converts AC power from a wall outlet to the DC power required by the computer. The battery pack is a set of lithium-ion (Li-Ion) or nickel-metal hydride (Ni-MH) batteries housed in a plastic shell. There is one pack inserted in the battery housing of the computer.

Power Saving Modes

There are several modes in which the TransPort NX may enter, automatically or manually, in order to conserve power.

Power Mode	How mode is activated	How to reactivate
System Idle	Transits automatically	Press any key or access HDD
Standby Mode	Transits automatically after specified timeout	Press the power button
Suspend Mode (Suspend to Disk or Suspend to RAM)	Transits automatically after specified timeout	Press the power button
Hard Disk Spin Down	Transits automatically	Access HDD

TABLE 7. Power Saving Modes

Full On Mode

This is the normal operation mode, when the notebook has not entered any suspend or power saving modes.

System Idle Mode

Reduces the CPU speed. Press any key to resume system operation. Operation will also resume upon any hard disk activity.

Standby Mode

In addition to reducing the CPU speed, this mode puts peripheral components in their lowest active states. These peripheral components include the hard disk, the LCD screen and the screen backlight. The TransPort NX enters Standby mode when the system remains idle for a specified amount of time. Press any key to resume system operation.

There are two ways the TransPort NX may enter the standby mode:

- The Standby timer “times out”, automatically placing the computer in Standby mode.
- The Power button is pressed once, briefly.

All CPU and peripheral activity must have ceased prior to entering the Standby. VGA activity (like clock updates) does not prevent the notebook from entering the standby mode.

When the notebook enters the Standby mode the following will occur:

- The Standby LED becomes illuminated.
- Both the HDD and VGA controller will enter Standby mode to save power.
- The internal clock in the CPU will stop.

There are four ways the notebook will resume from the Standby mode:

- Any system activity detected.
- Movement of the mouse (touchpad or external mouse) or any keystroke.
- RTC alarm ring.
- Modem ring from serial or Cardbus source.

Suspend To RAM

The system is defaulted to Suspend to RAM in the BIOS. To suspend the system press the Power On button once quickly to put the system into suspend. The blue power light will begin to blink.

To “wake” the computer out of Suspend mode, press the Power On button once. The system may take up to a minute to be fully functional. The blue light will be steadly illuminated during this process.

Two conditions will cause the notebook to enter the Suspend mode:

- The Suspend timer “times out,” automatically placing the computer in Suspend mode.
- The Power button is pressed once, briefly.

When the notebook enters the Suspend mode the following will occur:

- The Standby LED will flash.
- Most devices are powered off, except the system DRAM refresh function and SMI inputs watching for internal keystroke, RTC alarm or modem ring.
- VGA enters Suspend mode to keep the Video RAM refresh.

There are three ways the notebook will resume from the Suspend mode:

- Internal keystroke (Power on button is pressed).
- RTC alarm ring.
- Modem ring from serial or Cardbus source.

CAUTION: ***If the system is left in DRAM Suspend mode long enough to consume all battery power, then the Suspend indicator goes out and all unsaved data in the computer's memory is lost. The system cannot resume until the battery is recharged or the TransPort NX is connected to AC power.***

Suspend To Disk

The system is defaulted to Suspend to RAM. To change the default to Save to Disk, reboot the system and and go into the BIOS. (See "About BIOS Setup" on page 43 and "Power Menu" on page 50.)

Four conditions will cause the notebook to enter the Suspend mode:

- The Suspend Timer was timed out and the 0 Volt suspend condition is matched.
- The Power button is pressed once, briefly.
- Low battery warning has been issued and the battery is going into Low battery.
- If the temperature of the CPU should exceed the maximum allowed (this setting is dependent upon the CPU).

A Suspend Example

The time out settings for Hard Disk Off, System Standby, and System Suspend specify the amount of time the system must be inactive before the next power management level is enabled. The following example demonstrates this function.

If the Hard Disk Time-out is set to 2 minutes, the Standby Time-out is set to 8 minutes, and Auto Suspend Time-out is set to 10 minutes, the following power management events take place:

1. After two minutes of system inactivity the hard disk spins down.
2. After six additional minutes (a total of eight minutes of inactivity) the system enters Standby.
3. After 10 additional minutes in the system Standby mode, the system suspends to memory or disk.

After the system has suspended, operation can be resumed at the point in your application where it was suspended.

The amount of time that the system remains suspended depends on the amount of battery power remaining. Due to this limitation, you should always save your data before the system suspends.

Hard Drive Spin Down

The hard drive is always spinning when in use; also if left idle with the system in Full On mode. When the system is left idle for a set amount of time the drive will power down or stop spinning. This is a power savings feature set in BIOS as a default.

Batteries

Your computer comes with a rechargeable battery pack so you can operate the computer without an external power source. When the battery pack is fully charged, you can operate the computer for approximately three to four hours under the following conditions:

- The battery pack initially has a full charge.
- No peripheral devices are installed.
- The disk/CD-ROM drives run no more than 10 percent of the time.

CAUTION: ***There is a danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.***

Battery Discharge

It is a good idea to occasionally discharge the battery pack fully to preserve its operating performance. Repeatedly recharging the battery pack when it has not discharged completely can decrease the capacity of the battery pack. In the battery pack there is a GAS-GAUGE IC to record the charge/discharge status of the battery.

You can also extend the life of the battery pack by using the computer's power-saving features.

1. Disconnect the AC adapter from the external power source, then from the computer.
2. Turn on the computer.
3. Ignore the power failure signals (i.e., battery warning beeps).
4. When the battery is fully discharged (that is, when the computer goes off), attach an external power source and fully recharge the battery. The battery charge icon on the Status panel indicates when the battery is fully charged.

Recharging the Battery Pack

The installed battery pack charges automatically any time the computer is connected to the AC adapter and an external power source. The Li-Ion battery can be fully charged in about four hours when the computer is turned off.

NOTE: *It is a good idea to occasionally discharge the battery pack fully to preserve its operating performance.*

An incorrect report of the battery status may be shown due to lost data of the GAS-GAUGE IC caused by battery over-discharge. One reason for the battery to over-discharge may be that the battery has not been charged for a long time. If this is the case, a learning cycle is recommended to correct this problem.

The learning cycle is listed as follows:

1. Turn off the TransPort NX and use the AC adapter to charge the computer's battery pack to full.
2. Fully discharge and recharge the battery pack as described on page 65.
3. Remove the battery pack and check the GAS-GAUGE IC. If the indicator shows 100% capacity then the learning cycle is done. Otherwise repeat the learning cycle.
4. If after you try the second time and still fail to get the battery pack to 100% capacity, contact Micron Electronics.

CAUTION: ***Only use batteries that are provided by Micron Electronics. All batteries are not the same and therefore should not be treated as such. Using the wrong battery could cause serious damage to your computer and yourself through toxic emissions. Damage caused by a third party battery will not be covered by the computer's warranty.***

Inserting the Battery Pack

The battery pack should already be inserted in your TransPort NX computer when you unpack it. If it is not inserted:

1. Turn off the TransPort NX.
2. Open the battery bay door. Slide the battery release latch to the left.
3. Insert the battery into the empty compartment. It is designed so that it only fits one way. It should easily click into place.
4. Close the battery compartment cover.

Removing the Battery Pack

To remove the battery pack:

1. Turn off the computer.
2. Open the battery bay door. Slide the battery release latch to the left.
3. Lift the battery finger grip and pull the battery from the bay.

Figure 26. Removing the Battery Pack

Battery Power System

The TransPort NX's Li-Ion removable battery pack is found in the battery compartment. A fully charged pack will provide approximately three to four hours of battery life. The battery life can be extended by using the power management features. The battery system implements the smart battery standard which allows the battery to accurately report on the amount of usable time and charge percentage left in the battery before recharging is required.

Additional battery packs are optional equipment and can be purchased separately. Before using the computer on battery power for the first time, check the battery status icon on the Windows Toolbar to make sure the battery is fully charged. Charging the Li-Ion battery pack takes about 4 hours to charge, when the system is not in use. If possible, always charge the battery completely.

Preparing the Battery Pack for Use

Before using the battery pack for the first time, the Smart Battery IC within the battery pack should be calibrated in order to get accurate reporting of remaining battery life status. To calibrate the battery pack follow the instructions below:

1. Insert the battery into the battery compartment and turn on the TransPort NX. If the battery is completely without power go to the next step. Otherwise, let the battery run down until the battery low warning beeps are heard. The system will automatically enter **Suspend** mode.
2. Turn the TransPort NX off. Connect the AC adapter and let the battery fully recharge. When the battery charge indicator turns off, the battery is fully charged.

The battery pack is now calibrated properly. In general, using the battery until the low battery warning indicator appears and fully recharges the battery each time (full discharge/charge cycle) will ensure the accurate reporting of the battery gauge status.

Battery Status

Windows 95 and Windows 98 have an applet in the **Control Panel** that will display an icon in the Windows taskbar indicating when the TransPort NX is running on battery power or is attached to the AC adapter. This applet also displays a meter that indicates how much charge is remaining in the battery.

1. To open this program click on **Start**, then **Settings**. Click **Control Panel**.

Figure 27. Control Panel

2. In the **Control Panel**, double click **Power**. The **Power Properties** screen will appear.
3. Click the box next to **Show Battery Meter** on the taskbar to have the power icons displayed on the **Windows** taskbar.

	When the AC plug is displayed, it indicates that the AC adapter is attached to the TransPort NX.
	When the battery icon is displayed, it indicates that the TransPort NX is running on battery power.

TABLE 8. Battery Icons

4. Double click the **Battery** icon to display the following screen:

This screen indicates how much battery charge remains. If the battery charge drops below a certain voltage level, a beeping sound will prompt you to save your work and turn off the computer, or connect the AC adapter.

Battery Low Warning

When the pack initially reaches the Battery Low state approximately 10 ~ 15 minutes of the usable battery life is left. You will hear an audible beep signal every 1.5 seconds alerting you to the Battery Low status. When the battery power reaches the Battery Low status the beeping sound will accelerate. Your battery now has one to two minutes of battery charge remaining. You must save your data or connect AC power immediately; otherwise, you may lose your data.

When there is only one minute of battery charge remaining, the TransPort NX will suspend to the HDD (if a ZVHDD partition has been set) and power off. If a ZVHDD partition has not been set the TransPort NX will suspend to DRAM. You should connect AC power and resume to save your work.

Windows 95/98 has a smart battery function for changing the settings for the battery warning signals. Please consult the Windows 95/98 help for details. To extend battery power, we recommend that you make full use of the TransPort NX's built-in power saving features.

Small Battery for Real Time Clock

There is a small built-in battery pack that supplies power to the system in order to maintain certain system information while the power is off. If the TransPort NX is left without a power source for too long, this battery will be exhausted and system information will be lost. Please avoid this condition by ensuring that the TransPort NX never remains without a power source for more than ten days.

CAUTION: ***Never remove the battery pack while the power is on as this may result in data loss when the system loses power.***

Power Management Habits

While operating the TransPort NX on battery power, it is important to develop good power-saving habits to maximize battery life. Although the TransPort NX provides automatic power-saving features that can be enabled, you can still improve on them by keeping power conservation in mind.

AC Adapter

The AC Adapter's primary function is to provide power to the TransPort NX. When the adapter is connected to the computer, it provides power as long as it is plugged into an electrical wall outlet. If the AC Adapter is not functioning properly, please consult your dealer immediately for support.

Conserve Battery with AC Adapter

The most obvious way to conserve battery power is to avoid using the battery when there is an available AC power source. The AC Adapter is lightweight and compact, so it is very convenient to bring along while traveling. By using the AC adapter as much as possible, you can ensure you will have a charged battery whenever you really need it.

Screen Brightness

The brighter the LCD display screen is, the more power it requires. Avoid setting the screen brightness level higher than necessary to extend the duration of battery power.

APM Interface

In addition to the power saving features built into the resident BIOS System Configuration Utility, your TransPort NX computer also supports the Advanced Configuration and Power Interface (ACPI), an industry specification authored by Microsoft, Intel and Toshiba to enable demand-based power consumption. It allows for collection of power consumption information from the entire computer and gives complete device activity control to the Operating System, enabling it to provide power to only those devices that need it - when they need it. The functions of ACPI can:

- Lower processor clock speed when it determines that running applications do not need the CPU to run at full speed
- Control motherboard and peripheral device power consumption by turning on devices only when needed
- Regulate applications' activity through a continually updated demand analysis of running software
- Calculate and provide accurate battery life readings through use of the Smart Battery System
- Change its power management policies depending on battery life

With ACPI constantly monitoring all system activity, accounting for the TransPort NX's power consumption, and controlling all power-saving features, you will realize significant additional power savings.

Chapter Six - Optional Accessories

To expand your computing capabilities, you can add a variety of external devices to your computer. You may, for example, want to add a mouse, modem, or a printer. The computer is equipped with several interface ports, including an enhanced parallel (printer) port, a serial port, and two USB ports. These are provided as a means of connecting peripheral devices to the computer.

External Devices

You can use your TransPort NX computer with an optional external keyboard, numeric keypad, or IBM PS/2 compatible mouse. The devices are hot pluggable. You do not have to power down the TransPort NX to connect these devices.

External Keyboard

To connect an external keyboard to your computer:

1. Place the keyboard at the front of the computer or in another location appropriate for typing.
2. Plug the keyboard cable connector into the PS/2 keyboard socket on the left side of the computer.
3. Adjust the legs on the underside of the keyboard for a comfortable typing angle.

Figure 28. Connecting an External Keyboard

External Mouse

To connect a PS/2 compatible mouse to your computer:

1. Plug the PS/2 mini-din connector into the keyboard/mouse socket on the left of the computer. The mouse works immediately after being plugged in. Additionally it can be used with the internal touch pad or pointing stick.
2. After you connect a peripheral device to the serial port, secure the two small screws on the connector.

Figure 29. Connecting an External Mouse

NOTE: *You cannot use the touch pad and a serial mouse at the same time. In order to use a serial mouse, first disable the touch pad, then enable and configure the mouse as specified by the manufacturer. Please refer to the "Hot Key Controls" section in "Chapter Two - System Features" , and the Internal PS/2 device section in "Chapter Three - Running BIOS Setup." If you wish to run a PS/2 keyboard and mouse at the same time, please contact Micron for a splitter cable.*

External Monitor

You can connect a TV monitor to the TransPort NX's S-Video port and view the TransPort NX's video output. The TV Out port accommodates a Mini DIN type connector. To connect the external monitor:

1. Plug the monitor's power cable into a wall outlet.
2. Before you turn on the monitor, turn on your computer and use the System Setup to designate the screen(s) that you want to use.

3. Turn on the monitor and adjust the monitor stand so that you have a good viewing angle of the screen.

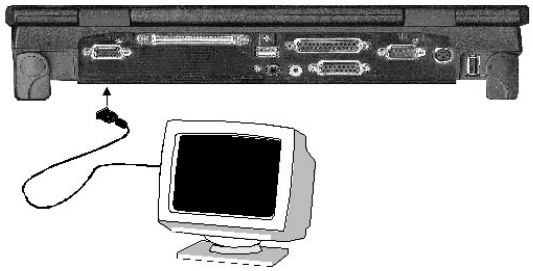

Figure 30. Connecting an External Monitor

External Printer

Your TransPort NX computer is equipped with an enhanced bi-directional parallel port. Use the parallel port to connect the computer to a printer or plotter. The parallel port is the most widely used interface on personal computers because it usually does not require setup commands or special configurations on either the computer or the peripheral device. After you connect a peripheral device to a parallel port, secure the two small screws on the connector.

Serial Devices

The rear panel of the TransPort NX computer has a standard RS-232C serial interface port. Use the serial port to connect a peripheral device that can both input data to the computer and receive data from the computer. Serial ports are widely used on everything from mainframe computers to display terminals and modems.

The serial port on the rear panel is designated COMA. The COM port designation is a conventional way to tell your software which I/O (input/output) address to use in order to send and receive data. These I/O addresses are defined by IBM in their Technical Reference manuals, and are understood by all popular software manufacturers.

Audio Sources and Output Devices

The built-in audio features of your TransPort NX let you record and play back sound from a variety of sources. These features include:

- PCI stereo sound that supports Microsoft Windows, Microsoft Sound System, and most programs that use the SoundBlaster Pro standard.
- The ability to perform real-time recording with compression and decompression.
- Scalable sampling rate (from 4 to 48KHz) and compression ratios that give complete control of record time to required storage ratio.
- 3-D positional audio DirectX™.
- Digitally controlled volume with muting.
- Auxiliary line-in and speaker line-out for maximum flexibility.
- Built-in microphone and speaker to enhance portability.

To adjust the volume of your internal speakers or speakers attached to the stereo speaker port, use the volume controls found in your application or in the Windows Volume Control accessory.

Your computer comes with several software utilities and programs already installed. Among these is a group of programs which let you control the computer's various audio capabilities.

Universal Serial Bus

The Universal Serial Bus (USB) has a total bandwidth of 12Mb per second. Up to 127 devices can be attached in a daisy chain fashion. For example, a USB keyboard or monitor could host several ports for additional devices. It is expected to be used for devices such as the mouse, keyboard, printer and scanner.

USB Devices

You may optionally purchase a USB (Universal Serial Bus) device for your TransPort NX computer. USB devices such as mice, keyboards, and monitors are becoming more widespread throughout the computer industry.

The USB bus has a total bandwidth of 12Mb per second. Up to 127 devices can be attached in a daisy chain fashion. For example, a USB keyboard or monitor could host several ports for additional devices. It is expected to be used for devices such as the mouse, keyboard, printer and scanner.

LS-120 Drive

LS-120 is also referred to as the next generation FDD since it's backward compatible (you can read all your old 3.5" FDD's in the LS-120) and you can save 120MB on a special LS-120 diskette. The speed is five times faster than the FDD.

Zip Drive

ZIP drives are very popular in desktop computers as well as external units for older notebooks. Your notebook can have this drive built-in. The ZIP drive is 20 times faster than a FDD and can store 100 to 250MB on a ZIP diskette. Note that floppy diskettes cannot be read in the ZIP drive. Contact your notebook dealer if you would like a ZIP drive for your TransPort NX.

Optional Fax/Modem

This 56K/33.6Kbps FAX/DATA modem connects your computer to all popular high-speed modems available today. Your new modem is compatible with systems for simplified installation and configuration. This section describes the hardware installation procedures for your new modem. Additional information on AT commands and S-registers is provided so that your system can be customized for your particular operating environment. See “Appendix D - Fax/Modem Information” on page 143.

If your TransPort NX does not have a pre-installed fax/modem and you wish to install one, you need only follow these simple instructions:

1. Open the palmrest of the TransPort NX. On the left will be an empty space for the fax/modem.

WARNING: **Always disconnect the faxmodem from the telephone system when installing or when the palm rest is open.**

2. Make sure the notebook is turned off and remove battery and power cords.
3. Insert the fax/modem with the connector facing the connector in the TransPort NX.

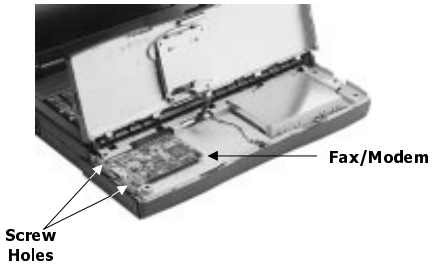

Figure 31. Installing a Fax/Modem

4. Attach the metal cover to protect the fax/modem. It should line up with the screw holes against the left side.
5. Close the palmrest and reinsert battery and power cords.

Optional Port Replicator

The port replicator is designed to give your notebook computer the expendability and connectivity of a desktop computer, without sacrificing convenience.

Figure 32. TransPort NX "docked" with Port Replicator

Operating Environment

To enhance its reliability, this product must operate as intended in the face of typical environment conditions. Our major task is to prevent equipment damage and to minimize any malfunctions.

- Do not leave in a place where foreign matter or moisture may enter the system.
- Do not subject to shock or vibration.
- Avoid exposer to excessive heat or direct sunlight.
- Avoid exposer to strong magnetic fields.

Features

When the notebook computer is connected to the port replicator, the system has the following features:

- One Serial Port
- One Parallel Port
- One VGA Port
- One PS/2
- Two USB Connectors
- One Game/MIDI Port
- One DC-IN Connector
- One TV In Connector
- One TV Out Connector
- Headphone out jack
- One 10/100 Base T Ethernet connector

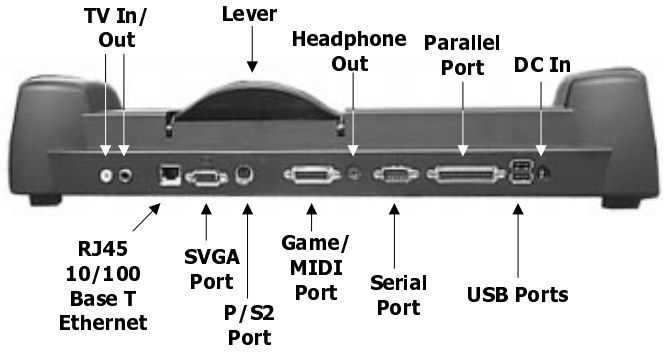

Figure 33. Port Replicator Features

Connecting The Port Replicator

The notebook computer connects to the 204-pin connector on the front of the port replicator.

1. Turn off the notebook computer power.
2. Disconnect all peripheral accessories.
3. Plug the DC adapter into the DC IN connector on the back of the port replicator.
4. Place the port replicator in a location that is convenient for using the computer.
5. From your notebook's rear panel, open the small door covering the port replicator connector and fold it down.
6. Locate the two position guides (holes) at the bottom edge of the notebook computer and align them with the pegs of the port replicator.

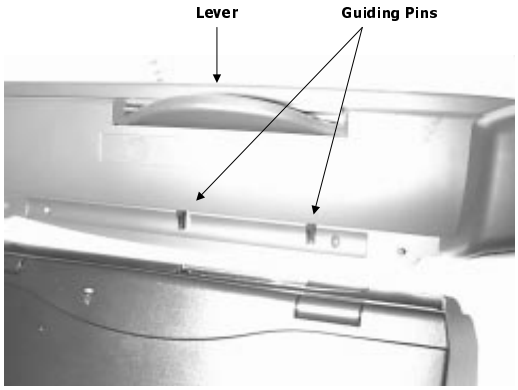

Figure 34. Connecting the Port Replicator

7. Once both of them are aligned properly, press the notebook computer downward to fully attach it to the port replicator.
8. Push down on the lever arm to plug the 204-pin port replicator connector into the computer connector.

Cold Dock

Press the Power/Suspend/Resume button to turn on the computer.

Disconnecting the Port Replicator

To remove the computer from the port replicator pull up the lever arm up to release the TransPort NX.

NOTE: *Before doing this, be sure that the notebook and port replicator internal components are completely disconnected.*

Disconnecting by Software Application

PROCEDURE ONE:

Click on the **Start** button and select the **Eject PC** option to disconnect the two units. The notebook computer will enter the **Suspend Mode**. Pull up the Lever Arm to totally disconnect the two units.

Figure 35. Start Menu

PROCEDURE TWO:

Press the [FN]+[F10] buttons to enter **Suspend Mode**. Pull up the Lever Arm to totally disconnect the two units.

WARNING: ***Do not detach the notebook computer and port replicator by force or when the notebook computer is still running any applications.***

Manually Disconnecting the Port Replicator

After the internal components are completely disconnected, you are now ready to separate the notebook computer and port replicator manually by following the steps below:

1. Pull the lever arm up to completely separate the notebook computer and the port replicator.
2. Lift the notebook computer up and away from the guiding bars of the port replicator.

DVD Installation

The following section will help you setup and utilize your new DVD hardware. Please follow these instructions carefully.

NOTE: *If you purchased your TransPort NX with DVD, all this has already been setup and configured for you.*

For best DVD performance we recommend that you disable all Power Management features in the BIOS and Operating System.

WARNING: ***Using the RCA-video out function with the DVD drive to a television is not recommended and will not be supported. You may experience degraded video display quality on the television in this mode.***

Removing the CD-ROM

1. Remove the CD-ROM drive from the bottom of your TransPort NX by sliding the small tab on the bottom of the notebook, and gently pull out the DVD-ROM. For more detailed instructions see “Removing the CD-ROM Drive” on page 57.
2. Insert the DVD-ROM drive into your TransPort NX where the CD-ROM drive just came out of; open the LCD assembly and power on your TransPort NX.
3. Once Windows 95/98 has loaded, insert your Microns Electronics MCRC CD into the DVD-ROM drive, select the DVD icon, and follow all the instructions carefully.

WARNING: ***Using the RCA-video out function with the DVD drive to a television is not recommended and will not be supported. You may experience degraded video display quality on the television in this mode.***

Chapter Seven - Software Utilities

MRestore CD-ROM

Included with your notebook computer is a CD-ROM titled MRestore. This CD is only functional with Micron systems with an approved Micron BIOS.

Include on this CD-ROM are the following:

- The MCRC (Micron Customer Resource Center)
- Drivers (with instructions)
- A bootable option to access basic DOS functions, such as disk, format, etc.
- Drive Image / PartitionMagic / Drive Copy by PowerQuest
- Drive Image manual/user's guide (more comprehensive than space allows within this guide). These may or may not reflect the actual package that you have; other applications may or may not be referenced.

MCRC (Micron Customer Resource Center)

Use this CD to install drivers one at a time. It is a program that can only be used from within Windows. This CD is needed to load any drivers that are not shipped installed on the notebook as a default (such as DVD).

To use the MCRC, boot your system to its current operation system (such as Windows 95/98), insert the MCRC CD and follow all instructions.

NOTE: *All drivers are pre-installed and tested by Micron. You will not have to run this CD unless you are experiencing problems with your system or if you have recently reinstalled the operation system.*

PartitionMagic

Partition magic software is the provided to you so that you will have a method of storing an image if no other means of storage are available. PartitionMagic can only be run from a DOS level. The object of this software is to create partitions and move them to an appropriate size for your needs. It also converts them with different fat tables. This software becomes very useful when there is no location for your storage. This is a brief overview of what is thoroughly contained in the PDF located in the:\pqtools\userinfo directory on the CD.

Drive Image 3.0

Drive Image is for PC users who want a fast, complete solution for system backups and recovery. With Drive Image you can easily create and store a compressible image of the entire hard drive or individual partition on a Jaz, Zip, secondary hard drive, or other removable media device. The image can then be restored from the source and used for complete operating system, application and data recovery.

NOTE: *Currently, Drive Image does not support creating image files directly on CD-R or tape drives. You must first save image files to a supported source (hard drive, Zip drive, etc.), then copy them to CD-R or tape. Drive Image can, however, directly restore image files from CD-R.*

Furthermore, image files can only be saved to devices that have a valid drive letter. While Drive Image includes some device drivers (such as Zip), the user is primarily responsible for loading the necessary drivers for their data storage devices so that DOS can correctly assign drive letters (such as USB Zip or 2 Gig JAZ).

Drive Image also includes other useful features such as the ability to resize partitions, disk to disk copying for upgrading to a larger hard drive, and file systems error and bad sector checking to prevent copying problems.

Drive Image supports the file systems of all versions of Windows 95/98, Windows NT, Windows 3.x, DOS. And OS/2 including FAT32, FAT32X, NTFS, and HPFS partition types. Because Drive Image understands the internal structure of these file systems, partition resizing and fast SmartSector copying can occur.

Drive Image provides limited support for NetWare, Linux, UNIX and other partition types. However, Drive Image copies such partitions sector by sector—and does not resize them on the destination drive—making the image file creation and restore process for these file systems more time consuming. Additionally, internal disk location references are not modified on the destination drive. This may make these partitions unbootable or otherwise inaccessible.

Drive Image is a DOS-based program that can be run from the hard drive in DOS or MS-DOS mode or from a CD after booting DOS. Because multi-tasking operating systems like Windows 95/98 and Windows NT operate with open files on the hard drive, it is necessary to run Drive Image from DOS so that image files are an exact copy of your hard drive. Only by running DOS is the hard drive completely inactive with no open files.

Drive Image Professional

If you want the absolute fastest way to clone workstations, a Drive Image Professional version is available for use on multiple PCs. For more information contact Power Quest sales at 801-226-8977 or visit their web site at http:www.powerquest.com. For upgrades only, call PowerGuest.

NOTE: *The complete manual for Drive Image is available on the MRestore CD, in the* ***PQtools\userinfo****. folder.*

Drive Image System Requirements

Hardware/Software	Minimum	Recommended
Processor	Intel 386SX	Intel 486 above
RAM	8 MB (16MB required for FAT 32 or NTFS)	32 MB (48 MB for FAT 32 partitions larger than 6 GB)
3.5 inch diskette drive	None	None
CD-ROM	Any speed	Any speed
Hard drive free space	5 MB	5 MB
Operating System	Windows 3.x, 95/98, NT, DOS 5.0, OS/2*	Windows 3.x, 95/98, NT, DOS 5.0, OS/2*
Monitor	VGA	SVGA
Pointing Device	No pointing device is required to operate Drive Image	Microsoft mouse (or compatible pointing device)

TABLE 9. Drive Image System Requirements

* For Windows NT and OS/2 users, Drive Image must be run from a bootable floppy or CD.

Creating Image Files

If you create an image on one machine and you wish to restore the image on a machine with a different configuration (for example, a different motherboard or video card), the operating system may not boot correctly. Therefore, we recommend imaging and restoring to identical hardware configurations.

Any discussion of hard-disk imaging assumes that the software, including the operating system, is being copied in accordance with the license agreement with the software manufacturer.

1. You must disable virus protection in the BIOS before creating an image file. If virus protection is enabled, Drive Image will hang after you click **Finish**.
2. Before running Drive Image, use a disk utility program such as ScanDisk or Norton's Disk Doctor to identify and repair any errors on your hard drive. NT users should run CHKDSK /F.
3. You may also choose to run a disk defragmenting utility to further optimize your hard drive.
4. At the Drive Image main screen, click **Create Image**.

Figure 36. Drive Image Main Screen

5. If you have more than one hard drive, select the drive that contains the partitions you wish to include in the image file. A check appears to the left of the selected drive.

Figure 37. Drive Image Select Source Screen

6. Click **Next**. At any point prior to actual image file creation, you can click **Back** to return to the previous step and change your settings.
7. Select the source drive partition you wish to include in the image file, or click **Select All** to automatically select all partitions. A check appears to the left of the selected partitions.

NOTE: *For best results in creating your image, you should include the Save to Disk partition as well as the other partitions you wish to back up. Save to Disk is necessary for Power Management features.*

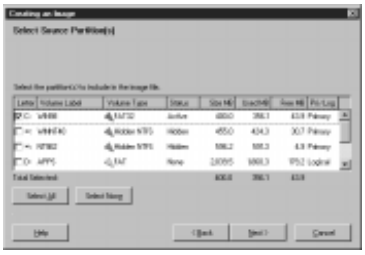

Figure 38. Drive Image Select Source Partitions Screen

To deselect partitions, click again on a partition or click **Select None** to deselect all partitions at once. The **Total Selected** field displays the disk space for all selected partitions, as well as the total used and free space within the partitions.

8. Click **Next**. Type the desired path and image filename in the **Image File** field, for example: **D:\MYIMAGE.PQI**. Make sure there is no existing file with the same name, unless you want the existing file to be overwritten.
9. You must save your image file to a partition, or other location that you are not including in your image file. Drive Image uses.PQI as the default image filename extension. You can also click **Browse** to browse the directory tree for your desired path or filename. You can save your image file to any physical or logical drive which has a drive letter. That includes floppy drives, secondary

hard drives, network drives, and removable media storage devices such as Jaz, Zip, MO, and SyQuest drives. Network drives must be visible as a drive letter.

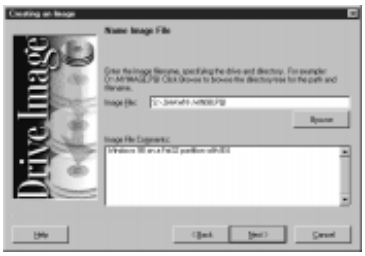

Figure 39. Drive Image Name Image File Screen

10. (Optional) Type brief comments in the **Image File Comments** field. Click **Next.** Select the desired compression level.
    - No **Compression** is usually the fastest method for creating an image file and is useful if storage space is not an issue. However, if you are saving your image file to a busy network drive or to a relatively slow removable media device, high compression may be faster than no compression since there is less data to write to the file.
    - **Low** compression offers a 40% average compression ratio.
    - **High** compression offers a 50% average compression ratio.

Figure 40. Drive Image Compress Image File Screen

In general, compressed image files created with new versions of Drive Image are not compatible with earlier versions.

11. Click **Next**. Drive Image displays all the information you have entered to this point:
    - Source Drive
    - Source Partitions (partitions to be included in the image file are marked with an “X”)
    - Image Filename
    - Compression Level

Figure 41. Drive Image Ready To Create Image File Screen

To modify any settings, click **Previous.**

12. Click **Advanced Options** to set such options as disabling file system error-checking or password-protecting your image file.
13. Click **Finish** to begin creating the image file.If you entered a name of a current file, Drive Image displays a message that <*path and filename*> already exists. You can replace the existing file or choose a new filename. If Drive Image detects that you are saving your image file to removable media, it enables a media-spanning feature that spreads the image file over a series of disks. You must have at least 100K of available space on each disk in the series.

If you use the media-spanning feature, be sure to number the media in order, since you must insert them in sequence when restoring the image file. The **Creating the Image** dialog appears.

Figure 42. Drive Image Creating The Image Screen...

Upon completion, the following message appears: "Image was copied successfully to file: <*image filename*>."

14.Click **OK** to return to the **Drive Image** main screen.

Advanced Options

The **Create Image Advanced Options** dialog box appears when you click **Advanced Options** at the **Ready To Create Image File** screen.

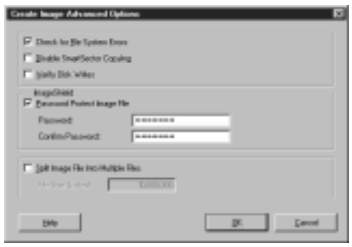

Figure 43. Drive Image Create Image Advanced Options

Clear the **Check for File System Errors** check box if you want to disable file system error checking.

If you have already used a disk utility program such as ScanDisk to check your hard drive for errors, it is not necessary to have Drive Image check for file system errors. Clearing **Check for File System Errors** saves time in creating the image file. If you did not run a disk check utility program before loading Drive Image, leave the **Check for File System Errors** check box selected.

Disable SmartSector Copying

Drive Image's SmartSector technology speeds up the imaging process by only copying clusters and sectors which contain data. However, in some cases, such as high-security environments, it may be desirable to copy all clusters and sectors in their original layout, whether or not they contain data.

To copy both used and unused clusters and sectors, click **Disable SmartSector Copying.** Disabling SmartSector copying increases processing time and the size of the generated.PQI file.

Verify Disk Writes

Click **Verify Disk Writes** if you want to enable DOS disk write verification.

Disk write verification is not critical to safely create image files. Enabling disk write verification can slow the image file creation by as much as seven times.

ImageShield

To password-protect your image file, click **Password Protect Image File** and type a password in the Password field.

NOTE: *Note image file passwords and store them in a safe place. If you forget an image file's password, you cannot restore the file.*

Split Image File Into Multiple Files

Sometimes it is useful to force Drive Image to split a large image file into smaller files. To do so, click **Split Image File Into Multiple Files** and enter the maximum byte size for each file in the File Size (bytes) field. If you wish to save the files to CDs, specify a file size of 650,000,000 bytes (650 MB) or less.

Restoring Image Files

- If you are restoring an image file to set up a new hard drive on a machine with a BIOS older than 1994, see "Using Drive Image with Drive Overlay Software" in the Drive Image manual on the MRestore CD, located at **PQtools\userinfo**.
- To restore selected files from a compressed or spanned image file, see "Restoring Files from Spanned or Compressed Images" in Drive Image manual included on the MRestore CD.

To restore an image file to a different drive or partition:

1. Ensure that virus protection is disabled in the BIOS. If virus protection is enabled, Drive Image will hang when you click **Finish** at this end of this procedure.
2. Start Drive Image, then click **Restore Image.**
3. In the **Image File** field, enter the path and filename of the image file you want to restore, or click **Browse** to select the path and image file.

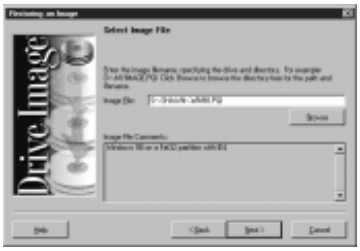

Figure 44. Drive Image Restoring An Image Screen

4. Click **Next**. At any point prior to actual image file restore, you can click **Back** to return to the previous step and change your settings.
5. If you have more than one partition, you can select the partitions you want to restore. Select the image file partitions, or click **Select All.** A check appears to the left of the selected partitions.

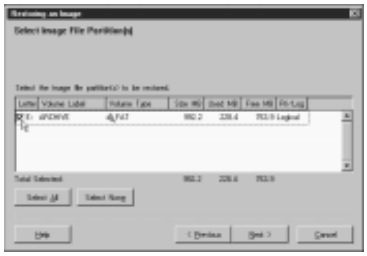

Figure 45. Drive Image Resize Partitions Screen

6. To deselect partitions, click again on a partition or click **Select None.**The **Total Selected** field keeps a running total of the disk space for all selected partitions, including total used and free space.
7. Click **Next**. If you have more than one hard drive, select the drive where you want to restore the image file.

Figure 46. Drive Image Restoring An Image File Screen

8. Click **Next**.
9. Select an existing partition or free space (non-partitioned disk space).

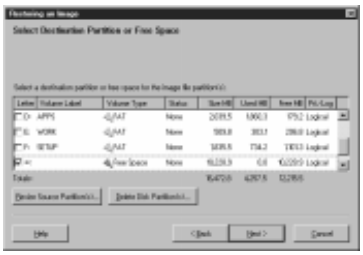

Figure 47. Drive Image Restoring An Image File (Select Destination) Screen

10. If the destination partition or free space is not large enough to accommodate the partitions you wish to restore, or if you are restoring the image file to a larger drive and want to set a specific size for partitions rather than use the proportional resize option, you may want to resize the partitions. If this does not apply to you, go to Step 17 on page 94.

11. Click **Resize Source Partitions.** The **Resize Partitions** window displays.

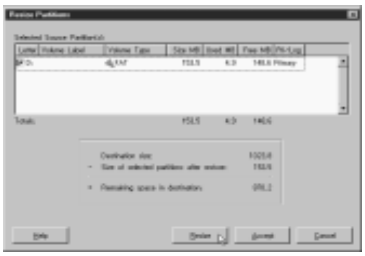

Figure 48. Drive Image Resize Partitions Screen

The **Selected Source Partitions** group box displays the partitions you selected to restore. The **Totals** field displays the disk space for the source partitions. A formula box below the **Totals** field displays:

- Destination Size
- Current Size of Selected Partition
- Remaining Space in Destination

12. Click **Resize.** The **Resize Partition** window appears. The **Maximum Size** field displays the largest possible size the source partitions can have and still fit in the destination space. The **Minimum Size** field shows the smallest possible size the source partitions can occupy.

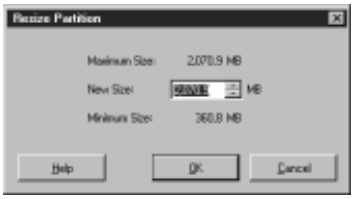

Figure 49. Drive Image Resize Partition (New Size) Screen

13. In the **New Size** field, enter a number that is less than the **Maximum Size** and greater than or equal to the **Minimum Size.**

14. Click **OK.** Since partitions must end on a cylinder boundary, Drive Image rounds the New Size up to the next cylinder boundary.
15. Click **Accept**. Later, when you restore the image file, Drive Image resizes the partition.
16. Click **Next.** If you selected an existing partition as the destination, the following message appears.

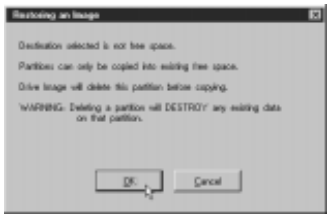

Figure 50. Drive Image Restoring An Image (Warning) Screen

Drive Image does not delete the partition until you click **Finish** on the **Ready to Restore Image File** screen. If the free space on the destination drive is greater than the space required to restore the selected partitions, the **Resize Options** dialog appears. For more information, refer to the Drive Image manual, available on the MRestore CD. The **Select Disk Write Mode** dialog box appears.

Figure 51. Drive Image Restoring An Image (Select Disk Write Mode) Screen

17. Click the disk write mode you want.
    - **Fast** is the quickest way to restore an image.
    - **Safe** checks for bad sectors and enables DOS disk write verification. You can also enable the safe options independently using the Advanced Options button in Step 19. For example, if you want to enable DOS disk write verification but not check for bad sectors, you can use Advanced Options instead of clicking **Safe** mode in this dialog box.
18. Drive Image displays all the information you have entered to this point. To modify any settings, click **Back.**

Figure 52. Drive Image Restoring An Image (Ready to Restore Image) Screen

19. If you wish to enable bad-sector checking or turn on DOS disk write verification, click **Advanced Options**.

NOTE: *Restoring multiple logical partitions can cause the drive letters of subsequent partitions to change. This may make the computer unbootable or cause applications to fail.*

20. Click **Finish** to begin restoring the image file.
21. If you assigned a password to the image file when you created it, the **Get Image File Password** dialog appears. You must enter the correct password in order to restore the image file.

The **Restoring the Image** dialog appears, tracking the following items:

- Image filename
- Estimated megabytes to restore
- Total megabytes copied
- Entire process progress bar
- Information about current partition (volume, type, size MB, used MB, free MB)
- Sub-process progress bar
- Transfer rate for current partition
- Total megabytes copied for current partition
- Time elapsed
- Estimated time remaining

Upon completion, the message “Image was restored successfully” appears.

22.Click **OK** to return to the **Drive Image** main screen.

Resize Options

The following options are available when restoring partitions if the free space on the destination drive is greater than the space required by the partitions.

- **Automatically resize partitions proportionally to fit.** Click this option to allow Drive Image to automatically expand the partitions in equal proportions to occupy the destination drive’s remaining free space.
- **Leave remaining free space.** Click this option if you want to leave any remaining free space unused on the destination drive after the partitions are restored.
- **Resize partitions manually to fit.** Click this option to display the **Resize Partition** window where you can manually set the size of the partitions to fit in the destination drive’s remaining free space.

Advanced Options

At the **Ready To Restore Image File** screen, click **Advanced Options** to access the following.

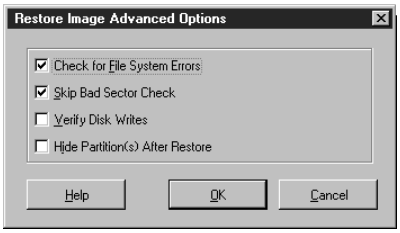

Figure 53. Drive Image Restore Image Advanced Options Screen

Check for File System Errors

Clear the **Check for File System Errors** check box to disable file system error checking. If you have already used a disk utility program such as ScanDisk to check your hard drive for errors, it is not necessary to have Drive Image check for file system errors. Clearing this option saves time in restoring images. Note that Drive Image cannot restore partitions with file system errors.

Skip Bad Sector Check

To save time in restoring the image file, set this option. Although most drives do not have bad sectors, the potential for problems increases during the lifetime of the hard drive. If you have an older hard drive, it is wise to enable bad-sector checking.

Verify Check Writes

Click **Verify Disk Writes** if you want to enable DOS disk write verification. Disk write verification is not critical to safely restore image files. Enabling disk write verification can slow the image restore process by as much as seven times.

PartitionMagic

Imagine how disorganized your office would be if you kept all your files in one drawer. Surprisingly, this is similar to the way many people organize the space on their hard disks. With PartitionMagic, you can quickly and easily create separate “file drawers,” or partitions, on your hard disks for storing valuable information such as data files, applications, and operating systems. Storing information in separate partitions helps you organize and protect your data, safely run multiple operating systems, and reclaim wasted disk space.

PartitionMagic enables you to secure your data by physically separating it from other files. Separate partitions also make backups to networks and removable drives easy.

Because of limitations with the FAT file system which is used by many popular operating systems such as DOS and Windows 95, as much as 40 percent of your hard-disk space can be wasted. PartitionMagic reclaims wasted space quickly and safely by using more efficient partition sizes. It can also convert FAT partitions to FAT32 and vice versa. With Windows NT you are required to use the convert program provided by the operation system.

With PartitionMagic, partitioning your hard disk has never been easier.

NOTE: *We recommend creating an image file before installing or changing anything on your system.*

In the **PartitionMagic** main window, the menu bar and a toolbar appear at the top of the window. The menu bar gives you access to all of PartitionMagic's features, while the toolbar gives you quick access to commonly-used options.

Partition Information

The partition area displays information about the selected hard disk's partitions. It consists of two areas: the partition map, which displays information graphically; and the partition list, which displays partition information in text form.

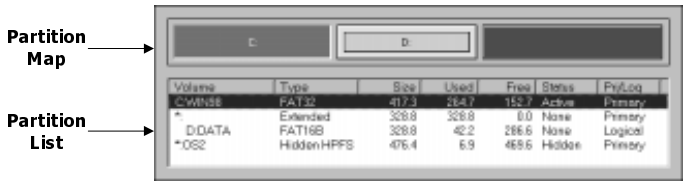

Figure 54. Drive Image Partition Information

Partition Map

The partition map shows the partitions approximately to scale. Each partition is represented by a different color according to the file system it uses. If the selected hard disk contains logical partitions, the logical partitions are shown within an extended partition.

Partition List

The partition list displays the following information about each partition: drive letter, volume label, file system type, size, amount of used and free space, status, and whether the partition is a primary or logical partition.

Primary partition drive letters are flush left, followed by a colon and the volume name. Logical partition drive letters and volume labels are indented. An asterisk (*) appears in place of a drive letter for:

- Hidden partitions
- Extended partitions
- Partitions with file systems not supported by the active operating system
- Free space

The partition size, used space, and free space values are displayed in megabytes.

A partition's status can be:

- Active: The partition the computer boots from.
- None: Partitions that are not active or hidden.

You can navigate PartitionMagic using the mouse or the keyboard.

The partition size, used space, and free space values are displayed in megabytes.

To navigate using a mouse, position the mouse pointer on the item you want to select and click the primary (usually the left) mouse button. This action is simply referred to as "clicking" or "click." While you can make most of your selections using the mouse, a few options require you to type information.

By positioning the pointer on a partition in the partition map or on the partition list and clicking the secondary (usually the right) mouse button, you can display a context menu containing the Operations menu options. This action is simply referred to as "right-clicking" or "right-click." To select an option on the context menu, click the option.

PartitionMagic Help

While using PartitionMagic, you can quickly get both comprehensive and context-sensitive help when you need it. PartitionMagic's comprehensive online Help system provides in-depth information on PartitionMagic's features as well as step-by-step instructions on performing specific tasks.

To access Help, click **Help** > **Contents** on the menu bar in the **PartitionMagic** main window. The **Help Contents** page organizes the Help system into books and pages.

NOTE: *Some help topic reference applications are not available with MRestore CD.*

ReadMe File

README.TXT is an invaluable resource for the most current information at the time the product shipped. It includes information that may have changed since this guide was printed, corrections to the manual or help system, and information specific to installation or configuration issues.

Completing Tasks Manually

To manually complete a task, follow this general four-step process:

1. Select a hard disk.
2. Select a partition.
3. Select an operation.
4. Apply changes to your system.

Selecting a Hard Disk

The **Disk** option on the toolbar displays the currently selected disk and its size in megabytes (MB).

To select a disk:

On the toolbar, click the arrow button to the right of the currently selected disk to open a drop-down list of all the disks on your system, and then click the disk you want to select.

OR

On the menu bar, click **Drives** and then select a disk.

NOTE: *Drives does not appear on the menu bar unless you have multiple hard disks.*

Selecting a Partition

The selected partition is highlighted in the partition list.

To select a partition:

Click the partition in the partition list or on the partition map.

When you manually complete a task, you most often use the Operations menu. After you have selected a disk and a partition, you can select an operation using the toolbar, the context menu, the menu bar, or the keyboard.

NOTE: *If an operation cannot be performed on the selected partition, the operation is unavailable.*

To select an operation,

On the toolbar, click the **Operations** button.

When you place the pointer on a toolbar button, a pop-up window appears describing the button's function.

OR

In the partition map or partition list, right-click the partition you want to change, and then click the desired operation from the context menu.

OR

On the menu bar, click **Operations** then choose the desired operation.

Applying Changes to Your System

As you complete tasks using the Operations menu, the partition map and partition list reflect the changes you have made. However, no changes physically take place on your system until you apply them.

You can tell when changes have been made but not yet applied to your system when: (1) the Apply option appears in the main window, and (2) the status box in the lower right corner of the main window indicates that operations are pending.œ

To apply changes to your system, click **Apply** or click on the toolbar. If you wish to discard the changes and start over, click on the toolbar.

You can also apply and discard changes using the **General** menu.

Changing PartitionMagic Preferences

From the General menu, you can change various program preferences. Each preference is a toggle and, like a light switch, is either on (enabled) or off (disabled). A check mark next to a preference indicates it is enabled.

System supports FAT32 indicates whether the current operating system supports FAT32 partitions. Windows 95 OEM Service Release 2, Windows 98, and Windows NT 2000 support FAT32 partitions; other operating systems do not.

This preference lets you create FAT partitions with 64 KB clusters, which enables Windows NT to support large hard disks. Because DOS, Windows 3.x, Windows 95, and Windows 98 do not support cluster sizes larger than 32 KB, you should never access a 64 KB partition using these operating systems. You should only use 64 KB partitions with Windows NT.

NOTE: If you are using multiple operating systems, we recommend not using 64 KBclusters.

To prevent you from inadvertently creating partitions with 64 KB clusters, this preference is disabled every time you exit PartitionMagic.

When enabled, the 64 KB cluster size is available in the **Resize/Move Partition** and **Resize Clusters** dialogs.

To enable or disable this preference:

1. In the main window, click **General > Preferences.**
2. Click **Allow 64K FAT** Clusters for Windows NT.
3. Click **OK.**

Ignore OS/2 EA Errors on FAT

This preference tells PartitionMagic whether or not to ignore OS/2 Extended Attribute errors when it checks a FAT partition.

WARNING: ***If OS/2 is on your computer, do not enable this preference. Data loss could occur because problems might go undetected.***

To enable or disable this preference:

1. In the main window, click **General > Preferences.**
2. Click **Ignore OS/2 EA Errors on FAT.**
3. Click **OK.**

Skip Bad Sector Checks

When PartitionMagic modifies partitions, it performs extensive testing to detect bad sectors on your hard disk. Newer disk types (such as Enhanced IDE and SCSI) often handle bad sectors internally, making such testing superfluous. For this reason, PartitionMagic lets you bypass these tests with **Skip Bad Sector Checks.** When this preference is enabled, the Resize/Move, Create, Copy, and Format operations run faster.

WARNING: ***If you skip bad sector checks and your hard disk has bad sectors, data loss can result.***

PartitionMagic lets you set this preference individually for each of your hard disks. If your system has an older disk and a newer one, you could check the older disk and skip the newer one. A check mark next to a disk means to skip bad sector checking for that disk.

To enable or disable this preference:

1. In the main window, click **General > Preferences.**
2. In the **Skip bad sector checks box**, click the box next to the disk(s) you want enabled or disabled.
3. Click **OK.**

Set as Read-Only for PartitionMagic

This preference lets you prevent PartitionMagic from making any changes to a hard disk. Exceptions include if the disk contains the boot partition, some files may be changed, such as the Windows NT boot initialization file.

You can set this preference individually for each of your hard disks.

To enable or disable this preference:

1. In the main window, click **General > Preferences.**
2. In the **Set as Read-Only for PartitionMagic box,** click the box next to the disk(s) you want enabled or disabled.
3. Click **OK.**

Creating Partitions

The Create operation lets you create primary partitions, extended partitions, and logical partitions. On a single hard disk, you can have up to four primary partitions or three primary partitions and one extended partition. Within an extended partition, you can create unlimited additional subdivisions called logical partitions.

Generally, you should create primary partitions to install operating systems and logical partitions for all other purposes, such as storing data and applications. If you have multiple hard disks, you can improve speed by installing operating systems and applications on separate disks. If you do not know what type of partition you want to create, see “Understanding Partitions” in Basic Concepts in the PDF version of the complete manual, located on the MRestore CD at **PQtools\userinfo**.

To create a partition, free space must exist on the hard disk. If there is none, use Resize/Move to make partitions smaller and adjust their location until the free space is in the desired location.

Always make sure the bootable partition is at the far left.

Creating a new partition can make your drive letters change, causing applications not to run because application shortcuts, initialization files, and registry entries refer to incorrect drives.

NOTE: *If using NT you must use the current Operating system conversion method to convert to NTFS. This can be done from within in the OS in a DOS window (at the prompt, type Convert C:\FS:NTFS). Once you have gone to NTFS it is not possible to convert back to FAT or FAT32. Recovery from this is reinstallation of the OS using a FAT table system.*

Creating Bootable Partitions

Before creating a partition where you plan to install an operating system (a bootable partition), you should understand the information outlined in the following table.

Operation System	Boots from Primary or Logical	Supported Partition Types	Boot Code Boundary	Space Required
DOS 6.22 and earlier	Primary	FAT	2 GB	8 MB
Windows 95	Primary	FAT or FAT32**	8 GB	90 MB
Windows 98	Primary	FAT or FAT32	8 GB	175 MB
Windows NT	Primary*	FAT or NTFS	2 GB	117 MB
Linux	Either	Linux Ext2	8 GB	250 MB
OS/2	Either	FAT or HPFS	4 GB	110 MB

TABLE 10. Bootable Partitions

* Windows NT must boot from a primary partition on the first drive. However, only a few NT files must reside on that partition; the remaining files can reside on a logical partition, which can be located on the first or a subsequent drive. The NT boot partition can be shared with another operation system. Additionally, NT must be installed on a FAT partition. During the installation, you can convert the partition to NTFS.

WARNING: ***When you create, move, or resize a bootable partition, the partition must begin below the boot code boundary specified in Table 10 in order for the operating system to boot. With the exception of DOS 6.22 (or earlier) and OS/2, partitions beyond 8 GB are visible to the current operating system. For more information, see "Understanding the BIOS 1,024 Cylinder Limit" and "Understanding the 64K Boot Code Boundary" in Basic Concepts in Help.***

PartitionMagic displays a warning if you attempt to create, move, or resize a bootable partition outside of the boot code boundary. If you continue with the operation, you may not be able to boot or to see the partition. In either case, you can resolve the problem by moving the partition back within the boot code boundary. In most cases this is not a problem. Always create an image before changing your configuration.

To Create a Partition

To create a partition:

1. From the **Disk** drop-down list (located on the toolbar), select the disk where you wish to create the new partition.
2. On the partition map or in the partition list, select a block of free space.If no free space exists, you must resize or delete an existing partition to create free space.
3. On the toolbar, click **C:**. The **Create Partition** screen appears.

NOTE: *You can also click **Operations > Create** on the menu bar or right-click the free space and click **Create** on the **Context** menu.*

4. In the **Create as** box, click **Logical Partition** or **Primary Partition.** If you select **Logical Partition**, PartitionMagic automatically creates an extended partition to enclose the logical partition, or, if you already have an extended partition, resizes the extended partition larger to encompass the logical partition (the free space must be inside of or adjacent to the extended partition). If **Logical Partition** is unavailable, you may already have four primary partitions on the hard disk. Or, if you have an extended partition, you may not have selected a block of free space inside of or adjacent to the extended partition.

5. From the **Partition Type** drop-down list, select the desired file system type:
   - **FAT** is the most common file system type. It is used by DOS, Windows 3.x, Windows 95, Windows 98, Windows NT, and OS/2.
   - **FAT32** is used by Windows 95 OEM Service Release 2, Windows 98, and Windows NT 2000.
   - **HPFS** is used by OS/2 and Windows NT 3.51 (and earlier versions).
   - **NTFS** is used only by Windows NT.
   - **Linux Ext2** is used only by Linux.
   - **Linux Swap** is used only by Linux.
   - **Extended** creates an extended partition which can contain any number of logical partitions. **Extended** is not an option if the hard disk already contains an extended partition or four primary partitions.
   - **Unformatted** creates unformatted free space on your hard drive.
6. If you wish, enter a label (up to 11 alphanumeric characters) for the new partition. Descriptive labels help remind you what is stored in a partition (for example, DATA, APPS, WIN95, etc.).
7. In the **Size** box, enter the desired size for the partition. PartitionMagic automatically calculates a recommended size (based on the most efficient use of disk space), which you can accept or change.
8. If the size you specified for the new partition is smaller than the available free space, you can position the partition at the beginning or end of the free space. Generally, it is best to position the partition at the beginning of the free space. In the **Position** box, click **Beginning of free space** or **End of free space.**
9. In the **Drive Letter** field, note the drive letter that will be assigned to the new partition after reboot.

NOTE: *If you create a primary partition, because only one primary partition can be active at a time, the new primary partition is automatically given a hidden status and no drive letter assignment. An exception is Windows NT which can handle multiple primary active partitions.*

OR

If you are running Windows NT, in the Drive Letter box, type or select the drive letter you wish to assign to the partition.

10. Click **OK.**

11. In the lower right corner of the **PartitionMagic** main window, click **Apply.**
12. Click **Yes** to confirm that you want to apply the changes.
13. What happens next depends on whether you have any open files on partitions being affected by the change.
    a. If you have open files, a prompt appears indicating that the changes you have made require going to MS-DOS mode (if you are using Windows 95 or Window 98) or rebooting (if you are using Windows NT). Click **OK** to make the changes. After the changes are made, the computer is rebooted. If you created a logical partition, the operating system has assigned the new partition a drive letter.
    b. If you do not have open files, the **Batch Progress** dialog appears, tracking the following items:
    - Description of current operation
    - Entire process progress bar
    - Sub-process progress bars

If you created a logical partition, after the changes are made, PartitionMagic displays a message indicating that Windows must restart.

Scenarios

Sample System Configuration

Disk 1 — One 4 GB disk containing:

- One active primary FAT32 partition (C:) running Windows 95.
- One extended partition enclosing one logical FAT partition (E:).

Disk 2 — One 2 GB hard disk containing:

- One 1 GB FAT32 primary partition (D:).
- 1 GB unpartitioned free space.

Procedure

1. Select **Disk 2**.
2. Create a logical partition in the 1 GB free space using the following information:
   - **Partition Type:** Select **FAT.**
   - **Label**: Type one, if desired.
   - **Size:** Accept the pre-calculated size.

NOTE: *The partition will be assigned drive F: after reboot. Additionally, an extended partition will automatically be created to enclose the logical partition.*

3. Apply the changes to your system.

Deleting Partitions

The Delete operation deletes a partition and destroys all its data. To ensure that you do not accidentally delete a partition, you must first type the volume label. If you did not assign a volume label when you created the partition, you must type **NO NAME** to confirm the deletion.

To delete an extended partition, you must first delete all logical partitions within the extended partition.

Deleting a partition can make your drive letters change, causing applications not to run because application shortcuts, initialization files, and registry entries refer to incorrect drives.

WARNING: ***Performing the following procedure will destroy all data on the selected partition and may change drive letter assignments. See "How the OS Assigns Drive Letters" and "Problems Caused by Drive Letter Changes" in Basic Concepts in Help.***

To delete a partition:

1. From the **Disk** drop-down list (located on the toolbar), select the disk with the partition you wish to delete.
2. On the partition map or in the partition list, select the partition you want to delete.
3. On the toolbar, click the **Delete** button (X). The **Delete Partition** dialog appears.
4. Type the volume label to confirm the deletion.

NOTE: *The Delete Partition dialog displays the current volume label. In the volume shown above the label is DATA.*

5. Click **OK.**

6. In the lower right corner of the **PartitionMagic** main window, click **Apply.** You can also click on the toolbar to apply the changes. If you do not wish to commit to the pending changes, click on the toolbar to discard the changes and start over.

You may perform other partition operations and then click **Apply** after completing all of them.

7. Click **Yes** to confirm that you want to apply the changes.

Changing Partition Labels

The **Label** operation lets you to change a partition's volume label. Giving your partitions meaningful names makes managing them easier. For example, by labeling a partition GAMES, you can tell at a glance what that partition contains.

Labels can be up to 11 alphanumeric characters. Labels follow the same rules as DOS names, with two exceptions: spaces are allowed, and no period is required between the first eight characters and the last three.

To change a partition label:

1. From the **Disk** drop-down list (located on the toolbar), select the disk with the partition whose label you wish to change.
2. On the partition map or in the partition list, select the partition with the label you want to change.
3. On the toolbar, click the **Label** icon. The **Label Partition** dialog appears:
4. In the **New Label** box, type the new label. Labels cannot contain the following special characters: [*?:<>|+=;\/",].
5. Click **OK.**
6. In the lower right corner of the **PartitionMagic** main window, click **Apply.**
7. Click **Yes** to confirm that you want to apply the changes.

Formatting Partitions

The **Format** operation formats a partition, destroying all its data in the process. Formatting enables you to put a different file system on a partition. To ensure that you do not accidentally format a partition, you must first type the volume label. If you did not assign a volume label when you created the partition, you must type **NO NAME** to confirm deletion.

NOTE: *PartitionMagic has several conversion options that let you convert from one file system to another without destroying existing files in a partition.*

To format a partition:

1. From the **Disk** drop-down list (located on the toolbar), select the disk with the partition you wish to format.
2. On the partition map or in the partition list, select the partition you want to format.

On the toolbar, click the **Format** icon. The **Format Verification** dialog appears:

NOTE: *You can also click **Operations > Format** on the menu bar or right-click the partition and click **Format** on the **Context** menu.*

3. Type the current volume label.
4. Click **Continue** to verify your intent to format the partition. The **Format Partition** dialog appears:
5. From the **Partition Type** drop-down list, select the desired file system type.
6. If the partition is too small or too large, some partition types may not be available.
7. If you wish, type a label for the partition.
8. Click **OK.**
9. In the lower right corner of the **PartitionMagic** main window, click **Apply.**
10. Click **Yes** to confirm that you want to apply the changes.

Converting FAT to FAT32

The **Convert FAT to FAT32** operation converts a FAT partition to FAT32. FAT32 partitions have less wasted disk space than FAT partitions. However, you should be aware of these issues:

- You must have Windows 95 OEM Service Release 2, Windows 98, or Windows NT 2000 to access files on a FAT32 partition. (NT 4.0 is **NOT** compatible with a FAT 32 partition.)
- If you are using multiple operating systems, FAT32 partitions are inaccessible when the other operating systems are running.
- Save to disk partitions cannot be resized or converted to any file system; they can only be deleted.

The minimum size for a FAT32 partition is 256 MB.

To convert from FAT to FAT32:

1. From the **Disk** drop-down list (located on the toolbar), select the disk containing the partition you wish to convert.
2. On the partition map or in the partition list, right-click the FAT partition you want to convert to FAT32 and click **Convert > Convert FAT to FAT32** on the context menu.

NOTE: *You can also select the partition and click **Operations > Convert > Convert FAT to FAT32** on the menu bar.*

3. To continue with the conversion, click **OK.**
4. In the lower right corner of the **PartitionMagic** main window, click **Apply.**
5. Click **Yes** to confirm that you want to apply the changes.

Converting FAT to NTFS

The **Convert FAT to NTFS** operation launches the Microsoft Convert utility to convert a FAT partition to NTFS. You must be running Windows NT to complete this conversion. In a DOS box at the C:\prompt, type **Convert c:\FS\NTFS**.

If you boot multiple OSs you must be very careful converting FAT to NTFS. NTFS is only accessible with Windows NT; therefore, the data in this partition will not be accessible if you boot DOS or Windows 95/98. This is a one-way conversion; to revert back to FAT you must back up all your files, reformat the partition, and restore the files.

If NTFS is the full size of your drive and no DOS partition is available, you must copy the pqmagic files to a bootable floppy and at the command line type **Pqmagic/PQB=a:Pqbatch.pqb**. Because NTFS is not accessible from DOS it is unable to copy the batchfile process to the hard drive. By typing the aforementioned command, it is able to write to the floppy. PartitionMagic can now complete the tasks specified.

The **Convert FAT32 to FAT** operation converts a FAT32 partition to FAT. To complete this conversion, the partition must have at least 300-400 MB free space because of how the FAT file system allocates disk space for file storage.

To convert a FAT32 partition to FAT:

1. From the **Disk** drop-down list (located on the toolbar), select the disk containing the partition you want to convert.
2. On the partition map or in the partition list, right-click the partition you want to convert and click **Convert > Convert FAT32 to FAT** on the context menu.

NOTE: *You can also select the partition and click **Operations > Convert > Convert FAT32 to FAT** on the menu bar. At this point, PartitionMagic may report too many root directory entries (the maximum number of entries in a FAT partition's root directory is limited, unlike a FAT32 partition's root directory). In this case, move or copy some of the files in the root directory to another location and then start the conversion again.*

3. To continue with the conversion, click **OK.**
4. In the lower right corner of the **PartitionMagic** main window, click **Apply**.
5. Click **Yes** to confirm that you want to apply the changes.
   - Description of current operation
   - Entire process progress bar
   - Sub-process progress bars

When all operations are complete, click **OK** to close the **Batch Progress** dialog and return to the **PartitionMagic** main window. The partition is converted.

NOTE: *NTFS does NOT convert to anything. You must stay with this partition format or reinstall the O/S.*

WARNING: ***Because of the above example, we recommend that you create an image of your hard drive before modifying or installing anything. (Create an image of hard drive while using the FAT file system.)***

Drive Copy

DriveCopy is an easy-to-use utility for copying the contents of one hard drive to another. It is not used for creating backups; it is only used for hard drive to hard drive transfers. DriveCopy copies everything on your drive in a few simple steps without losing a single preference, setting, or byte of data. With DriveCopy, you can move your operating system, applications, and data to a larger or smaller hard drive. DriveCopy copies FAT, FAT32, FAT32X, NTFS, and HPFS partition

types in all versions of Windows 95 and Windows 98, Windows NT, Windows 3.x, DOS, and OS/2. By copying, we mean that partitions are copied then expanded to occupy the same proportion of the new hard drive as they occupied on the original hard drive.

Copying Entire Drives

This utility may be accessed on the MRestore CD included with your computer.

To copy the contents of one hard drive to another, perform the following:

1. At the DriveCopy main screen, click **Entire Disk to Disk Copy.**
2. From the **Source Drive** group box, select the source drive. A check mark appears to the left of the selected drive.

NOTE: *Please be aware that it is NOT necessary to format or partition your destination drive. DriveCopy automatically performs both these functions.*

3. From the **Destination Drive** group box, select the destination drive. A check mark appears to the left of the selected drive.
4. Click **Next.**DriveCopy displays all the information you have entered to this point.
   - Source drive
   - Source partitions
   - Destination drive
5. If you wish to alter any settings, click **Previous** to backtrack and make changes.
6. If you wish to set options such as disabling file system error-checking or hiding partitions after copy, click **Advanced Options.**

Copying multiple logical partitions can cause the drive letters of subsequent partitions to change. This may make the computer unbootable or cause applications to fail.

7. Click **Finish** to begin copying. The Copying **Disk To Disk** dialog appears, tracking the following items:
   - Estimated megabytes to copy
   - Total megabytes copied
   - Entire process progress bar
   - Information about partition (volume, type, size MB, used MB, free MB)

- Sub-process progress bar
- Transfer rate for current partition
- Total megabytes copied for current partition
- Time elapsed
- Estimated time remaining

8. Upon completion, the following message appears: **Selected partition(s) copied** successfully. Would you like to view results? Yes/No. Click **Yes** to view information about the copied partition(s) such as volume type, status, size, used MB, free MB, primary or logical format.
9. If no active partition exists on destination drive, the following message appears: “No active (bootable) partition exists on destination drive. Would you like to set an active partition now? Yes/No.”
10. If the destination drive will be designated as the Master drive, you must set active the partition that contains your operating system. To set the operating system partition active, perform the following:
    - Click **Yes.**
    - Select the partition containing your operating system.
    - Click **Set Active.**
    - Click **Close.**
11. From the **DriveCopy** main screen, click **Exit.**

Zero-Volt Data-Suspend Utility (ZVHDD)

This section briefly discusses the Award Zero-Volt Data-Suspend utility, with instructions to guide you through installing and using the utility.

ZVHDD.EXE is the utility program used to prepare your hard disk for the suspend-to-disk function. Micron has already created a save-to-disk partition on your hard drive. Do **not** remove this partition, labeled “Non-Dos,” from your hard drive using fdisk. This would disable the TransPort NX’s ability to save-to-disk.

The zero-volt data-suspend utility, ZVHDD.EXE, stores all the information about your current operating session on your hard drive when you turn off your system, using just one Windows function to replace the sometimes tedious process of closing data files, applications, and the Windows environment. Next time you turn on your system, the complete session resumes, in the exact state you left it.

The saved session data includes all the programs and data files loaded into system memory during the session. For example, you may be running multiple

applications, such as Microsoft Excel, WordPerfect, and CorelDraw, under Windows 95. Normally, to turn off your computer, you must close all open data files and applications and then exit Windows. When you want to resume work where you left off, you must boot the computer, wait for Windows to open, open your application(s), and load the data file(s) you were editing.

Think how quick and convenient it would be if you could issue just one command to end your current session. And how quick and convenient it would also be if your session resumed exactly where you left off next time you turned on the computer! The Award Zero-Volt Data-Suspend utility offers this convenience.

Installation

There is no special installation program. You may run the program ZVHDD.EXE from your hard drive or from the MCRC CD.

NOTE: *If you plan to store session data in a separate partition, create a bootable diskette and run ZVHDD from the bootable diskette, because partitioning the hard drive may destroy all existing data on the drive. We recommend this method only for new systems with no data on the hard drive. Also note that the hard drive must already be partitioned, using FDISK or similar partitioning utility.*

To install the program, type the following at the DOS prompt: **Zvhdd /C /partition /M:memory_size**

This command contains the following information:

/C	Creates a file or a disk partition for session data storage
/partition	Specifies a disk partition for storage of session data
/M:memory_size	Specifies a number from 1 to 512 to select the size in megabytes of the partition.

Creating a Storage Partition on the Hard Drive

Here is an example of creating a storage partition on the hard disk. The specified memory size, 8 MB, is an example only.

At the DOS command line, type:

zvhdd /c /partition /m:8

If you have adequate space on your hard drive, a screen similar to this appears:

```
ZVHDD 2.22—AwardBIOS v4.51GPM Zero-Volt Partition Utility
Copyright (c) Award Software Inc. 1998.  All Rights Reserved.
Formatting xxxxxxxxxxxx Bytes.

Press any key to reset the system.....
```

Figure 55. ZVHDD Adequate Space Message

If you **don't** have adequate free space on your hard drive, a screen similar to this appears:

```
ZVHDD 2.22—AwardBIOS v4.51GPM Zero-Volt Partition Utility

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Warning: Not enough free disk space exists to create the partition

If you wish to make space for the partition, that will DESTROY ALL the
data on your hard disk!!

Press any key to reset the system.....
```

Figure 56. ZVHDD Inadequate Space Message

12. Answer **Yes** to proceed with the disk partitioning. You will then have to install an operating system on your main partition.

Saving Session Data

After you implement the suspend function in Setup (See "Using Setup" on page 44), and install a save-to-disk partition on the hard drive, you can save your session data at any time.

To save session data, press the Suspend key or button on your notebook computer.

If your system has a built-in software power-off function, the system simply turns itself off.

In systems that do not have a built-in software power-off function, a screen similar to this appears:

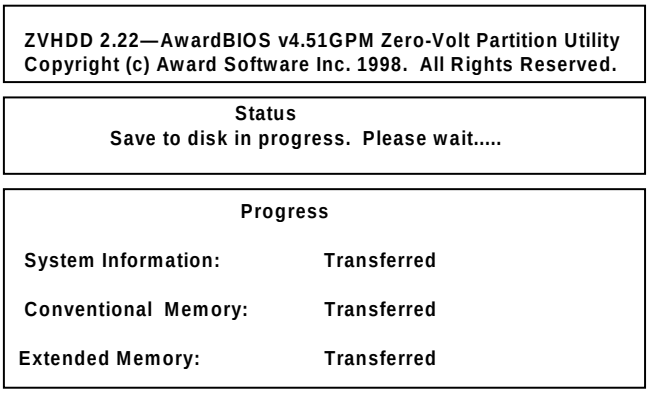

Figure 57. ZVHDD Non-Power Off Screen

When all data is transferred, turn off the system.

When you restart your system, it first runs through the system initialization routine (POST), then returns to the session you were previously running.

Following is an example of saving session data in Windows 95:

1. Click the **Start** button on the Windows 95 task bar.
2. Double click the **Suspend** icon.
3. If your system has a built-in software power-off function, the system simply turns itself off.

In systems that do not have a built-in software power-off function, the **Save to Disk Manager** screen appears. When all data is transferred, turn off the system.

When you restart your system, it first runs through the system initialization routine (POST), then returns to the session you were previously running under Windows 95.

Program Functions

You can view a ZVHDD parameters by typing: **zvhdd /?** at the DOS prompt. A screen similar to this appears:

```
Usage:  ZVHDD [Options]

Options:
      / C  (/PARTITION)  [ /M:memsize]          —Create 0V partition
      / D (/PARTITION)                          —Delete 0V partition
      / R                                       —Reformat 0V partition
Parameters:
      / M      Specifies the memory size (MB) of the notebook system.

               Available size is from 1 to 512.
```

Figure 58. ZVHDD Parameters Screen

Reformatting the Storage Partition

If you suspect the storage partition has become corrupted, you can reformat it with the command: **zvhdd /r**

Deleting the Storage File or Partition

You can delete the storage partition with the /D switch.

1. At the DOS prompt, type **zvhdd /d /partition**
2. A screen similar to this appears:

```
ZVHDD 2.22—AwardBIOS v4.51GPM Zero-Volt Partition Utility

Copyright (c) Award Software Inc. 1998.  All Rights Reserved.

The partition has been deleted.

The system will now be reset to allow the BIOS to recognize the changes.
If the system fails to reboot, please power off the power.

Press any key to reset the system.....
```

Figure 59. ZVHDD Partition Deleted Screen

3. Press any key.

Routine Maintenance

When you buy a car, you cannot simply fill it with gas from time to time while driving from point A to point B. It is also necessary to perform routine maintenance to ensure your car runs smoothly for as long as possible.

Likewise, there are certain routine tasks that should be performed on your computer. These simple maintenance procedures will optimize your computer's abilities, increase its life and lower the probability of data loss.

We highly recommend that you use these utilities to keep your Micron computer operating at peak performance:

- Windows Task Scheduler
- System File Checker
- System Defragmentation
- ScanDisk

Windows Task Scheduler (Maintenance Wizard)

By using Task Scheduler, you can schedule tasks (such as Disk Defragmenter) to run at a time that is most convenient for you. Task Scheduler starts each time you start Windows, and runs in the background.

With Task Scheduler, you can:

- Schedule a task to run daily, weekly, monthly, or at certain times (such as system startup).
- Change the schedule for a task.
- Stop a scheduled task.
- Customize how a task runs at a scheduled time.

To schedule a new task:

1. Click on **Start.**
2. Select **Programs>Accessories>System Tools>Maintenance Wizard.**
3. Follow each step as directed by the on-screen instructions, and then click **Next** to advance.

NOTE: *The computer must be on in order for the Maintenance Wizard to operate.*

System File Checker

If a program that has been working suddenly stops, it's usually because there's either a problem in the Registry, or a system file has been corrupted or replaced by a recently installed program. If the Registry Checker doesn't report a problem, you'll want to inspect the system files with the System File Checker utility.

By default, System File Checker scans all the Windows 98 system files—the ones with extensions like .DLL, .COM, .VXD, .DRV, .OCX, .INF, and .HLP—looking for any that have been modified or corrupted. If it finds one, it lets you restore the original file from your CD, verify the change as a legitimate update, or ignore the change, in which case you'll be asked about it again the next time you run System File Checker.

To run the System File Checker:

1. Click on **Start**.
2. Select **Programs>Accessories>System Tools>System Information.**
3. On the taskbar choose **Tools>System File Checker**.
4. Select **Scan files for errors**, and then click the **Start** button.

The program begins checking all your files. If a file is found to be corrupted, the original file (on the Windows 98 CD-ROM) is copied to your hard drive to replace the damaged file.

Defragmenting Your Hard Disk

Running Defrag can speed up the operation of your computer. Data is stored on your hard drive in clusters. Through normal use of your computer, these clusters will become spread out or fragmented on your hard drive. When your files become fragmented, it takes longer for the CPU to read and write data. For best system performance, it is a good idea to defragment your hard drive so that the clusters of data are in a contiguous string.

To Defragment your hard drive, follow the instructions as outlined below:

1. Click on **Start.**
2. Select **Programs>Accessories>System Tools>Select Disk Defragmenter.**
3. Select the drive you wished defragmented. If you have more than one hard drive, you may wish to select **All Drives**.
4. For more advanced options, **Advanced Options** tab.
5. Chose a defragmentation method.

There are three Defragmentation methods available;

Full defragmentation, which defragments the whole of the drive, irrespective of whether there is data on the part being defragmented or not.

Defragment files only, which only defragments the part of the drive that contains data.

Consolidate free space only, which collates the free parts on the hard drive into large blocks.

NOTE: *It is recommended that the **Check drive for errors** field is left "enabled" as this checks the drive for errors before defragmentation begins.*

6. After making any changes to the **Advanced Options**, choose **Start** to begin defragmentation.

NOTE: *If any errors are found on the drive, Disk Defragmentation will be suspended until they are corrected. To correct disk errors, it will be necessary to run the Scan Disk utility.*

7. When the system has finished defragmentation, choose **Yes** to exit the defragmenter.

Using Scandisk

ScanDisk is a utility provided with Windows 95/98 to check disks for errors, it has two main modes of operation - Standard and Thorough. Standard checks the structure of the data on the disk for errors, Thorough also checks the physical surface of the disk for damage. Upon finding errors, in most cases ScanDisk can repair them.

Like the System Deframentation utility, ScanDisk may be customized to perform tasks in different ways, and with different results.

To run ScanDisk:

1. Click on **Start.**
2. Select **Programs>Accessories>System Tools>Select ScanDisk.**
3. Click on the drive you wish to scan for errors.
4. Choose the type of test you wish ScanDisk to perform.

5. Choose **Surface Scan Options** to determine the mode in which ScanDisk will operate.
   - By selecting **System and data areas** ScanDisk will scan the whole drive for errors.
   - Selecting **System area only** will only scan those areas of the disk containing the system files required by the system for booting.
   - Selecting **Data area only** causes ScanDisk to skip the system areas of the disk.
   - Unless the **Do not perform write-testing** box is selected, ScanDisk will test the surface of the disk by reading each sector of the disk and writing it back to the same place.

When ScanDisk finds a “bad” (damaged) sector on the hard drive it will attempt to move all the data at that location to a good area of the disk, by selecting “Do not repair bad sectors in hidden and system files”, ScanDisk will not try and perform this recovery if the file on the “bad” sector is marked as either a hidden, or a system file.

6. Choose **Advanced Options** to customize ScanDisk.

Section	Options	Meaning
Display Summary	Always	Scandisk always displays the summary screen when finished.
	Never	Scandisk never displays the summary screen when finished.
	Only if errors found	Scandisk only displays the summary screen when finished if it encountered errors.
Log File	Replace log	Scandisk replaces the log file every time a drive is scanned.
	Append to log	Scandisk adds information to the existing log file.
	No log	Scandisk never generates a log.

TABLE 11. ScanDisk Advanced Options

Section	Options	Meaning
Cross-linked files	Delete	If scandisk encounters a sector occupied by two or more files it deletes all but one entry.
	Make copies	If scandisk encounters a sector occupied by two or more files it duplicates the sector as required.
	Ignore	If scandisk encounters a sector occupied by two or more files it ignores the error.
Lost file fragments	Free	If scandisk finds a file fragment not associated with a file it deletes it.
	Convert to files	If scandisk finds a file fragment not associated with a file it makes it into a file.
Check files for	Invalid file names	Scandisk checks filenames for invalid characters (*?, etc.) and that the file and path names are not too long.
	Invalid dates and times	Scandisk checks for invalid dates (e.g. 31/2/2000) and time (e.g. 12:64:00).
	Check host drive first	If the drive is compressed with drivespace, scandisk checks the drive that contains the compressed volumes before checking the compressed volume itself.

TABLE 11. ScanDisk Advanced Options

Chapter Eight - Troubleshooting

Required safety features have been installed in the computer to protect you from injury. However, you should use good judgment to identify potential safety hazards:

- Read all of these instructions before using your TransPort NX and save them 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 or aerosol cleaners. To clean, wipe with a damp cloth.
- Do not use this product near water.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- Slots and openings in the cabinet are for ventilation.
- To ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. This product should never be placed near or over a radiator or heater.
- Never push objects of any kind into this product through cabinet openings, as they may touch dangerous voltage points or short out parts that could result in fire or electric shock. Never spill liquid of any kind on the product.
- This product 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.
- If you use an extension cord with this product, make sure that the total of the ampere ratings on the products plugged into the extension cord does 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.
- emember 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.
- Clean your keyboard when needed. This can be done with a soft cloth as well as with a keyboard vacuum cleaner.

Locating a Problem

Problems with your computer can be caused by something as minor as an unplugged power cord – or as major as a damaged hard disk. The information in this chapter is designed to help you find and solve minor problems. If you try all

the suggested solutions and you still have a problem, make a list of what steps you have taken to correct the problem and contact your dealer.

Successful troubleshooting is the result of careful observation, deductive reasoning, and an organized approach to solving the problem.

The problems that you will encounter can be divided into two basic categories: hardware problems and software problems. Hardware problems can be further divided into electrical and mechanical problems. You will know you have a hardware problem if the screen is dark, the computer cannot read the disk drives, or you get an error message during the Power-On Self Test (POST).

Software errors can occur at several levels. The ROM BIOS and the operating system can give you a large number of error messages. On top of this, each application software package has its own set of error messages. It is important to determine whether the software error message you are getting is from the application or the operating system. Once you know this, you can look in the respective manual for a solution to the problem.

Checking Cables and Connections

Start by performing a careful visual inspection of the exterior of the computer. If no LEDs are illuminated, make sure that your computer and its peripherals are getting power and communicating with each other properly.

To check the power cables and connections:

1. If you have been using battery power, connect the TransPort NX to an external power source and make sure that the battery has a charge.
2. If you are using the TransPort NX with the AC adapter, check the power outlet, the power cord, and any power switches that may affect your computer.
3. Check the wall outlet or power strip with an item that you know is functioning properly. A lamp or radio is a convenient item for checking the power. You may also need to check the fuses and breakers in your electric box.
4. If the outlet is controlled by a wall switch, make sure that the switch is on.
5. If the outlet is controlled by a dimmer switch, use a different outlet.
6. If your computer is plugged into a power strip with an On/Off switch, make sure the switch is on.
7. With the computer's power switched off, check all cable connections. If the computer is connected to any peripheral devices, look for loose or disconnected cables.

8. If the computer is too close to a wall, a cable connection may be loose or the cables may be crimped.
9. When you are certain that you have power available and all connections are good, turn the computer on again.

If the computer still does not start, you may have a hardware problem.

NOTE: *Do not substitute cables for different devices (other than the manufacturer recommended cables) even if they look exactly alike. The wiring inside the cable may be different.*

Power On Self Test

The Power-On Self Test (POST) runs every time you turn on or reset the TransPort NX. The POST checks memory, the main system board, the display, the keyboard, the disk drives, and other installed options.

A few seconds after you turn on your computer, a copyright message appears on your display screen. A memory test message appears next; as the test continues, memory size increases until all installed memory is tested. Normally, the only test routine visible on the screen will be the memory test.

Two classifications of malfunctions can be detected during the POST:

- Error messages that indicate a failure with either the hardware, the software, or the Basic Input/Output System (BIOS). These critical malfunctions prevent the computer from operating at all or could cause incorrect and apparent results. An example of a critical error is microprocessor malfunction.
- Messages that furnish important information on the power-on and boot processes (such as memory status). These non-critical malfunctions are those that cause incorrect results that may not be readily apparent. An example of a non-critical error would be a memory chip failure.

Fax/Modem Problems

This section describes some of the common problems you may encounter while using your modem. If you can not resolve your difficulty after reading this chapter, contact your dealer or vendor for assistance.

Modem does not respond to commands

1. Make sure the modem is not configured with a conflicting COM port and IRQ setting. Your modem can not be configured as COM1 if another device in your system is also configured as COM1. Similarly, IRQ settings may not overlap.

	2. Make sure the communication software is configured to “talk” to the modem on the correct COM port and IRQ setting (same COM port and IRQ setting as the modem). 3. Your communication software must know which address your modem is using in the system in order to pass data to it. Similarly, IRQ settings must be set correctly to receive data from, the modem. 4. Make sure that your modem is initialized correctly. Your modem may have been initialized to not display responses. You may factory-reset the modem by issuing AT&F and press [Enter]. The factory default allows the modem to display responses after a command has been executed. 5. Make sure the baud rate setting in your software is set to 115200,57600,38400, 19200,14400,9600, 2400, 1200 or 300 bps. An incorrect baud rate prevents the modem from operating properly.
Modem does not dial	1. Make sure the modem is connected to a working phone line. Replace the modem with a working phone to ensure that the phone line is working. 2. Make sure the phone line is connected to the jack marked LINE. Incorrect connection prevents the modem from operating properly.
Modem dials but does not connect	1. Make sure the IRQ setting is identical on both the modem and the software. Modem and software must be configured identically. 2. Make sure the phone line is working properly. Replace the modem with a r regular phone and dial the number. If the line sounds noisy, you may have difficulty connecting to the remote device.
Modem makes a connection, but no data appears on the screen	1. Make sure the correct data format (data bits, stop bits, and parity bits) and flow control (RTS/CTS) are being used. 2. Make sure the correct terminal emulation mode is being used (see communication software manual). 3. High pitch tone is heard whenever you answer the phone 4. Make sure Auto-Answer is turned off. Your modem is factory configured to NOT auto-answer. Issue AT&F to factory reset your modem.

Modem experiences errors while communicating with a remote modem

1. Make sure the remote system and your modem use the same communication parameters (speed, parity, etc.).
2. Make sure RTS/CTS hardware flow control is enabled and XON/XOFF software flow control is disabled in the communication software.

Modem experiences bursts of errors or suddenly disconnects while communicating with a remote modem

1. Make sure Call Waiting is turned off.
2. Make sure the phone line does not exhibit excess noise.
3. Make sure the data speed is not faster than your computer's capability. Most IBM compatibles are capable of 19,2000 bps under DOS and Windows. Operating at higher speeds under Windows requires a faster CPU (386/486 or better), a high performance replacement Windows 3.1xcomm.drv or Windows 95.

Service and Support

In the unlikely event you experience difficulty in the use of this product, we suggest you consult the Troubleshooting section of this guide, and consult with your dealer. To obtain service for this product, follow Micron's Return Merchandise Authorization procedure.

If you still have a problem after reading the preceding sections, the next step is to contact Technical Support. Technical Support can determine if the problem is something that requires the computer to be sent in for evaluation. Before you call your Technical Support, however, prepare the following information:

- Please have the serial number of the computer ready, this will allow the technical support representative to see what hardware was shipped to you
- How is your computer configured? The Technical Support group will need to know what peripheral devices you are using.
- What messages, if any, are on the screen?
- What software were you running at the time?
- What have you done already to try to solve the problem? If you have overlooked a step, your dealer may be able to solve the problem over the phone.

Appendix A - Specifications

CPU

- Intel Pentium II PE 300, 333, 366, and 400 MHz W/MMX/MMC2, AGP2.X (400-pin design)
- Intel Pentium II 233, 266, and 300 MHz W/MMX/MMC2, AGP2.X (400-pin design)
- Intel Celeron 233, 266, 300, 333, 366, and 400 MHz W/MMX/MMC2 AGP

Memory

- 2.X (400-pin design)
- 0 MB DRAM on board
- 3 144-pin SODIMM Slots
- 3.3V TSOP DRAM

Core Logic Chips

- Supports Synchronous DRAM

L2 Cache Memory

- 128KB internal on-die full speed L2 synchronous pipeline burst mode SRAM (Celeron only)
- 512 KB external L2 synchronous pipeline burst mode SRAM (Pentium II only)
- 256KB internal on-die full speed L2 synchronous pipeline burst mode SRAM (Pentium II PE only)

Display

- ATi Rage Pro LT AGP 2X
- Display Memory 8MB SGRAM

LCD

- TFT15.1“
- XGA 1024x768 high colors

Battery
- Smart Battery compatible
- Li-Ion 4800mAH (same Primary/Secondary)

Pointing Device
- Touchpad
- Pointing stick

Power Management
- Save to Disk
- Suspend

BIOS
- Award, Plug & Play, 256kb

Disk Drives
- HDD (Exchangeable), 2.5", 12.7 & 17mm height
- CD-ROM or DVD-ROM (exchangeable)

Smart Bay
- FDD (1.44MB)
- Zip (100MB)
- LS-120 (120MB)
- 2nd HDD
- 2nd Battery

Keyboard
19 mm Pitch

Sound
ESS Maestro-2E

I/O Ports
- NS 97338 controller
- Serial
- Parallel
- IrDA
- CRT
- Game
- PS/2
- 3 Audio jacks

- 2 USB
- Docking/Port connector
- 2 Video Jack (Video in/out)

PCMCIA

- Type II x 2 or Type II x1 and Type III x 1
- PCMCIA Card bus Controller, O2 Micro 6860

Power

- AC Adapter 50 watt output
- AC input 100-240 V

Options

- Fax/modem (56kbps)
- Car Adapter
- Quick Charger
- Port Replicator

Dimension

- 324x273x54mm (W x D x H) 15.0”
- 4.12kb/9.1lb with 15.1" TFT, Li-Ion, CD-ROM and FDD

Port Replicator

System Dimension: 460 mm (W) x 104 mm (D) x 80 mm (H)

Weight: 1.1 Kg

System Configuration:

- Parallel port: 25 Pins D-Type, Female
- Serial port: 9 Pins D-Type, Male
- Game port: 15 Pins D-Type, Female
- VGA Connector: 15 Pins D-Type, Female
- Video in/out: RCA Jacks, V Capture input, TV out
- PS/2 Connector: 6 Pins Mini Din for external keyboard / mouse
- USB: 4 Pins (two)
- DC input: DC 19V input
- LAN Port: RJ-45 10/100 Base T
- Headphone out jack: 1/8” mini

Sound System: Supports two 3 watt speakers and dual channel 2 watt amplifier

System connector: 204 Pins

External FDD support: through parallel port

LAN: Supports mini-PCI Type IB LAN Module

Modem Specifications

Model: Rockwell RC56HCF-PCI Host-Controlled Modem

Features:

Data modem:

- ITU-T V.90, K56flex, V.34 (33.6 kbps), V.32 bis, V.32,
- V.22 bis, V.22, V.23, and V.21; Bell 212A and 103
- V.42 LAPM and MNP 2-4 error correction
- V.42 bis and MNP 5 data compression
- V.25 ter (Annex A) and EIA/TIA 602 command set

Fax modem send and receive rates up to 14.4 kbps

- ITU-T V.17, V.29, V.27 ter, and V.21 channel 2
- EIA/TIA 578 Class 1 and T.31 Class 1.0 commands

Voice, telephony:

- TIA-695 command set
- 8-bit m-Law/A-Law coding (G.711)
- 8-bit/16-bit linear coding
- 8000/7200 Hz sample rate
- Music on hold from host or analog hardware input
- TAM support with concurrent DTMF detect, ring detect and caller ID

V.80 synchronous access mode supports host-controlled communication protocols:

- H.324 interface support

V.8/V.8bis and supporting AT commands (V.25 ter with Annex A)

Full-duplex speakerphone (FDSP) mode (SP models)

- Switching to/from data, fax, DSVD and VoiceView
- Microphone gain and muting
- Speaker volume control and muting

Adaptive acoustic, line, and handset echo cancellation

- Loop gain control, transmit and receive path AGC
- Acoustic echo cancellation concurrent with DSVD

ITU-T V.70 DSVD (SP model option)

- ITU-T G.729 Annex A with interoperable G.729
- Annex B
- Voice/silence detection and handset echo cancellation
- Handset, headset, or full-duplex speakerphone

VoiceView alternating voice and data

Data/Fax/Voice/VoiceView call discrimination
Multiple country support

- Call progress, blacklisting options

Caller ID and distinctive ring detect

Single profile stored in host

System compatibilities

- Windows 95, Windows 95 OSR2, Windows 98,

Windows NT operating system

- Microsoft's PC 97 Design Initiative compliant
- Unimodem/V compliant

Appendix B - Regulatory

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 limitations 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 dealer or a Radio/TV technician for help.
- Use only shielded I/O cables to connect I/O devices to this equipment.

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

Information to be Supplied to the User

We confirm that the following information will be supplied to the users of this equipment. This information will be provided with the user's manual.

FCC Requirements

This equipment complies with Part 68 of the FCC rules. On the bottom of this equipment is the label that contains, among other information, the FCC Registration Number and Ringer Equivalence Number (REN) for this equipment. IF REQUESTED, THIS INFORMATION MUST BE GIVEN TO THE TELEPHONE COMPANY. The REN is useful to determine the quantity of devices you may connect to your telephone line and still have all of those devices ring when your telephone number is called. In most, but not all areas, the sum of the REN's of all devices connected to one line should not exceed five (5.0). To be certain of the

number of devices you may connect to your line, as determined by the REN, you should contact your local telephone company to determine the maximum REN for your calling area. If your telephone equipment cause harm to the telephone network, the telephone company may disconnect your service temporarily. If possible, they will notify you in advance. But if advance notice isn't practical, you will be informed of your right to file a complaint with the FCC.

Your telephone company may change in its facilities, equipment, operations or procedures that could affect the proper functioning of your equipment. If they do, you will be notified in advance to give you an opportunity to maintain uninterrupted telephone service. The telephone company may ask that you disconnect this equipment from the network until the problem has been corrected or until you are sure that the equipment is not malfunctioning. This equipment may not be used on coin service provided by the telephone company. Connection to party lines is subjected to state tariffs.

NOTE: The Telephone Consumer Protection Act of 1991 makes it unlawful for any person to use a computer or their electronic device to send any message via a telephone facsimile machine unless such message clearly contains in a margin at the top or bottom of each transmitted page or on the first page of the transmission the following information:

1. The date and time of transmission.
2. Identification of either business, business entity or individual sending the message; and
3. telephone number of either the sending machine, business entity or individual.

In order to program this information into your fax/modem, please refer to the appropriate instructions in your fax/modem manual.

Canadian EMI Compliance Statement

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.
Avis de conformit aux normes du EMI du Canada
Cet appareil numérique de la classe B respecte toutes les exigences du Reglement sur le matériel brouilieur du Canada.
European Union CE Marking Declaration
This product has been tested and found to comply with the EMC requirements subject to the EU directive for CE marking.

Appendix C - Safety Guidelines

Read these safety instructions carefully. Keep this User's Manual for later reference.

General Safety Instructions

1. Disconnect this equipment from AC outlet before cleaning. Don't use liquid or sprayed detergent for cleaning. Use a damp cloth for cleaning.
2. For pluggable equipment, the socket-outlet should be installed near the equipment and easily accessible.
3. Keep this equipment away from humidity.
4. Always lay this equipment on a steady surface. A drop or fall could damage your new system.
5. The openings on the enclosure are for air convection and protects the equipment from overheating. DO NOT COVER THE OPENINGS. Use the rear feet whenever possible, this improves the ergonomics and helps to cool the notebook down. Don't use your notebook on a soft surface, such as bedding this could block the ventilation in the bottom of the notebook.
6. Ensure the power source is the correct voltage before connecting your system.
7. Do not place anything over the power cord or where it can be stepped on.
8. All cautions and warnings on the equipment should be noted.
9. If the equipment is not used for a long time, disconnect the equipment to avoid damage by power surges.
10. Keep all liquids away from unit. Spills could cause fire or electrical shock.
11. Do not use this equipment while bathing, soaking or near a swimming pool.
12. Never open the equipment. For safety and warranty reasons, equipment should only be opened by qualified service personnel.
13. In one of the following situations, get the equipment checked a serviceman.
    - The power cord or plug is damaged.
    - Liquid has penetrated into the equipment.
    - The equipment has been exposed to moisture.
    - The equipment does not work properly, or you can not get it work according to user instructions.
    - The equipment has been dropped and damaged or obvious sign of breakage.

14. DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT OR STORAGE CONDITION WITH TEMPERATURES BELOW 20ºC (-4ºF) OR ABOVE 60ºC (140ºF), IT MAY DAMAGE THE EQUIPMENT.
15. For battery safety, See “Chapter Five - Power Management” on page 61.
16. See ”Appendix B - Regulatory” for Fax Modem safety.

Safety Instructions

1. Unplug the TransPort NX from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
2. Do not press on or store any object on the LCD cover when it is closed since it may cause the LCD to break.
3. Do not attempt to service the TransPort NX yourself. Unplug the TransPort NX from the wall outlet and refer servicing to an authorized dealer.
4. When replacement of components is required, be sure to replace only with components provided by the manufacturer. Unauthorized substitutions may esult in safety hazards.

Power Safety Instructions

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 TransPort NX 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 TransPort NX, 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.

Battery Safety Instructions

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** expose the battery 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. Fully charge the battery before you use it again.

CAUTION: ***To reduce the risk of an electric shock, which could cause personal injury, follow all safety notices. The symbols shown are used in your documentation and on your equipment to indicate safety hazards.***

WARNING: ***Lithium batteries can be dangerous. Improper handling or installation of lithium batteries may result in an explosion. Replace them only with an exact replacement. Dispose of lithium batteries by returning them to your dealer, or ask your local disposal service for proper procedures.***

IT System Connectors

This equipment has not been designed for connection to all IT power systems; a modification may be required. Contact your dealer or local electrical authority. This equipment has a 2 or 3-wire power cord. Replace the power cord if it gets damaged. Contact your dealer for an exact replacement.

In the U.S.A. and Canada, the power cord must be a UL-listed detachable power cord (in Canada, CSA-certified). For 2-wire it's SPT-2 18AWG, for 3-wire cord it's SVT or SJT, 18 AWG, 3-conductor, provided with a molded-on NEMA type (1-15P 2-wire) (5-15P 3-wire) P plug cap at one end and a molded-on cord connector body at the other end. The cord length must not exceed 3 meters.

Outside the U.S.A. and Canada, the plug must be rated for 250 VAC, 2.5 amp minimum, and must display an international agency approval marking. The cord must be suitable for use in the end-user country. Consult your dealer or the local electrical authorities if you are unsure of the type of power cord to use in your country. Voltage changes occur automatically in the power supply.

WARNING: ***Under no circumstances should the user attempt to disassemble the power supply. The power supply has no user-replaceable parts. Inside the power supply are hazardous voltages that can cause serious personal injury. A defective power supply must be returned to your dealer.***

PELV (Protected Extra-Low Voltage)

To prevent electrical shock, connect all local (individual office) computers and computer support equipment to the same electrical circuit of the building wiring. If you are unsure, check the building wiring to avoid remote earth conditions.

Earth Bonding

Earth Bonding For safe operation, only connect the equipment to a building supply that is in accordance with current wiring regulations in your country. In the U.K., those regulations are the IEE.

Laser Compliance Statement for CD-ROM, DVD-ROM and LS-120

The CD-ROM, DVD-ROM and LS-120 drive in this notebook computer is a laser product. The classification label of the drive is located on top of the drive. Below is a sample of the classification label;

CLASS 1 LASER PRODUCT
LASER KLASSE 1
LUOKAN 1 LASERLAITE
APPAREIL A LASER DE CLASSE 1
KLASS 1 LASER APPARAT

The drive is certified in the USA to comply with the requirements of the Department of Health and Human Services 21 Code of Federal Regulations (DHHS 21 CFR) Subchapter J. for Class 1 laser products.

In other countries the drive is certified to comply with the requirements of EN60825.

CAUTION: ***Do not open the drive. There are no user-serviceable parts or components inside. Use of controls, adjustments and operation of procedures other than those specified, may result in hazardous exposure to radiation. Class I (1) laser products are not considered hazardous. The drive has an internal, Class I (1), 0.5-milliwatt, aluminum gallium-arsenide laser that operates at a wavelength of 760 to 810 nanometers. The design of the laser system and the drive ensures that there is no exposure to laser radiation above a Class I (1) level during normal operation, user maintenance or servicing conditions.***

Caring for You TransPort NX

Following the guidelines in the following section will increase the life of your TransPort NX.

Preventing Problems

Your TransPort NX computer requires little hardware maintenance. But as with any piece of electrical equipment, there are a few simple checks and precautions that will help ensure that your computer provides outstanding performance for many years.

- Do not block the air flow around the computer. Maintain a distance of four inches (10 cm) between the computer and obstructions.
- Check the cable and power connectors periodically. Keep your computer away from excessive humidity, direct sunlight, high temperatures, and extreme cold.
- Do not smoke near your computer.
- Do not eat near or place liquids near your computer.
- Avoid dusty environments, as dust can cause damage to disks and disk drives.
- Never subject your computer to sudden shocks or extreme vibration. Do not drop it or knock it with other equipment.
- If you suddenly move your computer from a cold place to a warm place, undesirable moisture may condense inside the unit. After sudden temperature changes, let the computer come to room temperature before using it. This allows any moisture inside the computer to evaporate.
- 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.
- Ensure that your hands are clean when you use the touch pad to prevent oil and dirt build-up which can impair the touch pad operation.
- Clean your computer’s exterior casing occasionally with a soft cloth. Unplug the computer from the wall outlet and remove the battery pack before cleaning. If you use a cleanser, make sure that it is only a mild detergent. Never use solvents like thinner or benzene, or abrasive cleanser, because these may damage the cabinet. After cleaning, allow 30 minutes drying time.

- 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.
- Clean your keyboard when needed. This can be done with a soft cloth as well as with a keyboard vacuum cleaner.

Appendix D - Fax/ Modem Information

Basic AT Commands

Prefix	Suffix	Function
A		Manually answer incoming call.
A/		Repeat last command executed. Do not precede A/ with AT or follow with ENTER.
B_	B0	CCITT mode (V.22)
	B1	Bell mode (Bell 212A)
D_		0 - 9, A-D, # and *
	L	Last number redial
	P	Pulse dialing Note: Pulse dialling is not supported for U.K.,Netherlands, Sweden, Norway, Denmark, Finland, Switzerland, Germany.
	T	Touch-tone dialing
	W	Wait for second dial tone
	,	Pause
	@	Wait for five seconds of silence
	!	Flash
	;	Return to Command Mode after dialing
	$	Bong tone detection (for calling card use)
DS=n (n=0-3)		Dial one of the four telephone numbers stored in the modem non-volatile memory.
E_	E0	Commands are not echoed
	E1	Commands are echoed
+++		Escape Characters - Switch from Data Mode to Command Mode
H_	H0	Force modem on-hook (hang up)
	H1	Force modem off-hook (make busy) Note: H1 command is not supported for Italy
I_	I0	Firmware ID same as 13

TABLE 12. Basic AT Commands

Prefix	Suffix	Function
	I1	Factory ROM checksum test
	I2	Internal memory test
	I3	Firmware ID
	I4	Reserved ID
L_	L0	Low speaker volume
	L1	Low speaker volume
	L2	Medium speaker volume
	L3	High speaker volume
M_	M0	Internal speaker off
	M1	Internal speaker on until carrier detected
	M2	Internal speaker always on
	M3	Internal speaker on until carrier detected and off while dialing
N_	N0	Disable Autoscan mode
	N1	Enable Autoscan mode
O_	O0	Return to Data Mode
	O1	Return to Data Mode and initiate an equalizer
P		Set Pulse dial as default. Note: Pulse dialing is not supported for UK, Netherlands, Sweden, Norway, Denmark, Finland, Switzerland, and Germany.
Q_	Q0	Modem sends responses
	Q1	Modem does not send responses
Sr?		Read and display alue in register r.
Sr=n		Set register r to alue n (n = 0-255).
T		Set Tone Dial as default
V_	V0	Numeric responses
	V1	Word responses
W_	W0	Report DTE speed only
	W1	Report line speed, error correction protocol, and DTE speed.
	W2	Report DCE speed
X_	X0	Hayes Smartmodem 300 compatible responses/blind dialing
	X1	Same as X0 plus all CONNECT responses/blind dialing

TABLE 12. Basic AT Commands

Prefix	Suffix	Function
	X2	Same as X1 plus dial tone detection
	X3	Same as X1 plus busy detection/blind dialing
	X4	All responses and dial tone and busy signal detection
Y_	Y0	Modem does not send or respond to break signals
Z_	Z0	Reset and retrieve active profile 0
&C_	&C0	Force Carrier Detect Signal High (ON)
	&C1	Turn on CD when remote carrier is present
&D_	&D0	Modem ignore the DTR signal
	&D1	Modem return to Command Mode after DTR toggle
	&D2	Modem hang up, returns to the Command Mode after DTR toggle
	&D3	Reset modem after DTR toggle
&F_	&F	Recall factory default configuration
&G_	&G0	Guard tone disabled
	&G1	550Hz guard tone
	&G2	1800 Hz guard tone
&K_	&K0	Disable flow control
	&K3	Enable RTS/CTS hardware flow control
	&K4	Enable XON/XOFF software flow control
&M_	&M0	Asynchronous operation
&S_	&S0	Force DSR Signal High (ON)
	&S1	DSR off in command mode, on in on-line mode
&T_	&T0	End test in progress
	&T1	Perform Local Analog Loopback Test
	&T3	Perform Local Digital Loopback Test
&V	&V	Display Active and Stored Profiles
&W	&W0	Store the active profile as Profile 0
&Y_	&Y0	Configuration Profile 0 active upon Power on or reset.
&Zn=x	N=0-3	Store phone number x into non-volatile RAM
&K_	&K0	Disable flow control
	&K3	Enable RTS/CTS hardware flow control
	&K4	Enable XON/XOFF software flow control
&M_	&M0	Asynchronous operation

TABLE 12. Basic AT Commands

Prefix	Suffix	Function
&S_	&S0	Force DSR Signal High (ON)
	&S1	DSR off in command mode, on in on-line mode
&T_	&T0	End test in progress
	&T1	Perform Local Analog Loopback Test
	&T3	Perform Local Digital Loopback Test
&V	&V	Display Active and Stored Profiles
&W	&W0	Store the active profile as Profile 0
&Y_	&Y0	Configuration Profile 0 active upon Power on or reset.
&Zn=x	N=0-3	Store phone number x into non-volatile RAM

TABLE 12. Basic AT Commands

MNP/V.42/V.42bis Commands

Prefix	Suffix	Function
%C	%C0	Disable MNP Class 5 and V.42bis data compression
	%C1	Enable MNP Class 5 and V.42bis data compression only
&Q	&Q0	Direct data link only (same as \N0)
	&Q5	Same as \N3
	&Q6	Same as \N0
\N_	\N0	Normal data-link only
	\N1	Direct data-link only
	\N2	V.42 or MNP data link only
	\N3	V.42/MNP/Normal data link
	\N4	V.42 data link only
	\N5	MNP data link only

TABLE 13. MNP/V.42/V.42bis Commands

Fax Class 1 Commands

+FCLASS=n	Service Class
+FRH=n	Receive data with HDLC framing
+FRM=n	Receive data

TABLE 14. Fax Class 1 Commands

+FCLASS=n	Service Class
+FRS=n	Receive silence
+FTH=n	Transmit data with HDLC framing
+FTM=n	Transmit data
+FTS=n	Transmit silence

TABLE 14. Fax Class 1 Commands

Speed Table (unit: bits/s)

Register	S37	S38
=0	Maximum speed	56K disable
=1	reserved	56K enable
=2	1200/75	32000
=3	300	34000
=4	reserved	36000
=5	1200	38000
=6	2400	40000
=7	4800	42000
=8	7200	44000
=9	9600	46000
=10	12000	48000
=11	14400	50000
=12	16800	52000
=13	19200	54000
=14	21600	56000
=15	24000	
=16	26400	
=17	28800	
=18	31200	
=19	33600	

S Registers

Your modem has 20 registers, designated S0 through S108. The following table shows the S-Registers, their functions, and their default values. Some registers can have their values changed by commands. If you use a command to change a register value, the command remains in effect until you turn off or reset your modem. Your modem then reverts to the operating characteristics specified in its non-volatile memory. Refer to”Chapter Three - Running BIOS Setup” for information on how to use the AT commands to manipulate the S registers.

Register	Function	Country	Range/units	Default
S0	Auto-answer Ring	Others	0-255 /rings	0
	Germany	0.1 /rings		0
		France	0.2 /rings	0
		Switzerland	0-11 /rings	0
		Italy	0-4 /rings	0
S1	Ring counter		0-255 /rings	0
S2	Escape code character		0-127 /ASCII	43
S3	Carriage return character		0-127 /ASCII	13
S4	Line feed character		0-127 /ASCII	10
S5	Backspace character		0-32, 127 /ASCII	8
S6	Dial tone wait time	Others	4, 5 /seconds	4
	Netherlands			
S7	Remote carrier wait time		30-60/seconds	45
S8	Comma pause time		0-255 /second	2
S10	Carrier loss time		1-255 /0.1 second	14
S11	Touch-tone dialing speed		90/milliseconds	90
S12	Escape character guard		0-255/0.02 second	50
S28	V.34 Modulation Enable/Disable		0-255	1
S30	Disconnect timer		0-255 seconds	0
S36	LAPM failure options		Bit-mapped register	7
S37	Connection speed (See Speed Table)		Bit-mapped register	0
S38	56K Dial Line Rate (See Speed Table)			
S42	56K Auto Rate Disable/Enable (by Setting S38)			
S48	V.42 negotiation options		0, 7, or 128	7
S108	56K Digital loss Selection (Selects the digitalloss if using the modem thru a PBX line.)		0,1,2,3,6,7,	6

Section 8 - Result Codes

Result Code	Numeric	Result Code	Numeric
OK	0	Connect	1
RING	2	NO CARRIER	3
ERROR	4	CONNECT 1200 EC*	5
NO DIALTONE	6	BUSY	7
NO ANSWER	8		

TABLE 15. Section 8 - Result Codes

Result Code	Numeric	Result Code	Numeric
CONNECT 2400 EC*	10	CONNECT 4800 EC*	11
CONNECT 9600 EC*	12	CONNECT 14400 EC*	13
CONNECT 19200 EC*	14	CONNECT 7200 EC*	24
CONNECT 12000 EC*	25	CONNECT 16800 EC*	86
CONNECT 300 EC*	40	CONNECT 21600 EC*	55
CONNECT 24000 EC*	56	CONNECT 26400 EC*	57
CONENCT 28800 EC*	58	CONNECT 31200 EC*	59
CONNECT 33600 EC*	60	CONNECT 32000 EC*	70
CONNECT 34000 EC*	71	CONNECT 36000 EC*	72
CONNECT 38000 EC*	73	CONNECT 40000 EC*	74
CONNECT 42000 EC*	75	CONNECT 44000 EC*	76
CONNECT 46000 EC*	77	CONNECT 48000 EC*	78
CONNECT 50000 EC*	79	CONNECT 52000 EC*	80
CONNECT 54000 EC*	81	CONNECT 56000 EC*	82
CONNECT 58000 EC*	90	CONNECT 60000 EC*	84
DELAYED	88	BLACKLISTED	89
BLACKLIST FULL	90		

TABLE 15. Section 8 - Result Codes

EC* only appears when the extended result codes configuration option is enabled. EC is required by one of the following symbols, depending upon the error control method used:

- V42bis-V.42 error control and V.42bis data compression.
- V42-V.42 error control only.
- MNP 5-MNP class 4 error control and MNP class 5 data compression
- MNP 4-MNP class four error control only.
- NoEC-No error control protocol.

Appendix E - Alternative Device Drivers

Drivers change regularly, either to fix bugs or to make upgrades to speed up the performance. It's recommended that you always use the latest drivers. All of the very latest and tested drivers for your TransPort NX are available on the Micron website at www.micronpc.com. Should you require additional drivers and have access to the Internet you can go to these addresses and search for a newer driver:

Device	Address	Search For:
VGA	http://www.atitech.com/	ATI Rage Pro LT
Sound	http://www.esstech.com/	ESS Maestro-2E
PCMCIA	http://www.o2micro.com/	OZ 6860
Chipset	http://www.intel.com	Intel 440BX
I/O contr.	http://www.ns.com	NS PC97338
*BIOS	http://www.micronpc.com	TransPort TransPort NX
CD-ROM	http://www.teac.com	See your CD-ROM
DVD-ROM	http://www.teac.com	See your DVD-ROM
LS-120 drive	http://www.ortechnology.com	LS-120
CPU	http://www.intel.com	Varies with CPU
Vendor	http://www.micronpc.com	TransPort TransPort NX

TABLE 16. Alternative Device Drivers

* Note that the latest BIOS is NOT available on Phoenix's home page; contact Micron for future BIOS versions.

Appendix F - Caring for Diskettes and CDs

The floppy diskette is the most widely used data storage medium for transferring data from one PC to another. The coated mylar disk is enclosed in a plastic case that protects the disk from damage caused by scratches, bending, and dust.

Insert the diskette into the drive with the label side up. Most diskettes have an arrow to indicate which end goes in first. Slide the diskette all the way in until the diskette Eject button pops out. To eject the diskette, push the diskette Eject button until the diskette pops out.

When the FDD is being accessed, a green LED below the FDD door will illuminate. A read/write head can carry out four basic operations as prescribed by the disk operating system (Windows 95):

- Read data currently stored on the diskette
- Write new data to the diskette
- Erase data from the diskette
- Format a diskette

Your computer's floppy disk drive accepts 720KB double-density (2DD) diskettes or 1.2MB and 1.44MB high-density (2HD) diskettes. These diskettes are sometimes labeled by the manufacturer as double density 1.0MB and high-density 2.0MB diskettes. These labels, however, indicate the unformatted capacities of the diskettes. The TransPort NX FDD also supports a 1.2MB format in accordance with NEC PC compatibility. The floppy disk drive is assigned as Drive A.

Under normal conditions a diskette's rigid plastic case will protect it from damage. However, data stored on floppy diskettes are easily corrupted. Follow the protective measures listed below to preserve the integrity of data stored on floppy diskettes.

- Never touch the magnetic surface of the disk. When handling diskettes, take care that you don't drop them. Keep diskettes away from liquids.
- Never turn off, reboot, or reset the computer when a diskette is in the drive and the drive activity light is on. Do not transport the computer with diskettes inserted in the drive.
- Do not expose diskettes to extreme temperatures or high humidity.
- Keep diskettes away from magnetic fields generated by power supplies, monitors, magnets, etc.

- Don't smoke in the same room where diskettes are used or stored. Particles from cigarette smoke are large enough to scratch the surface of the disk.
- Store diskettes in a dry, dust-free environment.

WARNING: ***Never turn off or reset the TransPort NX while the FDD LED is on. Always store your diskettes in a dry, clean container, to protect them from the environment and magnetic fields.***

Precautions for Handling CD-ROM Disks

Keep these precautions in mind when handling CD-ROM disks.

- Always hold the disc by the edges, avoid touching the surface of the disk.
- Use a clean, dry, cloth to remove dust, smudges, or fingerprints. Wipe from the center outward.
- Do not write on the surface of the disk.
- Extremes in temperature may damage disks. Store discs in a cool dry place.
- Do not use benzene, thinners, or cleaners with detergent. Only use CD-OM cleaning kits.
- Do not bend or drop the disks.
- Do not place objects on top of disks.

Loading and Removing a Disc

To play a CD disc, follow the instructions listed below.

1. Push the CD-ROM Eject button on the CD drive door, found on the front of the computer. Gently pull the tray all the way out.
2. Carefully lift the CD-ROM by the edges and make sure the shiny surface is face down (the side with no writing on it).
3. Carefully insert the CD-ROM onto the tray. Push the CD-ROM down gently so that it snaps onto the centering.
4. Push the tray back into the drive.

To remove a CD-ROM, do the following:

1. Check the LED display and make sure that the computer is not accessing the CD-ROM drive.
2. Push the Eject button and pull the tray all the way out.
3. Carefully pick up the CD by the edges and – while pressing down on the center ring – remove the CD-ROM from the tray. Push the tray into the computer until it closes.

NOTE: *Do not insert any foreign objects into the disc tray. When not in use, keep the tray closed to prevent dust or dirt from entering the drive unit. If you experience difficulty when ejecting the CD disk tray, stretch a paper clip (or use a pin or a thin metal rod) and insert it into the emergency eject hole located on the right side of the front panel. The CD disk tray should eject immediately. This procedure can also be used to remove a CD from the drive when the TransPort NX is powered off.*

Reading CDs

The CD-ROM drive is designated drive D by default. However, it's treated as a low-priority device by the system. For example, if you have other drives installed, they take precedence over the CD-ROM. The CD-ROM will always surrender to the designated next priority drive.

CD Types

There are a variety of CD products on the market. They go by various names, such as CD-I, CD-Title, Audio-CD or Video-CD. Before playing a CD, you should determine what type of CD it is, and run a playback program capable of running that type of CD.

Windows NT comes with a mini-application that will run different types of CDs. Try it by clicking start, applications, multimedia and media player.

Appendix G - Abbreviations

ACPI
Advanced Configuration and Power Interface

AMD
Advanced Micro Devices

APM
Advanced Power Management

ASKIR
Amplitude shift keyed infrared port

ATA
AT Attachment (Advanced Technology Attachment)

ATAPI
AT Attachment Packet Interface

BIOS
Basic Input/Output System

CMOS
Complementary Metal Oxide Semiconductor

CPU
Central Processing Unit

DIMM
Dual In-line Memory Module

DMA
Direct Memory Access

DRAM
Dynamic Random Access Memory

D-STN
Dual Scan STN (Super Twisted Nematic)

D-STN XGA
Dual Scan Super Twisted Nematic Extended Graphics Array

ECP
Enhanced Capabilities Port

EDO DRAM
Extended Data Output DRAM

EIDE
Enhanced IDE (Integrated Drive Electronics)

EPP
Enhanced Parallel Port

FDC
Floppy Disk Controller

FIR
Fast Infrared

GB
Gigabyte (1GB = 1,073,741,824 bytes or 1,024MB)

HP SIR
Hewlett-Packard Serial InfraRed

I/O
Input/Output

IDE
Integrated Drive Electronics

IEEE
Institute of Electrical and Electronics Engineers

IrDA
Infrared Data Association

LAN
Local Area Network

LCD
Liquid Crystal Display

LCM
Liquid Crystal Module

LED
Light Emitting Diode

Li-Ion
Lithium Ion (battery)

MB
Megabyte (1MB = 1,048,576 bytes or 1,024KB)

MESI
Modified Exclusive Shared and Invalid (protocol)

MHz
MegaHertz

MIDI
Musical Instrument Digital Interface

MMU
Memory Management Unit

MMX
MultiMedia Extensions

MPEG
Motion Picture Experts Group

MS-DOS
Microsoft Disk Operating System

Ni-MH
Nickel Metal Hydride

NTSC
National TV Standards Committee

PAL
Phase Alternating Line

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
S-video hookups use a 5-pin connector

TFT
Thin Film Transistor

TFT XGA
Thin Film Transistor Extended Graphics Array

USB
Universal Serial Bus

VGA
Video Graphics Array

XGA
Extended Graphics Array

ZV Port
Zoomed Video Port

Appendix H - Glossary

Active Matrix Display
A type of flat-panel display in which the screen is refreshed more frequently than in conventional passive-matrix displays. The most common type of active-matrix display is based on a technology known as TFT (thin film transistor). The two terms, active matrix and TFT, are often used interchangeably.

ACPI
Advanced Configuration Power Interface. A standard that regulates all Plug-and-Play devices.

APM
Advanced Power Management, an operating and application level of power management, your notebook is fully compatible to this.

Application Program
A complete, self-contained program that performs a specific function directly for the user.

BIOS
Basic Input/Output System. Programs that are permanently stored in the system board's EEPROM chips providing functions such as the power-on self test (POST). In the manual we refer the BIOS as Setup. To modify the BIOS settings press [Delete] when you start your notebook, for more information see "Chapter Three - Running BIOS Setup."

Bit
A binary digit, the smallest unit used in a computer, it takes 8 bits to make a byte.

Boot
To start the computer system and load the operating system.

Bus
The set of address or data lines used to transfer information between different components within a computer (such as memory, the microprocessor, and the expansion slots). The width of the bus or the number of parallel connectors, determines the size in bits of the largest data item that it can carry. Your notebook uses both ISA and PCI buses; the PCI bus is much faster (VGA, PCMCIA and IDE).

Byte
8 bits of memory.

Cache
Small, fast, local storage for frequently accessed instructions and data to provide the processor with the fastest stream of information possible, while keeping main memory current. Can also be used for a local copy of data accessible over a network, and more.

Cardbus
A 32-bit extension of the 16-bit PC Card peripheral interface, widely known as the PCMCIA interface for its parent organization, the Personal Computer Memory Card International Association.

CD-ROM
Compact Disc-Read Only Memory. An information (data) storage device that uses compact disc technology. CDs can store over 650 MB. Until recently they could not be written to, hence the appellation "Read Only." The new CD-W format, however, allows for repeatable reformatting and rewriting of a single CD (with applicable hardware).

CD-ROM Drive
The device that reads CD-ROM discs.

CMOS
Complementary Metal Oxide Semiconductor. A logic circuit family that uses very little power. It stores system setup information including system hardware settings. Sometimes used to store information by applying constant, uninterrupted power through the use of an external battery. The BIOS code is saved here.

CPU
Central Processing Unit. The integrated circuit chip that performs the actual computing functions of the computer. Other chips perform support functions like storing data and controlling peripherals. Also see microprocessor. Often measured in MHz (million hertz), which is the speed of the processor.

CRT
Cathode Ray Tube. Another name is external monitor.

DIN
Deutsch Industrie Norm. A round multi-pin connector, generally used to connect the keyboard and mouse to the system.

Dip Switches
Small bank of switches built onto a circuit board or adapter card. The DIP (Dual In-Line Package) switch settings control various hardware options.

DMA
Direct Memory Access. A facility of some architectures which allows a peripheral to read and write memory without intervention by the CPU. DMA is a limited form of bus mastering.

DOS
Disk Operating System. Operating system software which allows the user and whatever application programs are installed to communicate with the computer hardware. The notebook is supplied with the MS-DOS Operating System.

DRAM
Dynamic Random Access Memory. Dynamic random access memory (DRAM) is the most common kind of random access memory for personal computers and workstations. DRAM is dynamic in that, unlike static RAM, it needs to have its storage cells refreshed or given a new electronic charge every few milliseconds.

DSTN
Double Super-Twisted Nematic or Dual-Scan Twisted Nematic. DSTN displays utilize dual-scan, passive matrix screen technology. The contrast ratio can go as high as 30-to-1, and glare resistance (washing out) is improved over earlier DSTN screens. But refresh rate is slower than with active matrix, or Thin Film Transistor (TFT), technology displays, which means DSTN is less desirable for motion video or animation. Supertwist refers to a technique for improving LCD display screens by twisting light rays. In addition to normal supertwist displays, there also exist double supertwist and triple supertwist displays. In general, the more twists, the higher the contrast. Dual-Scan refers to the process of refreshing the screen twice as fast as conventional passive matrix displays. Dual-Scan displays are not as sharp or bright as active-matrix displays, but they consume less power.

ECP
Enhanced Communication Port [Microsoft]. Also referred to as extended capabilities port. Improves I/O performance for LPT ports, IRQs and/or DMA settings.

EPP
Enhanced Parallel Port. A parallel port standard that supports data-transfer rates of up to 500 Kbps compared to 150 Kbps for the standard parallel interface.

EEPROM
Electrically Erasable Programmable Read Only Memory. Used to store modifiable BIOS code. It retains its contents for 10 years even with no power at all. For PCI bus machines, EEPROM will allow you to easily upgrade as the plug and play features are standardized.

Firewire
Officially called IEEE 1394, firewire is a new, very fast external bus standard that supports data transfer rates of up to 400 Mbps (400 million bits per second). A single firewire port can be used to connect up to 63 external devices. In addition to its high speed, firewire also supports isochronous

data-delivering data at a guaranteed rate. This makes it ideal for devices that need to transfer high levels of data in real-time, such as video devices. Although extremely fast and flexible, firewire is also much more expensive than a competing external bus standard called Universal Serial Bus (USB). Like USB, firewire supports both Plug-and-Play and hot plugging.

Floppy Diskette Drive (FDD)
The storage of a standard diskette is 720kb, 1.2MB (Japan only), 1.44MB and 120 MB. Also see LS-120 and ZIP for new diskette types.

Format
Preparing a diskette (floppy or HDD) for use with a DOS, this erases all the information.

Hard Disk Drive (HDD)
An internal or external, high-capacity, high-storage medium. Available is IDE or SCII, it has considerably high storage capabilities than floppy, ZIP or JAZ storage.

IDE
Integrated Drive Electronics. A protocol and circuitry for communication between a computer and a Hard Drive. Currently the most popular type of hard drive used in PCs. A standard IDE adapter can handle a maximum of two hard drives total.

I/O Port
An Input / Output connector that allows external and some internal peripherals to communicate with the computer system (i.e., serial ports and parallel ports).

IRQ
Interrupt Request. Every device has an assigned IRQ number; if two devices share the same number there will be a conflict and none of the devices will work.

ISA
A standard for 8 and 16-bit expansion cards, this standard is also referred as AT-bus. The speed on the bus is 8MHz.

Isochronous
Equal in duration; Characterized by or occurring at equal intervals of time.

Joystick
This input device plugs into the game/midi port and allows you to control elements of some computer games.

Jumper
On a printed circuit board: a patch cable or wire used to establish a circuit. For example, jumpers are often needed to configure multi-HDD sequence.

KB
Kilo Byte (1024 bytes).

LAN
Local Area Network. LANs are data communications networks which are geographically limited, allowing easy interconnection of terminals, microprocessors and computers within adjacent buildings.There are many different standards for LAN, such ETHERNET and Token ring.

LBA
Enabling LBA causes Logical Block Addressing to be used in place of cylinders, heads and sectors, this can be done in the BIOS.

LCD
Liquid Crystal Display. A type of display used in many portable computers. LCD displays utilize two sheets of polarizing material with a liquid crystal solution between them. Color LCD displays use two basic techniques for producing color: Passive matrix is the less expensive of the two technologies, but its colors are not particularly sharp and it has slow reaction times. The other technology, called thin film transistor (TFT) or active-matrix, produces color images that are as sharp as traditional CRT displays, but the technology is expensive.

LED
Light Emitting Diode. A diode that illuminates when electrically charged. The front panel lights are diodes.

MB
Mega Byte (1 million bytes).

Megahertz (MHz)
A frequency of 1 million cycles per second.

Memory
Devices used to hold information and programs while they are being accessed by the microprocessor. See also RAM, ROM, Hard Disk, Floppy Disc, and Removable Storage.

MIDI
Musical Instrument Digital Interface. A hardware specification and protocol used to communicate note and effect information between synthesizers, computers, keyboards, controllers and other electronic music devices.

MMO
Mobile Module, a CPU module made by Intel.

MMX
Multimedia Extensions. A Pentium processor with 57 new instructions onboard to accelerate multimedia and communications applications. Running MMX technology encoded software on a Pentium processor with MMX technology improves the speed and smoothness of audio and video playback, image processing and 3D rendering by more than 60 percent. Current software (not enhanced with MMX technology) runs 10-20 percent faster on a Pentium processor with MMX technology.

Mouse
A pointing device to move your cursor within certain software, such as Windows 95.

Notebook Computer
An extremely lightweight personal computer. Notebook computers typically weigh less than six pounds and are small enough to fit easily in a briefcase. Aside from size, the principal difference between a notebook computer and a desktop computer is the display screen.^

NTSC
National Television Systems Committee of Electronic Industries Association (EIA) that prepared the standard of specifications approved by the Federal Communications Commission in 1953 for commercial television broadcasting.

Operating System
The software that provides a link between application programs and the computer hardware (i.e., disks, memory). The Operating System determines how programs run on the computer and supervises all input and output. Windows 95/ 98, UNIX and Windows NT are examples of popular Operating Systems."

PAL
Phase Alternating Line. A European color TV standard that broadcasts an analog signal at 625 lines of resolution 25 interlaced frames per second.

Partition
A logical unit created on the HDD, which is seen to the OS as a separate drive. This is necessary on larger HDD on certain Operating Systems, when restrictions by the BIOS or the OS limit the maximum amount of memory to which a drive may be formatted.

PC Card
Personal Computer Memory Card International Association cards. Credit card sized devices that conform to the standards of this association. The first cards were memory cards, but now there is a wide range of PC cards available. To benefit from PC cards, you must have both the necessary hardware, and the software. PC card is a popular term for the PCMCIA specification (16-bit) and is to be distinguished from the Card Bus specification (32-bit).

PCI
Peripheral Connect Interface, this is the successor of ISA bus, it provides a much faster speed than ISA. The speed on the bus is 33MHz.

PCMCIA
Personal Computer Memory Card International Association cards (pronounced as separate letters). Also known as PC cards. Credit card sized devices that conform to the standards of this association. There are three types of PCMCIA cards. All three have the same rectangular size (85.6 by 54 millimeters), but different widths. Type I cards can be up to 3.3 mm thick, and are used primarily for adding additional ROM or RAM to a computer. Type II cards can be up to 5.5 mm thick. These cards are often used for modem and fax modem cards. Type III cards can be up to 10.5 mm thick, which is sufficiently large for portable disk drives. As with the cards, PCMCIA slots also come in three sizes: a Type I slot can hold one Type I card, a Type II slot can hold one Type II card or two Type I cards, a Type III slot can hold one Type III card or a Type I and Type II card.

Peripheral
Any device that is connected to the computer system (i.e., printers, keyboard, plotters, port-replicator, etc.).

Pixel
Image elements (small points), that compose a screen image.

Plug-and-Play (PnP)
Refers to the ability of a computer system to automatically configure expansion boards and other devices. The technology developed by Microsoft and Intel that supports plug-and-play installation. PnP is built into the Windows 95 operating system, but to use it, the computer's BIOS and expansion boards must also support PnP. This is changing, as IBM PC manufacturers adopt the new Plug and Play (PnP) specifications.

POST
Post On Self Test. Check-out procedures that the BIOS runs automatically when the system is turned on. These procedures verify that all computer hardware is functioning properly. If the test detects problems, the computer displays error codes before (or instead of) starting the operating system. The error codes can help a service person determine what is wrong with the computer.

RAM
Random-Access Memory. The type of computer memory that can be used to store information while a program is running. RAM consists of a number of small integrated circuits that are plugged into the system board or an external memory card.

ROM
Read-Only Memory. The type of computer memory that is used to permanently store the information vital to computer operation, including some parts of the operating system. ROM is permanent and the contents will not be lost when power to the computer is turned off.

Setup Program
Used to inform the computer about installed peripheral, memory, configuration information, date and time, etc.

SO DIMM
Small Online Dual In-line Memory Module. A smaller version of the standard DIMM module specific to notebook computers.

SPP
Standard Parallel Port. This port provides a standard method of attaching printers and other devices to the computer. Eight data input/output lines are provided, along with 2 control lines.

SVGA
800x600 pixels resolution, also see VGA and XGA.

S-Video
Type of video signal used in S-VHS and some laser disc formats. It transmits luminance and color portions separately, using multiple wires. S-Video avoids composite video encoding, such as NTSC, and the resulting loss of picture quality. Also known as Y-C Video.

System Board
The large printed-circuit board in a computer on which most electronic devices are mounted; the primary board in a computer. All other interfaces receive control signals or information from the system board. Also commonly referred to as the "mainboard" or "motherboard."

Thin Film Transistor (TFT)
A type of LCD flat-panel display screen, in which each pixel is controlled by from one to four transistors. TFT screens are sometimes called active-matrix LCDs. This technology provides bright, high-contrast images viewable from wide angles. It likewise delivers a high refresh rate, enabling the playback of motion video and animation, as well as easy navigation with a mouse pointer.

Touchpad
A pointing device to move your cursor under certain software, like Windows 95.

UART
Universal Asynchronous Receiver/Transmitter, the UART is compatible to NS16550.

USB
Universal Serial Bus. A new external bus standard that supports data transfer rates of 12Mbps (12 million bits per second). A single USB port can be used to connect up to 127 peripheral devices, such as mice, modems, and keyboards. USB also supports Plug-and-Play installation and hot plugging.

Video Graphics Array (VGA)
A standard for 640x480 resolution, also see SVGA and XGA.

Wait State
A delay in the computer's information processing cycle caused by a difference in speed between a faster processor and slower memory. A 0-wait state means the processor does not have to "wait" for memory, and can access data as fast as needed.

XGA
1024x768 pixels resolution, also see VGA and SVGA.

ZV (Port)
Zoomed Video Port. A port that enables data to be transferred directly from a PC Card to a VGA controller. The port is actually a connection to a zoomed video bus. This new bus was designed by the PCMCIA to enable notebook computers to connect to real-time multimedia devices such as video cameras. The first notebook computers with the ZD port arrived in late 1996.

Index

S

T

U

V

W

X

Z