
**A-320T SERIES
NOTEBOOK
OPERATOR'S MANUAL**

P/N: 799001122010

R00

A-320T Notebook Operator's Manual

© Copyright by MTC 1998. All rights reserved. No part of this publication may be reproduced by any means for any reason without express written approval from MTC or its authorized representative.

MTC makes no representations, either express or implied concerning the accuracy of this manual. All the information contained herein is believed to be complete and reliable as of the printing date. MTC reserves the right to make changes to this manual or product specifications without obligation to notify any person of such changes.

IBM, IBM PC/AT and OS/2 are registered trademarks of International Business Machines Corporation.

Intel Pentium is a registered trademark of Intel Corporation.

MS-DOS, XENIX, Windows 95 and MS-Windows are registered trademarks of Microsoft Corporation.

UNIX is a registered trademark of AT&T Bell Laboratories.

Other brand and product names are trademarks and/or registered trademarks of their respective holders.

Class B Regulations

Federal Communications Commission Radio Frequency Interference Statement

NOTE:

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

Reorient or relocate the receiving antenna.

Increase the separation between the equipment and receiver.

Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

Consult the dealer or an experienced radio/TV technician for help.

Any changes or modifications not expressly approved by the manufacturer could void the user's authority to operate the equipment.

Please note:

1. The use of a non-shielded interface cable with this equipment is prohibited.
2. A shielded AC power cord must be used with this equipment.

A-320T Notebook Operator's Manual

Products with the CE Marking comply with both the EMC Directive (89/336/EEC) and the Low Voltage Directive (73/23/EEC) issued by the Commission of the European Community.

Compliance with these directives implies conformity to the following European Norms:

- EN55022 (CISR 22)-Radio Frequency Interference
- EN50032-1 (IEC801-2, IEC801-3, IEC801-4)-Electromagnetic immunity
- EN60555-2 (IEC555-2)-Power Line Harmonics
- EN61000-3-3 (IEC1000-3-3)-Voltage Fluctuations and Flicker

A-320T Notebook Operator's Manual

Preface

This is the A-320T Series Notebook Operation Guide.

Contents

This manual contains information for personnel using the A-320T Series notebook computer. Readers should have a basic understanding of Windows 98 operating system installed on the computer when reading this document. With the exception of the SETUP configuration program, which is part of the system firmware, this manual does not explain any of the software or devices used with the system. Supplemental manuals or text-based documents on the hard disk supply information about any software included with the system.

Audience

All operators using the notebook in or out of the field should read and become familiar with this manual.

Organization

This manual has three chapters.

Chapter 1 introduces the notebook pointing out its major features.

Chapter 2 explains daily operation.

Chapter 3 gives detailed information about configuring the notebook.

Chapter 4 introduces the notebook Maintenance.

Supplemental Reading

For further information about this computer and computing in general, use these references:

- A-320T Series Service Manual for detailed troubleshooting and repair instructions for serious hardware problems associated with the A-320T Series notebook.
- Various software manuals offer detailed instructions about individual programs run on the notebook.

Specifications (reference only)

	Standard	Optional
CPU	intel Pentium III 500 MHz	Intel Pentium III 500MHz or above
RAM	64 MB	128, 196 MB, Maxium 256MB
Display	<ol style="list-style-type: none"> 12.1-inch color LCD, 64K color TFT,super VGA 13.3-inch color LCD, SVGA TFT/DSTN 	12.1-inch for Sun-Light Readable 12.1-inch Touch Screen
Input Devices	<ul style="list-style-type: none"> 87-key shower proof and dust-proof rubber keyboard Embedded two-button Track Pad Microphone Port 	Backlight option
Output Device	<ul style="list-style-type: none"> Speaker Port 	
Communication ports	<ul style="list-style-type: none"> One RS-232 serial port One Centronics parallel port, support EPP/ECP One external monitor port One external PS/2 keyboard/Mouse port One Port Replicator port One external power supply port One infrared port, IrDA compliance One USB port One 1394 Port One Lan Port One Modem Port 	
Battery pack	<ul style="list-style-type: none"> Removable & rechargeable main LI-ion battery pack with the functions of on-line charge and hot swap (while Bay 1 battery coexists), total 71 watts 	<ul style="list-style-type: none"> Removable & rechargeable Bay 1 LI-ion battery pack in Bay 1, total 47 watts
Power adapter	<ul style="list-style-type: none"> AC: 100-240 V, 50-60 Hz , 54 watts Vout 22.5V, -2%~+3%, 2.4A, CV mode Vout 23.5V~10V, 2.1A~3.5A, , CP mode 	<ul style="list-style-type: none"> 9-20 VDC direct input without charging function 22.8-32 VDC external car adaptor/charger
Operating system		<ul style="list-style-type: none"> Windows 98 Windows NT
Temperature	<ul style="list-style-type: none"> Operating: 0°C to +45°C 	<ul style="list-style-type: none"> Option: -20°C to +50°C (tested)
Storage devices	<ul style="list-style-type: none"> Removable shock proof damaged 2.5" IDE HDD, capacity > 2.1GB Optional removable 3.5" 1.44MB FDD, to install in Bay 1 internally 	<ul style="list-style-type: none"> Removable shock proof damaged 2.5" IDE HDD, capacity > 4.0, 8.4GB (Swap with either CD-ROM module or Bay 1 battery pack); connected to parallel port with optional cable externally Optional CD-ROM module to be installed in Bay 1

A-320T Notebook Operator's Manual

Open Size: (With Rubber Bumper)	310mm (31 cm) W 68mm (6.8 cm) H 255mm (25.5 cm) D	
Weight	11.24 lbs (5.1kg)	

Safety Summary

1. Read these instructions before using or working on this computer.
2. Follow all warnings and instructions in this manual or marks on the computer and its components.
3. Avoid submerging the system unit in liquids.
4. avoid stacking papers or other flammable objects on top of, underneath, or next to the system unit.
5. Use only batteries supplied with the system.
6. Make sure any external power source connected to the adapter or system conforms with adaptor or system ratings.
7. The external power adapter has a three-pronged grounding plug. If an adapter is needed to plug the system into a power source, make sure the system is properly grounded.
8. Arrange all cables so that they are out of traffic and unobstructed by personnel or equipment.
9. Avoid using extension cords with this product. If an extension cord is needed, make sure it is rated for at least 10 amperes.
10. Make sure amperage drawn by all items plugged into an outlet with this system does not exceed 15 amperes.
11. Do not put any objects except those designed for use with this system inside the computer.
12. Observe proper electrical safety precautions when performing system maintenance.
13. Replace any cables with identically rated cables as those included with the original equipment.
14. Improper handling of the battery can cause personal injury or fires. Do not attempt to disassemble or replace individual cells in the battery pack. Do not expose the battery to open flames. Do not short the positive and negative ends together even if the battery is fully discharged. Keep the battery away from children.

Table of Contents

Preface

Contents	e
Audience.....	e
Organization	e
Supplemental Reading	e

Specifications

Specifications	f
----------------------	---

Safety Summary

Safety Summary	h
----------------------	---

Chapter 1 System Overview

1-1	Introduction	1-1
1-2	System Description.....	1-1
1-3	System Configuration	1-1
	1-3.1 Standard Configuration	1-1
	1-3.2 Options and Accessories	1-2
	1-3.3 System Identification	1-2
1-4	Unpacking	1-2
1-5	Notebook Features.....	1-2
	1-5.1 Cover	1-3
	1-5.2 Display.....	1-3
	1-5.3 Power Switch	1-3
	1-5.4 Keyboard.....	1-3
	1-5.5 Pointing Device.....	1-5
	1-5.6 Volume Control.....	1-5
	1-5.7 Brightness Control.....	1-5
	1-5.8 Keyboard Backlight	1-5
	1-5.9 CRT/LCD/Simulscan Toggle	1-5
	1-5.10 Panel On/Off.....	1-5

1-5.11	Standby Mode.....	1-6
1-5.12	Suspend Mode.....	1-6
1-5.13	Status Row.....	1-6
1-5.14	Battery Pack	1-6
1-5.15	Low Battery Indication	1-7
1-5.16	Battery Charger.....	1-7
1-5.17	CHARGE LED Indicator Status.....	1-7
1-5.18	Diskette Drive and CD-ROM	1-7
1-5.19	PCMCIA Slot and Diskette Drive and CD-ROM Door	1-8
1-5.20	PCMCIA Slot.....	1-8
1-5.21	VGA Port.....	1-8
1-5.22	Serial Port.....	1-8
1-5.23	Printer Port	1-8
1-5.24	Port Replicator Port	1-9
1-5.25	IrDA Port.....	1-9
1-5.26	USB Port.....	1-9
1-5.27	Keyboard/Mouse Port.....	1-9
1-5.28	External Power Source Port.....	1-9
1-5.29	External Power Adapter	1-9

Chapter 2 Operation

2-1	Introduction.....	2-1
2-2	Opening and Closing the Notebook	2-1
2-2.1	Opening the Cover.....	2-1
2-2.2	Closing the Cover.....	2-1
2-2.3	Opening the PCMCIA/FDD/CD-ROM Door.....	2-2
2-2.4	Shutting the PCMCIA/FDD/CD-ROM Door.....	2-2
2-3	Connecting and Installing Devices	2-3
2-3.1	Serial and Parallel Port.....	2-3
2-3.2	External Power Adapter	2-3
2-3.3	Diskettes.....	2-4
2-3.4	Remove the Floppy Diskette Drive and CD-ROM/ Bay 1 Battery.....	2-4
2-3.5	PCMCIA Cards	2-5
2-3.6	Hard Disk	2-6
2-3.7	IEEE 1394.....	2-6
2-3.8	Lan Module (10/100 Base/T Fast Ethernet Unit).....	2-7
2-4	First Time Use.....	2-8
2-4.1	Configuring the System.....	2-8
2-4.2	Installing Software Driver	2-8
2-5	Daily Operation.....	2-12
2-5.1	Starting the Computer	2-12
2-5.2	Turning Off The Notebook.....	2-12
2-5.3	Using the Notebook in the Car	2-13
2-6	Using External Power Sources	2-13
2-6.1	Using AC External Adaptor	2-14
2-6.2	Charging the Batteries	2-14

2-7	Running On Battery Power	2-14
2-8	Use the External FDD	2-14

Chapter 3 The SETUP Program

3-1	Introduction	3-1
3-2	Running SETUP and Moving Around	3-1
3-2.1	Main	3-2
3-2.2	Moving Around and making Selections	3-2
3-2.3	Security	3-8
3-2.4	Power	3-10
3-2.5	Exit	3-13

Chapter 4 Notebook Maintenance

4-1	Introduction	4-1
4-2	Daily Use	4-1
4-3	Battery Maintenance	4-1
4-3.1	Conserving Power	4-1
4-3.2	Changing the Battery Pack	4-1
4-4	Cleaning	4-2

List of Figures

Figure 1-1 A-320T Notebook, Front View	1-2
Figure 1-2 Rubber Keyboard.....	1-3
Figure 1-3 Cursor Control Keys.....	1-4
Figure 1-4 Track Pad Pointing Device.....	1-5
Figure 1-5 A-320T Status Row.....	1-7
Figure 1-6 Diskette Drive and CD-ROM.....	1-8
Figure 1-7 Rear Side View	1-9
Figure 2-1 Opening the Notebook	2-1
Figure 2-2 Opening a Door.....	2-2
Figure 2-3 Connecting the External Power, Serial & Parallel Ports.....	2-3
Figure 2-4 Removing a Diskette.....	2-4
Figure 2-5 Removing a FDD/CD-ROM	2-5
Figure 2-6 Removing a PCMCIA Cards.....	2-5
Figure 2-7 Removing a Hard Disk.....	2-6
Figure 2-8 Plug Car Power Cable in Notebook.....	2-12
Figure 2-9 Use the External FDD	2-13

List of Tables

Table 1-1 Standard A-320T Notebook Computer.....	1-1
--	-----

NOTE

1. We do not guarantee our system can normally work at the temperature below 0°C for standard.
2. The system does not support the functions of "When I close the lid of my portable computer:" in "Advanced" of "Power Management Properties" under Windows 98 with ACPI enabled.
3. The system does not support APM functions such as Standby, Suspend to RAM, Suspend To Disk....etc. under Windows NT4.0.
4. When you are installing some drivers under some operating systems, if you see the message showing "You are about to install a third- party driver", please do not care about it. This message only informs you that the driver you are installing is written by the third party and it will not affect the function.
5. The system can't support PNP function on the monitor item.

Save To Disk Utility

This "Save To Disk Utility" diskette provides the "0vmakfil.exe" file for the user to create the "Suspend To Disk" partition on the HDD.

NOTE

The HDD must be a clean one, which has not been partitioned before. If the HDD has any partition(s) inside, then all the partitions need to be deleted first before the HDD can create the partition for "Suspend To Disk".

To create the "Suspend To Disk" partition, please follow the following steps:

1. Turn on the computer.
2. Press "F2" to enter System Configuration Utility (SCU).
3. Select Main → Boot Sequence → A: then C: , then click "OK".
4. Select Security → Virus Alert (disable) → Boot Sector Protect (disable) , then press "Esc"
5. Select Power → Enable Power Management (enable). → Customize → Suspend Data To: DISK , then click "OK".
6. Select Exit → Save Changes and Exit , then press "Enter" and click "OK" to save the current settings to CMOS and then the system will restart.
7. Start the computer under DOS mode.
8. Insert the "Save To Disk Utility" diskette into Drive A.
9. Type "0vmakfil -p68", then press "Enter".
10. After the following messages are shown on the screen, "Suspend To Disk" will be enabled after rebooting.

Suspend-To-Disk Utility. Version 2.01.00(R09)

Copyright 1989-1995 SystemSoft Corp. All Rights Reserved.

Video RAM size = 32 x 64K

System RAM size = 512 x 64K

Least Partition Size = 34MB

No partition present

100%

Data File Verified – Suspend-To-Disk is Enabled after REBOOT.

A:\>

I. EMI Accessory Descriptions:

The user can use the following EMI Accessories for better EMI protection.

1. EMI Core — There are two same EMI cores. One is used to directly wrap around the 1394 cable of the user near the 1394 port side.
The other is used to wrap around the Lan cable of the user.
(The cable should pass through the core twice to form a coil.)

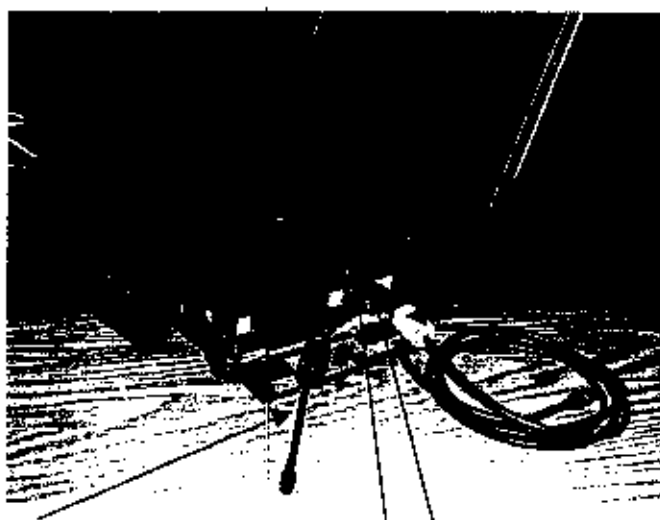
NOTE

The cores should be put close to the computer side for best performance.

2. EMI Cable — There are two same EMI cables. One is for the microphone port and the other is for the speaker port. The male connectors are connected to the microphone and speaker ports, and the female connectors are connected to the microphone and speaker(s).
3. Modem Cable — One modem cable together with the EMI core is used for the modem port.

NOTE

The connector close to the EMI core should be connected to the modem port of the computer for best performance.



EMI Cable

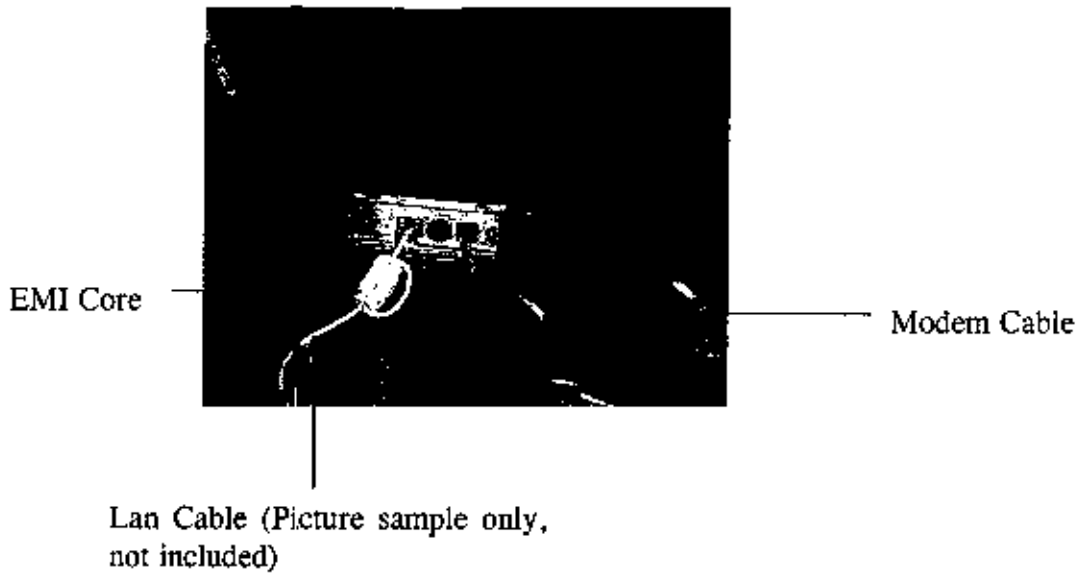
Speaker Port

Microphone Port

EMI Core

1394 Cable (Picture sample only,
not included)

Figure 1 EMI Core & Cable



ESD:

Air ±15Kv (Max)

Contact ±8Kv (Max)

±8Kv (Max) for DVD ROM Drive Only

±4Kv (Max) for DVD ROM Drive Only

Above Spec.is based on the DVD component Spec.

Chapter 1

System Overview

1-1 Introduction

A-320T Series notebook computer is a new generation notebook computer. It is a high-end rugged notebook computer which is an industrial notebook with some rugged features such as vibration, shock, drop and drip-proof. It is designed for using in vehicle or in the harsh environment.

The A-320T Series notebook computer implements the new technologies in the industrial market. Large display panel, high capacity hard disk drive, PCI bus and CD-ROM, etc. An Intel Pentium III 500 MHz CPU is the heart of this notebook computer. This chapter introduces and explains the A-320T Series notebook and its computer parts.

1-2 System Description

The A-320T Series computer is a compact fully portable notebook computer. It operates as a stand alone system for most applications.

It offers superior performance under harsh environmental and operating conditions. It is fully compatible with the IBM PC/AT standard.

1-3 System Configuration

This section presents and explains possible notebook hardware configurations. Refer to the nameplate on the notebook bottom for that system's configuration.

1-3.1 Standard Configuration

Table 1-1 lists the major common features of the standard A-320T systems.

The specifications in this table may be different from yours due to the optional items. Please refer to the detailed specifications including the standard and optional configurations on page d.

Table 1-1 Standard A-320T Notebook Computer

Feature	Description
CPU	Intel Pentium III 500 MHz or above
Storage device	Removable 2.5-inch 6.4 GB hard disk drive (or above) Removable 3.5-inch 1.44 MB Floppy disk drive
Display	1. 12.1-inch color LCD, 64K color TFT, super VGA 2. 13.3-inch color LCD, XGA TFT 1024 X 768 resolution, integrated power conserve mode
Power source	Rechargeable removable Li-ion battery (or other type)
Keyboard	87key shower proof rubber keyboard, Embedded two button track pad
PCMCIA	Two PCMCIA sockets (type II or one type III compatible)
I/O Devices	One RS-232 serial port One Centronics parallel port, support EPP/ECP One external monitor port One external PS/2 keyboard/Mouse port One Port Replicator port One external power supply port One infrared port, IrDA compliance One USB port One 1394 port One Lan Port One Modem Port

1-3.2 Options and Accessories

- External FDD
- LED-Backlight Keyboard
The LED-Backlight keyboard function keys is Fn + F8.
- CD-ROM/DVD ROM
- Modem Module
- Lan Module

1-3.2.1 Carrying Bag

The carrying bag makes carrying the notebook and its peripherals easier. It has compartments for up to four diskettes, this manual, the power supply, and all notebook cables.

1-3.3 System Identification

The nameplate listing system information is at the bottom of the notebook. It contains:

- Factory configuration
- Model number
- Serial number

1-4 Unpacking

Use this checklist to make sure all items included with the notebook are present in good condition.

- Notebook computer
- Rechargeable battery pack
- AC adapter
- Power cord
- Operation Manual
- A320T/A760 DRIVER CD

If any items are missing or damaged, please contact the supplier.

1-5 Notebook Features

Figures from 1-1 through 1-11 identify the major notebook parts, indicators, and controls.

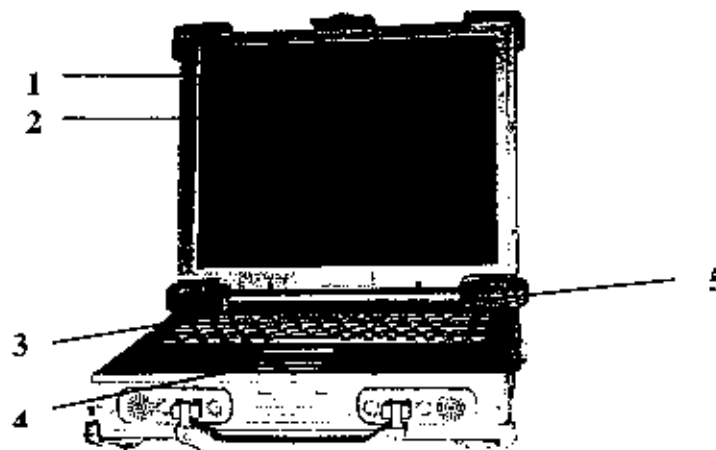


Figure 1-1 A-320T Notebook, Front View

1-5.1 Cover

The notebook cover (Item 1, Figure 1-1) houses the display unit and its control devices.

1-5.2 Display

The display have three types, one is 12.1" TFT 16 bit color LCD display (Item 2, Figure 1-1) is selected in A320T`-Series notebook computer. The resolution of this LCD display is 800 X 600 pixels (SVGA standard). But the connection mechanism from LCD display to motherboard is designed flexibly for different venders of LCD displays and different types. The other is 13.3" TFT 24 bit color LCD display , the resolution is 1024 X 768.

1-5.3 Power Switch

The power switch (Item 5, Figure 1-1) turns the notebook power on and off.

1-5.4 Keyboard

The keyboard (Item 3, Figure 1-1), is the primary tool for typing data and commands into the notebook.

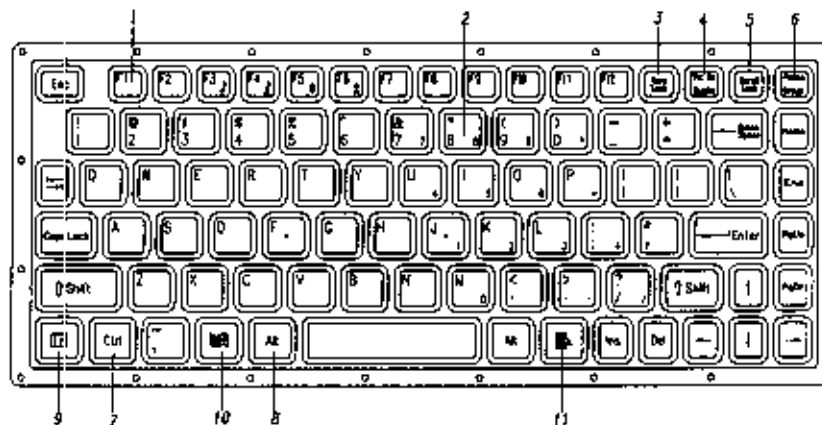


Figure 1-2 Rubber Keyboard

1-5.4.1 Function Keys

The function keys give special commands defined by software. The notebook BIOS also uses function keys to set some configuration parameters.

The rubber keyboard has twelve function keys numbered from F1 through F12 (Item 1, Figure 1-2) and Fn (Item 9, Figure 1-2).

1-5.4.2 Embedded Numeric Keypad

(Item 2, Figure 1-2) These keys act like calculator keys when the NUM LOCK light is on. When the numeric keypad is active, the notebook disables the alphabet keys doubling as numeric keypad keys.

1-5.4.3 Num Lock

The Num Lock key (Item 3, Figure 1-2) activates and deactivates the embedded numeric keypad. When the numeric keypad is active, the NUM LOCK indicator comes on and the alphabetic abilities of the embedded numeric keyboard are disabled.

1-5.4.4 Prt Sc/Sys Rq

The Prt Sc/Sys Rq key (Item 4, Figure 1-2) sends a print message to an attached printer to create a hard copy of data shown on the screen or makes other system requests depending on the running software.

1-5.4.5 Scroll Lock

The scroll lock key (Item 5, Figure 1-2) works with some software to freeze the display.

1-5.4.6 Pause/Break

The Pause/Break key (Item 6, Figure 1-2) temporarily or permanently stops a program .

1-5.4.7 Ctrl and Alt Keys

(Item 7, Item 8, Figure 1-2) Some software programs use these keys in conjunction with other typewriter keys to perform special functions. See the associated software manual for details.

1-5.4.8 Cursor Control Keys

(Figure 1-3) Ten keys around the keyboard right edge work with many programs to enhance editing and cursor placement. See the software manuals for their proper operation. The cursor control keys are:

- Insert (Item 1, Figure 1-3)
- Delete (Item 2, Figure 1-3)
- Home (Item 3, Figure 1-3)
- PgUp (Item 4, Figure 1-3)
- PgDn (Item 5, Figure 1-3)
- End (Item 6, Figure 1-3)
- → (Item 7, Figure 1-3)
- ↓ (Item 8, Figure 1-3)
- ↑ (Item 9, Figure 1-3)
- ← (Item 10, Figure 1-3)

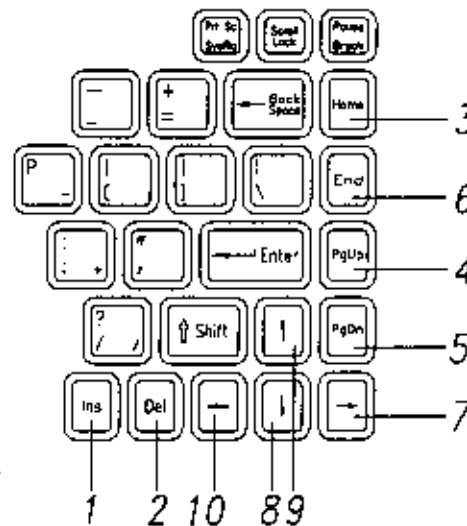


Figure 1-3 Cursor Control Keys

1-5.4.9 Windows Keys

On the A-320T Series keyboard, you can find one Windows Logo key (⊞, Item 10, Figure 1-2) and one Application key (Item 11, Figure 1-2). The two keys are used with other keys to perform software specific functions.

1-5.5 Pointing Device

Track pad is used as the pointing device of the A-320T Series notebook computer. Using finger to control the movement of cursor. The advantages of track pad are easily to clean and control the direction. The pointing device (Item 4, Figure 1-1) moves the cursor about the screen to help work with data.

The track pad consists of three major components:

- Track pad (Item 1, Figure 1-4)
- Right input button (Item 2, Figure 1-4)
- Left input button (Item 3, Figure 1-4)

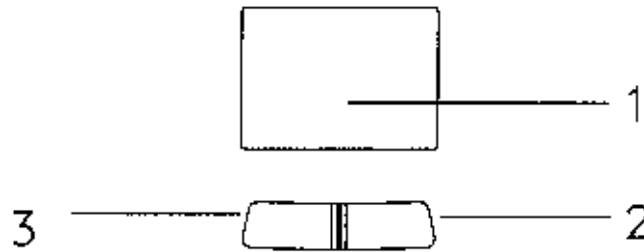


Figure 1-4 Track Pad Pointing Device

1-5.6 Volume Control

The volume control is adjusted from the combination of function keys Fn+F3 (↓) and Fn+F4 (↑)

The "Hot Key Beep" functions of the Fn+F3, Fn+F4 will not be supported to avoid the interface on the normal sound effect.

The system does not support Fn+F3, Fn+F4 volume control function under DOS.

1-5.7 Brightness Control

The brightness control is adjusted from the combination of function keys Fn+F5 (Dimmer) and Fn+F6 (Brighter). Please press and hold Fn key, then repeat Fn key or F6 key to adjust the brightness.

If the user presses Fn+F5 or Fn+Fn+F6 to adjust the LCD brightness, and continues adjusting it when it is already set to the the minimum or maximum, it will still keep on beeping every time F5 or F6 is pressed down.

1-5.8 Keyboard Backlight

The Backlight of the Keyboard is toggle from combination of function keys Fn+F8.

1-5.9 CRT/LCD/Simulscan Toggle

The CRT/LCD/Simulscan toggle is changed from the combination of function keys Fn+F9.

1-5.10 Panel On/Off

The Panel on/off is toggle from the combination of function keys Fn+F10.

1-5.11 Standby Mode

The system enter standby mode press the function keys Fn+F11.

1-5.12 Suspend Mode

The system enter suspend mode press the function keys Fn+F12.

1-5.13 Status Row

The status row (Figure 1-5) shows the current operating condition of several key notebook components. Figure 1-5 shows a close-up view.

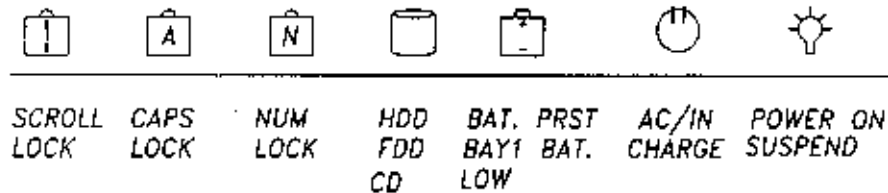


Figure 1-5 A-320T Status Row

1. A. When the power is on, then Power LED (Green) is on .
2. A. When the AC power adaptor is connected, then the AC IN LED (Green) is on in power on stage.
B. When charging is in progress, then the CHARGE LED (Orange) is on in power on and off stage. When the battery is fully charged, the CHARGED LED (Orange) goes out.
3. A. When any battery pack is present, then the BATTERY LED (Green) is on in power on stage.
B. When the battery pack enters battery low status, then the BATTERY LOW LED (Orange) is on.
4. A. When the HDD, FDD or CD-ROM drive is active, then the HDD/FDD/CD LED (Orange) is on.
5. The "Num Lock" key activates and deactivates the embedded numeric keypad. When the numeric keypad is active, the "Num Lock" indicator come on and the alphabetic of the embedded numeric keypad are disabled.
6. Press "Caps Lock" key will Charge the state of "Caps Lock" indicator between on and off, if the Caps Lock indicator goes on, represents the all English alphabet keys work in Upper Case state, otherwise the keys work in Lower Case state.
7. The "Scroll Lock" key works with some software to freeze the display. Then the cursor can move about the screen without the top bottom or any lines in between moving.

1-5.14 Battery Pack

Battery Pack is an assembly of the batteries, a battery pack connector board in an enclosed plastic case.

The primary battery is Li-ion type. The capacity of each cell is 1500mAh or more. 3.6V, 12 cells are used in one pack. The output voltage of battery pack is 10.8VDC, so the battery pack provides 64.8 watts or more to notebook computer.

Battery pack connector board provides interface between battery cells and DC/DC board.

1-5.15 Low Battery Indication

When all the batteries voltages are under the low battery status, the speaker will beep and the Battery LED is on (Orange).

If Bay 1 battery is in battery low status, system just only have battery low LED indicate in orange, if primary battery is in battery low status system will have battery low beep indication.

1-5.16 Battery Charger

The A-320T Series battery can be charged during power on and power off. The A-320T Series has two types of battery packs: the first is primary 12 pcs/pack battery, the secondary is 8 pcs/pack battery. The battery charge status is as follows:

1. Primary battery always have first charge priority.
2. The charge time is approximately six hours for power on and power off charge.

1-5.17 CHARGE LED Indicator Status

1. When you insert the battery pack into the system and the AC power adapter is already connected, the CHARGE LED (Orange) flashes three seconds or more and then stays during the charge period.
2. When you connect the AC power adapter to the system, and the battery pack is already inserted, the CHARGE LED (Orange) flashes three seconds or more and then stays on during the charge period.
3. When no battery pack is installed or the AC power adapter is not connected, the CHARGE LED (Orange) is off.
4. For over charge protection battery pack has self protection to inhibit the charge progress if the battery cell voltage over $4.05 \pm 0.1V$, that means, if primary battery voltage is higher than 16V, it may can't be charged and if Bay 1 battery voltage is higher then 12V will have same result.
5. There have no any sound indicator when battery pack is installed or uninstalled.

1-5.18 Diskette Drive and CD-ROM

(Item 2, Figure 1-6) The notebook has space for a 1.44 MB, 3.5-inch diskette drive and CD-ROM drive. The space can put removable FDD drive or CD-ROM drives.

The diskette drive allows permanent data storage in a compact, transferable media. Data stored on diskettes can be easily passed from one machine to another.

The A-320T Series diskette drive accepts 3.5-inch double-density (720 KB) and high density (1.44 MB) diskettes.



Figure 1-6 Diskette Drive and CD-ROM

1-5.19 PCMCIA Slot and Diskette Drive and CD-ROM Door

The PCMCIA slot and diskette drive and CD-ROM door (Item 3, Figure 1-6) protects the PCMCIA interfaces and diskette drive from damage in harsh environments.

1-5.20 PCMCIA Slots

The notebook has two PCMCIA slots, (Item 1, Figure 1-6). Each supports a two Type-II PCMCIA card. Together, they support one Type-III PCMCIA card.

1-5.21 VGA Port

This 15-pin (Item 1, Figure 1-7) analog port is for connecting in external monitor.

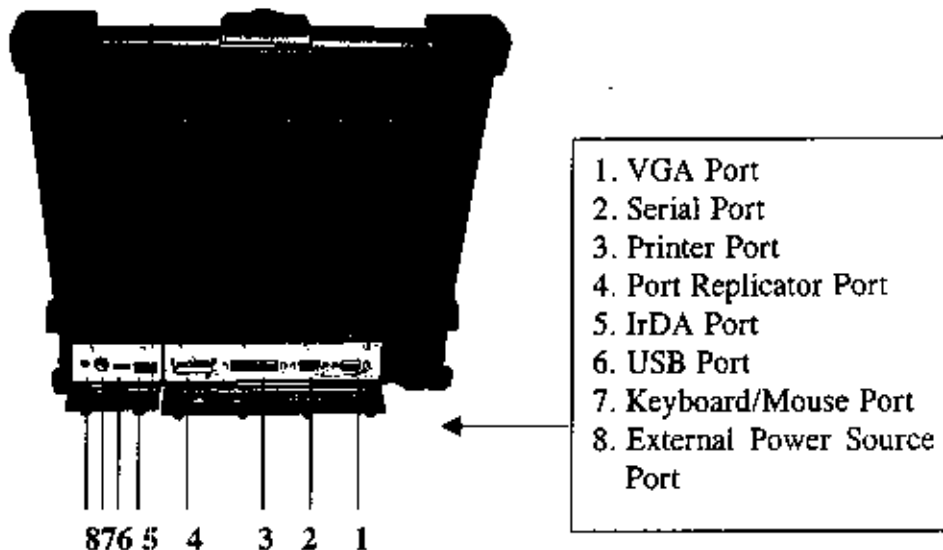


Figure 1-7 Rear Side View

1-5.22 Serial Port

One serial ports (Item 2, Figure 1-7) are 9-pin D-type connectors for the A-320T Series notebook. They are RS-232C interface set to the COM1 addresses.

1-5.23 Printer Port

The printer port (Item 3, Figure 1-7) is a 25-pin D-type interface. Usually this interface supports a parallel printing device.

1-5.24 Port Replicator Port

The Port Replicator Port (Item 4, Figure 1-7) is an 80-pin interface. Expand two SIO, two USB, two PS/2, PIO, VGA port.

1-5.25 IrDA Port

This infrared port (Item 5, Figure 1-7) complies IrDA, which allow you to connect your notebook to an IR device wirelessly.

1-5.26 USB Port

The USB port (Item 6, Figure 1-7) transfers at 1.2 or 1.5 Mbit/sec.

1-5.27 Keyboard/Mouse Port

The Keyboard/Mouse port (Item 7, Figure 1-7) for IBM PS/2 keyboard/Mouse.

1-5.28 External Power Source Port

If the notebook will be in use for a long continuous period, connect an external power source to the notebook here (Item 8, Figure 1-7).

1-5.29 External Power Adapter

The A-320T external power adapter converts 100-240V, 50-60 Hz to 22.5VDC, 2.4A, 54 watts for the notebook & expansion unit.

Chapter 2

Operation

2-1 Introduction

This chapter tells how to use the notebook.

2-2 Opening and Closing the Notebook

This section tells how to open the notebook cover and access doors. See Figure 2-1.

2-2.1 Opening the Cover

To open the notebook, press hook outward and tilt the cover up to a comfortable viewing angle. (Usually about 110°) See Figure 2-1.

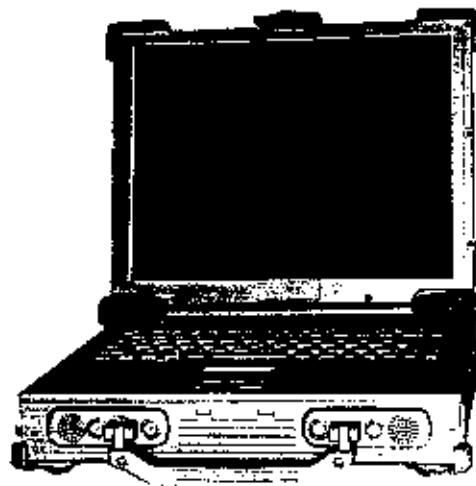


Figure 2-1 Opening the Notebook

2-2.2 Closing the Cover

To close the notebook, tilt the cover down until it clicks shut. The computer stays on if you close the cover while system power is applied.

2-2.3 Opening the PCMCIA/FDD/CD ROM Door

Open doors only when it is required to access components behind them.

To open a door:

1. Insert a small flat edged object (coin edge or screw-driver) in a door or cover securing captive screw.
2. Turn the screw counterclockwise until it comes loose from its socket.
3. Repeat steps 1 and 2 for each securing screw.
4. Grab a securing screw and open a door.

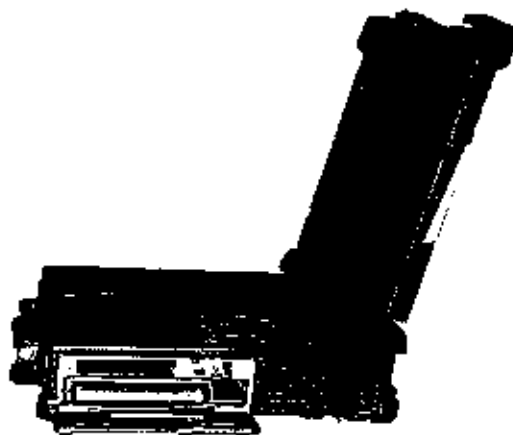


Figure 2-2 Opening a Door

2-2.4 Shutting the PCMCIA/FDD/CD-ROM Door

1. Shut the door or put the PCMCIA/FDD/CD-ROM back in place.
2. Align the door or cover securing screws with their sockets.
3. Use a flat edged tool (coin or screw driver) to turn the screws clockwise until tight.

NOTE

Keep all access doors and covers tightly shut when not in use.

2-3 Connecting and Installing Devices

This section gives instructions for installing, removing, changing, or connecting devices via the notebook external ports or sockets.

2-3.1 Serial and Parallel Port

Item 1, Item 2, Figure 2-3 shows how to connect serial and parallel cables. Make sure the mating connector is tightly secured by pushing it to the end and lock the screws.

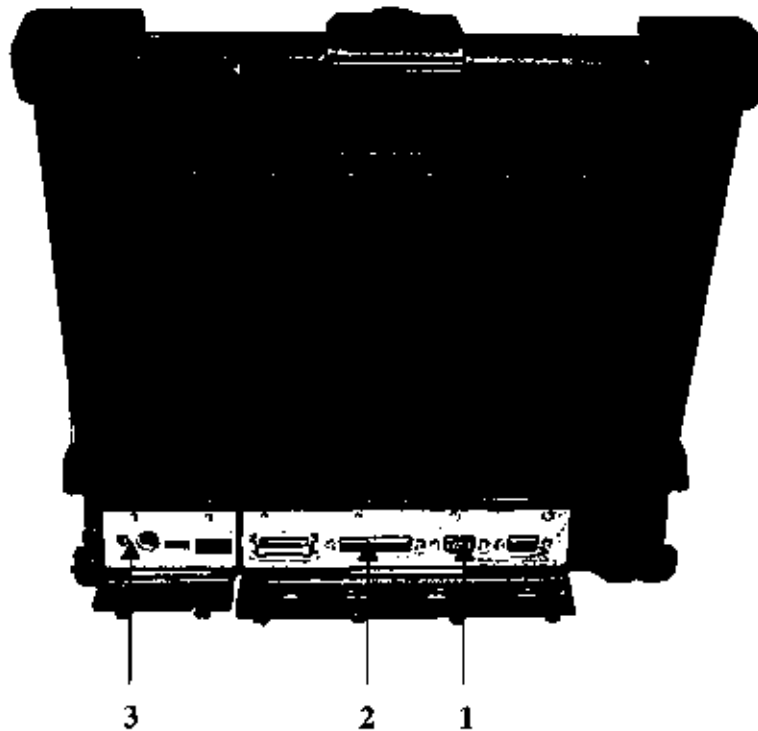


Figure 2-3 Connecting the External Power, Serial, and Parallel ports

2-3.2 External Power Adapter

Item 3, Figure 2-3 shows how to connect the power adapter. Make sure the mating connector is tightly secured by pushing it to the end.

NOTE

The notebook can be on or off when connecting or disconnecting the adapter.

2-3.3 Diskettes

To install a diskette,

1. Open the PCMCIA slot/ diskette drive access door.
2. Slide the diskette into the drive with the printed label facing up until it clicks in place.

To remove the diskette, press the ejector button on the right side of the drive. See Figure 2-4.

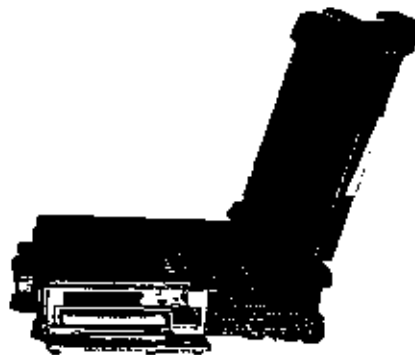
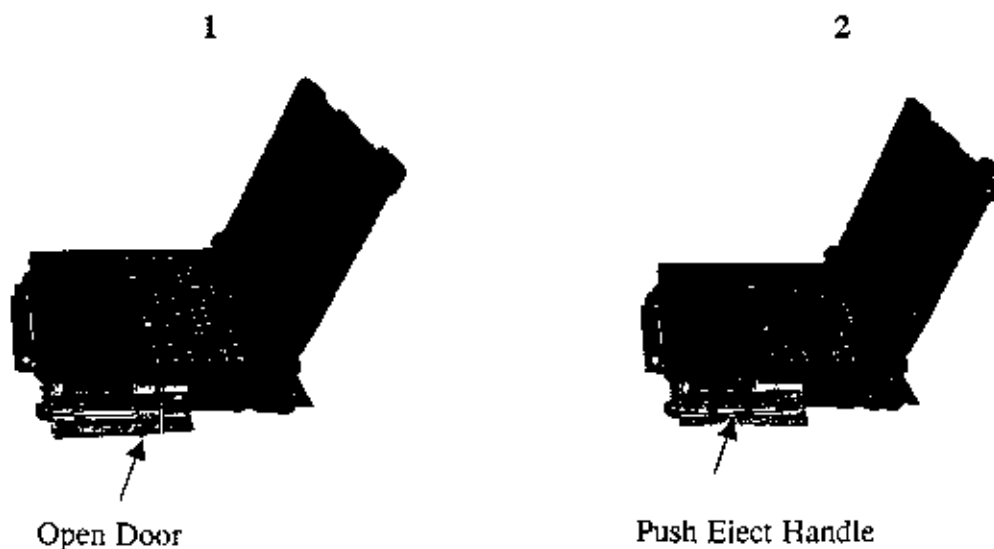


Figure 2-4 Removing a Diskette

2-3.4 Remove the Floppy Diskette Drive / CD-ROM / Bay 1 Battery

1. Open the PCMCIA /FDD/CD-ROM door.
2. Push the ejector handle at the front bottom of the FDD/CD-ROM/Bay 1 battery compartment to let it spring back about 0.4 cm.
3. Pull out the handle outwards about 3 cm and stop pulling to prevent it from being damaged.
4. Hold two sides of the FDD / CD-ROM/Bay 1 battery module and slide it out smoothly.



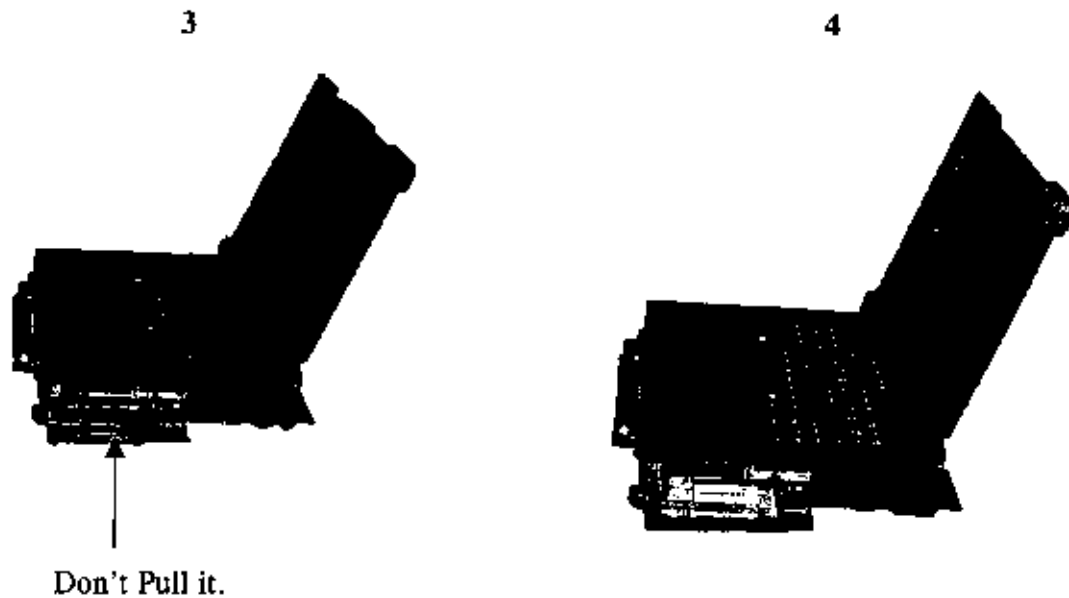


Figure 2-5 Removing a FDD/CD-ROM

2-3.5 PCMCIA Cards

The PCMCIA ports support up to two type-II PCMCIA cards or one type-III PCMCIA card. A type-III PCMCIA card occupies both slots.

1. Open the PCMCIA slot/diskette drive door.
2. Slide the card into the slot with the insert marking facing up until it seats.

To remove the upper card, press the eject button on the left. To remove the lower card, press the button on the right. (See Figure 2-6).

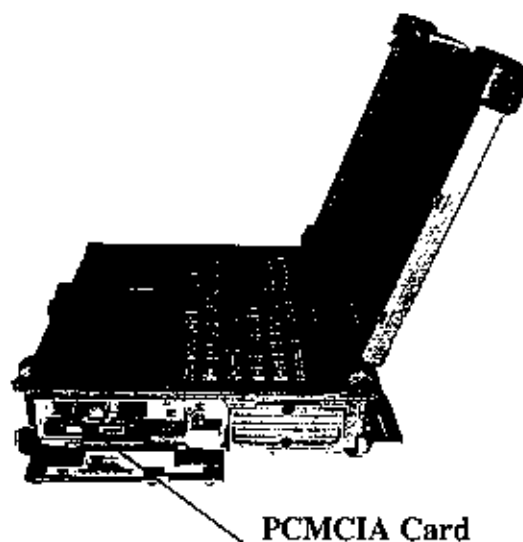


Figure 2-6 Removing a PCMCIA Cards

2-3.6 Hard Disk

CAUTION

Installing or removing a hard disk when the computer is on can destroy the system board and hard disk.

To remove and change the hard disk:

1. Turn the computer off.
2. Loosen the screws from up, down of the Hdd disk.
3. Grab the handle of the hard disk module and pull it out. (See Figure 2-7).
4. Insert the new hard disk module in the slot until it seats firmly.
5. If necessary, run the system configuration program when the system boots next time. See chapter 3 for details.

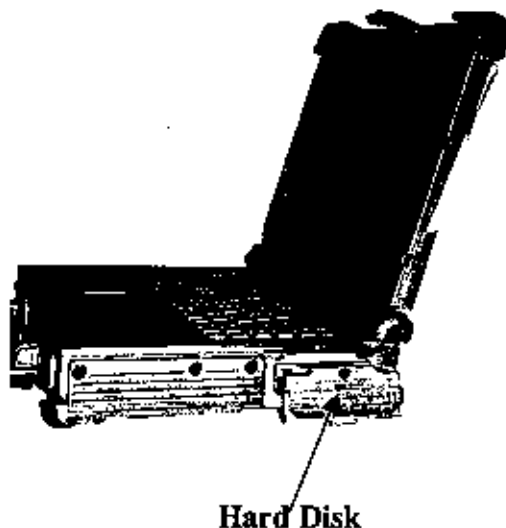


Figure 2-7 Removing a Hard Disk

2.3.7 IEEE 1394

- IEEE 1394-1995 COMPLIANT AND COMPATIBLE WITH PROPOSAL 1394A
- 3.3V CORE LOGIC WITH UNIVERSAL PCI INTERFACE COMPATIBLE WITH 3.3V AND 5V PCI SIGNALING ENVIRONMENTS COMPLIANT TO LATEST PCI SPECIFICATION ,PCI 2.2
- PCI POWER MANAGEMENT COMPLIANT
- CABLE POWER PRESENCE MONITORING
- LOW COST 24.576MHZ CRYSTAL PROVIDES TRANSMIT, RECEIVE DATA AT 100/200/400 MEGABITS PER SECOND, AND LINK-LAYER

CONTROLLER CLOCK AT 49.152 MHZ

- FULLY INTEROPERABLE WITH FIREWIRE IMPLEMENTATION OF IEEE STANDARD 1394
- PROVIDES 6-PIN IEEE1394 STANDARD CONNECTOR*1

NOTE

1. The Cable length of the IEEE 1394 must < 4.5m.
2. The system doesn't support power for the cable.

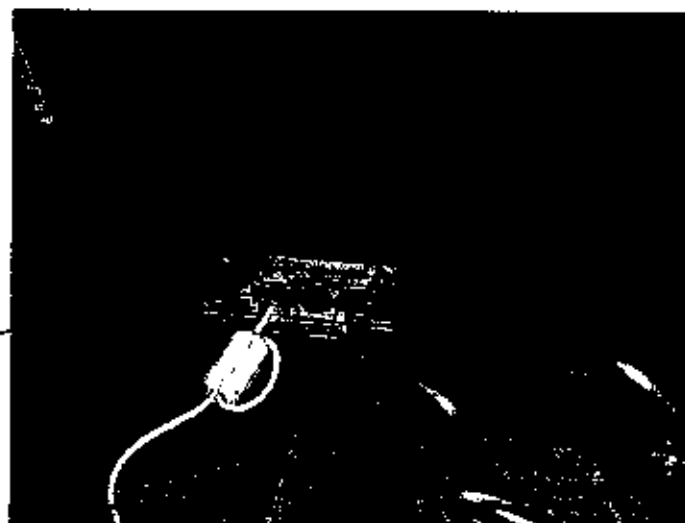
2.3.8 Lan Module (10/100 base-T Fast Ethernet unit)

- Integrated Fast Ethernet MAC,Physical chip and transceiver in one chip
- Support 10 Mb/s and 100 Mb/s N-way Auto negotiation operation
- Compliant to PCI Revision 2.2
- Support ACPI,PCI power management
- Support Wake-On-LAN function and remote wake-up
- Half/Full duplex capability
- Support digital and analog loopback capability on both ports
- Support full duplex flow control (IEEE 802.3x)

Operation support:

- windows 98
- windows NT4.0

Lan Port



Modem Port

2-4 First Time Use

This section describes activities to complete prior to using the notebook the first time.

1. Put the rechargeable battery pack into the battery compartment.
2. Connect the power adapter to the power port.
3. Connect the power adapter into a properly rated power source.
4. Turn on the computer.

2-4.1 Configuring the System

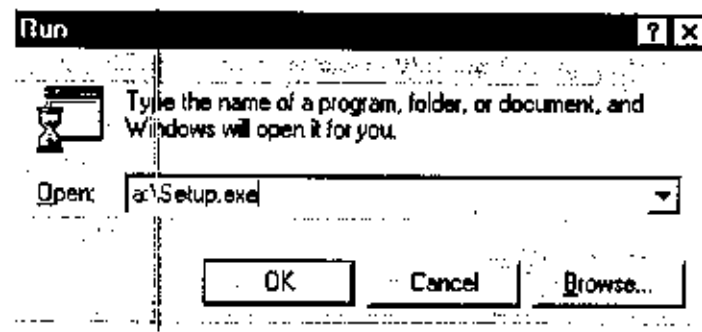
The notebook is configured in the factory. Run the SETUP program when the computer boots for the first time to record the system settings. For more details about configuring the system and when to do it, see Chapter 3.

2-4.2 Installing Software Driver

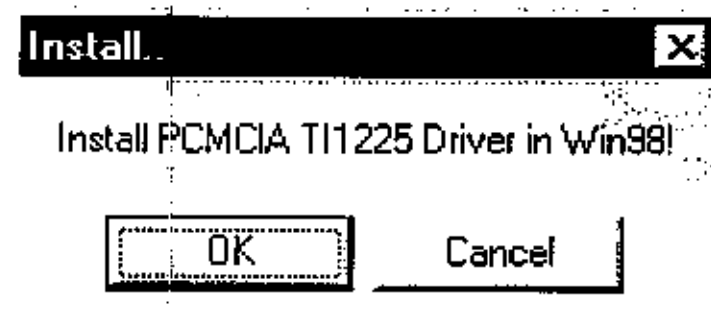
Before you install your new software, make a backup copy of the original program disk using the DOS Diskcopy command or the Windows disk copy utility in file manager.

2.4.2.1 Installation PCMCIA TI 1225 Driver in Windows 98

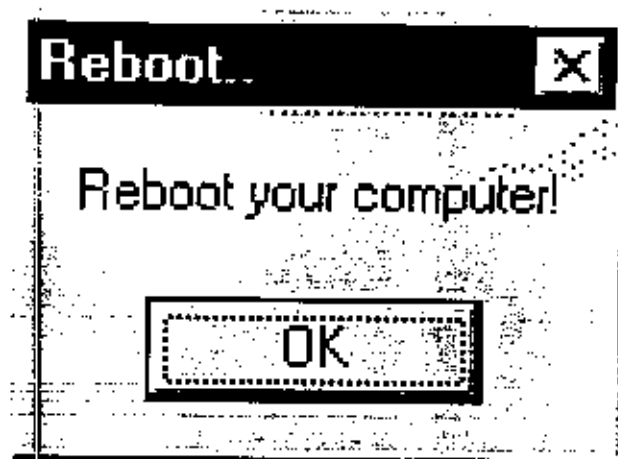
1. With Windows running, insert PCI 1225 Driver disk into drive A.
2. In the Windows program manager, select Run... from the File menu and type A:\Setup.exe. Press ENTER, or choose OK.



3. Select "OK" button to install PCMCIA driver.



4. When install driver completed then restart your computer.



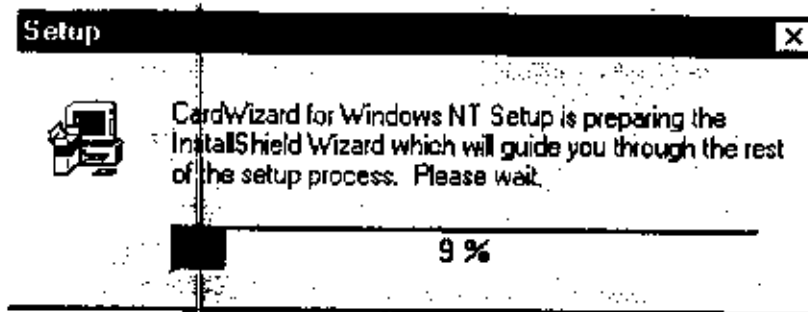
2-4.2.2 Installation Cardwizard Driver in Windows NT4.0

Installing CardWizard fro Windows NT is a simple task. Just insert the diskette into the appropriate drive and follow the prompts on the screen. If you need assistance refer to the instructions below:

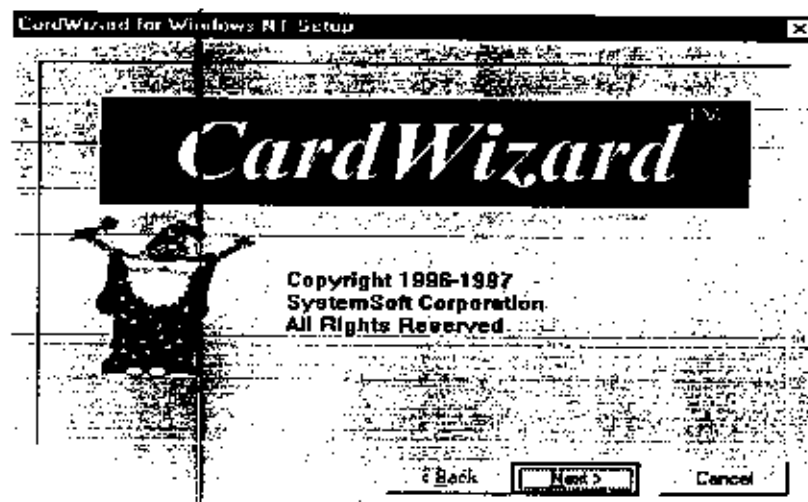
1. If you have any PC cards currently installed in PC card slots, remove them.
2. If you system is connected to a network, lof off before starting the installation.
3. Logon as an Administrator.
4. Carefully read the ReadMe file on the installation diskette.
5. Choose Run from the Windows NT Start button.
6. Enter A:\Setup.exe on the Open line in the Run dialog box.
7. Choose OK.

The installation program starts and indicates that Setup is preparing for the installation.

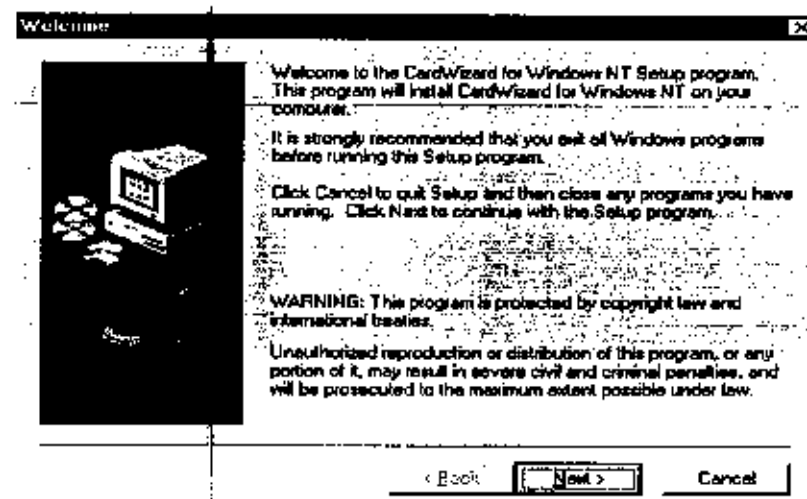
You will then be guided through the installation process.



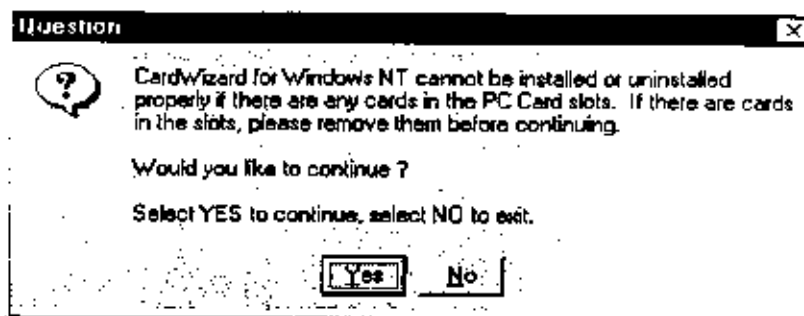
8. Select "Next" button then double click.



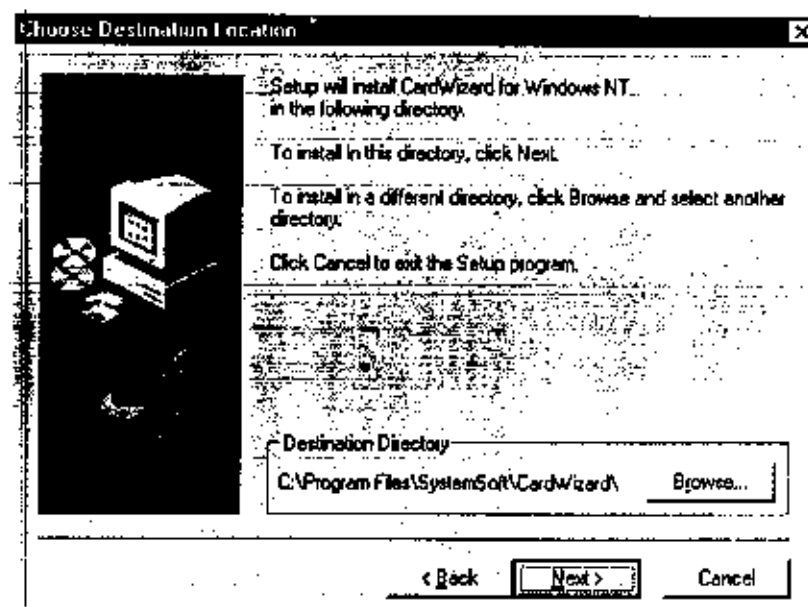
9. Select "Next" button to display the welcome screen.



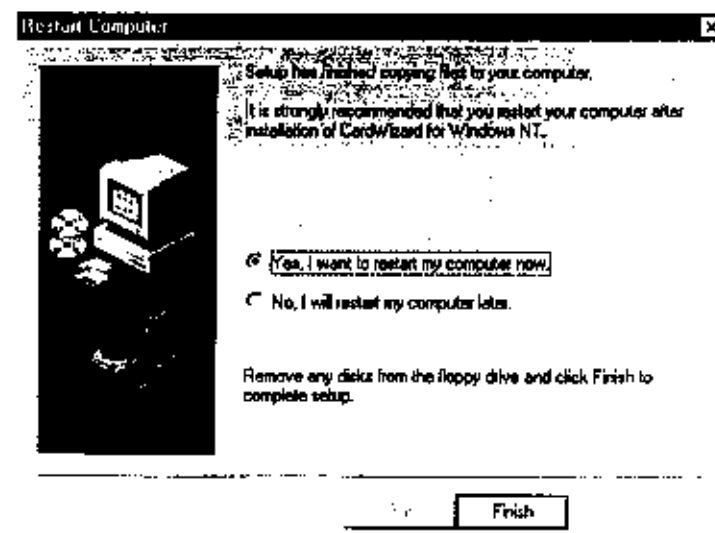
10. The following warning will appear. Remove any inserted PC Cards.



11. You can follow the default directory to install program then double click "Next" button or you can create new directory to install.



12. After all files have been copied, the following screen will be displayed. then you select "Yes, I want to restart my computer now" then double click "Finish" button.



2-5 Daily Operation

This section discusses expected daily notebook activity.

2-5.1 Starting the Computer

To start the computer :

1. Make sure all peripherals are properly connected.
2. If using the AC adapter or external power, make sure it is connected.
3. Open the cover.
4. Press the Power button. The power on indicator lights up. The computer performs a Power On Self Test (POST) and checks configuration settings. Depending on the configuration, items tested include :
 - system board
 - system DRAM
 - video controller
 - keyboard controller
 - I/O controllers
 - hard disk
 - diskette drive
5. If the POST finds an inconsistency between expected and actual system configuration it will display an error message.
6. If the cause is known and will not cause other difficulties, press F1. To correct the discrepancy, press F2 and change configuration settings accordingly. See chapter 3 for details about SETUP.
7. After the POST, the system checks for a system password. If one is present, the computer prompts for its entry before continuing. Carefully type it in.

NOTE

The password characters do not appear on the screen.

8. After password confirmation, the system tries to boot from drive A first and then drive C.
9. Adjust brightness, and viewing angle for best appearance and comfort.

2-5.2 Turning Off The Notebook

To turn off the notebook

1. Save all data and close all open programs.
2. Press the Power button to turn off power.
3. Swing the cover closed until it clicks shut.
4. Turn off and disconnect all peripheral devices.
5. Close and tighten all access doors and covers.

2-5.3 Using the Notebook in the Car

When you using the notebook in the car, you must carefully follow as:

1. Start engine wait five to ten minutes and then plug car power cable into car cigarette. (See Figure 2-8).
2. Before have notebook connected with car power cable be sure the notebook is off.
3. Once you have the notebook connected car power cable.
4. Turn on of the notebook.

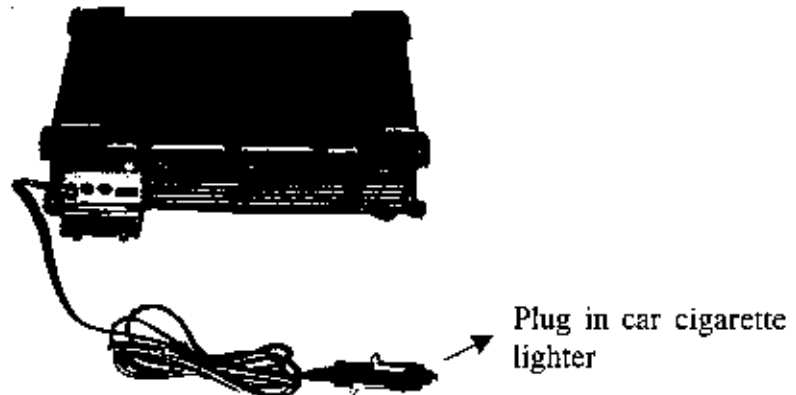


Figure 2-8 Plug Car Power Cable in Notebook

2.6 Using External Power Sources

CAUTION

The external power adapter is rated for input sources within the following constraints:

A-Series:

AC: 100-240 V, 50-60 Hz

DC: 9-20VDC direct input without charging function (option)

22.8-32 VDC external car adapter/charger (option)

Connecting to sources outside this range may damage the external power adapter

To save battery power, use power adapter with an external power source whenever possible.

Tips for using the external power adapter.

1. Connect the external adapter to the computer as the main power source no matter when the computer is in use or not.
2. If the external adapter is not connected while the computer is in operation and the power indicator is blinking, which shows the batteries are running out of energy, please connect the adapter to the computer and plug in the power cord to the outlet immediately.

2-6.1 Using AC External Adapter

A-Series provides an AC external adapter for standard configuration. Use the nearby AC power source.

2-6.2 Charging the Batteries

Make sure the external adapter is connected to the computer. It has two charging rates depending on notebook operating or power off.

Section 2-4.1 gives detailed instructions on connecting an external power source and charging the batteries.

2-7 Running On Battery Power

The notebook has several power management features to prolong continuous operation on battery power.

This section describes the power saving modes and tells how to take best advantage of them. It includes default settings for each mode. For instructions about changing them, see chapter 3.

2-8 Use the External FDD

1. Plug the 36 pin external FDD cable to the external FDD, and the other end (25-pin) to the computer printer port. (See Figure 2-9)
2. Plug the DC power cable to the external FDD, and plug the other end to one of two PS/2 ports.

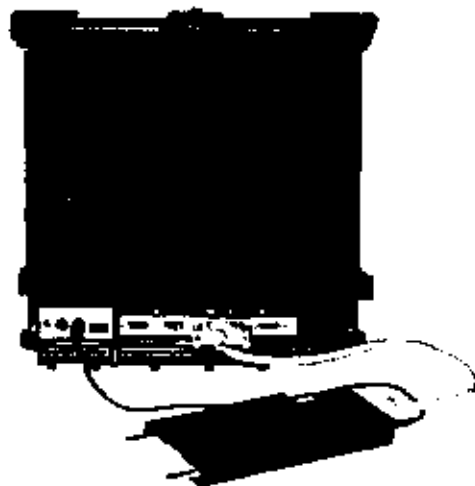


Figure 2-9 Use the External FDD

Chapter 3

Setup Configuration Utility

3-1 Introduction

This chapter tells you how to configure your system using the SCU (Setup Configuration Utility).

The SCU allows you to enter the system configuration information. This information is needed by the system to identify the type of devices installed and to set up special features. Typical configuration information includes the date and time, the type of disk drives, and the amount of memory; special features include Power Saving and Security.

The configuration information is stored in a special kind of memory called CMOS (Complementary Metal Oxide Semiconductor) RAM. A RTC backup battery backs up CMOS RAM data.

You may need to run SCU when:

- You see an error message on the screen requesting you to run SETUP.
- You change factory default settings for some special features.
- You want to modify the configuration information.

3-2 Running SETUP and Moving Around

NOTE

1. All the SCU screens shown in this chapter are examples. Your actual settings may vary from those shown here.
2. The SCU program may have been updated after this manual was published.

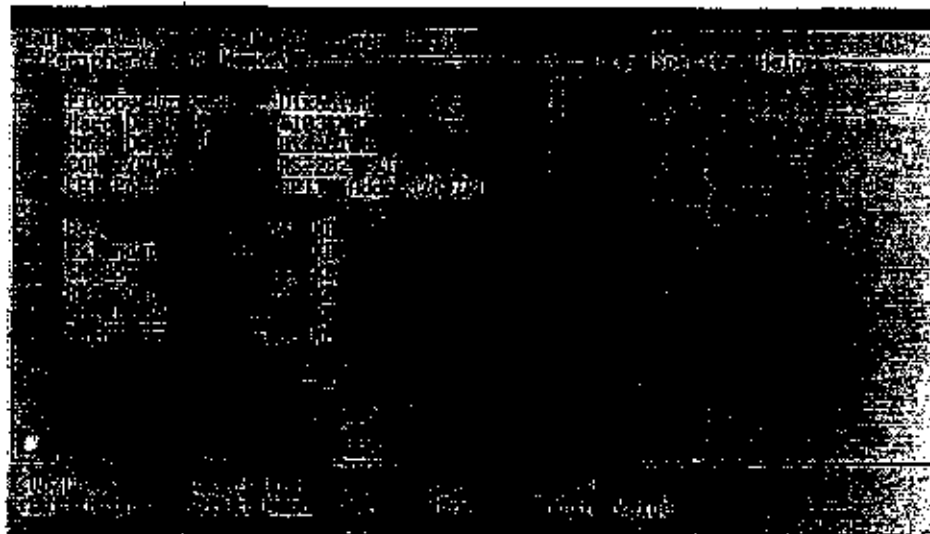
The SCU program is built into the system board. To run SETUP, press <F2> during POST only.

The SCU screens include five groups of many different functions:

- Main — Contains the system General SETUP parameter.
- Advanced — Contains Integrated peripherals and PCI Device setup parameter.
- Security — Contains the system security functions setup parameter.
- Power — Contains the system power management setup parameter.
- Exit — Contains various ways to exit the SETUP program.

Use the right & left Arrow keys & mouse to change display for each group.

Setup Menu



3-2.1 Main

This section describes the main items of the SETUP program.

The SCU screen can be divided into four areas:

- On the top line of the screen is the menu bar, which lists the titles of the available menus. Each menu title contains a pull-down menu, which displays items for setting.
- The left column of the screen displays the current configuration information of the system. If an item in the pull-down menu is selected which contains multiple choices, the left column displays the submenu where you can make your selections.
- The right column of the screen gives help information of the selected item.
- The bottom lines of the screen give keyboard instructions for moving around and making selections.

3-2.2 Moving Around and Making Selections

You must go through two or three levels to complete the setting for an item. In most cases, there are three levels: menu title, pull-down menu, and submenu.

To move around and make selections, you can use both the touchpad/mouse and keyboard.

You're advised to use the touchpad or mouse. It is more straight forward than using the keyboard.

For most items, simply move the pointer with the touchpad/mouse and click on your selection with the left button. To cancel your selection, click the right button. For a few items, you will need to use the keyboard for making selections.

Using the Keyboard

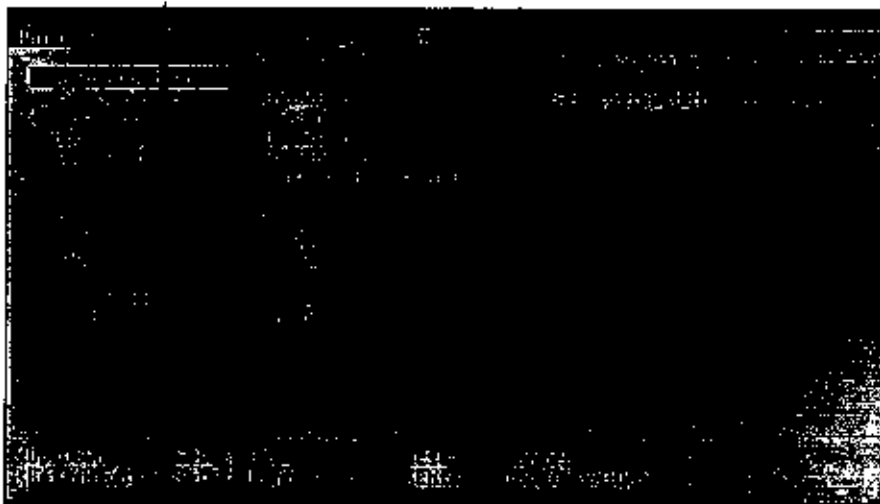
Keyboard information can be found at the bottom of the screen. You can also use shortcut key, which is highlighted by a different color on the screen.

Described below is the general procedure for using the keyboard to complete setting of an item:

1. Select a menu title with the left/right arrow key a press [Enter] to pull down the menu. You can also directly pull down a menu by pressing the shortcut key.
2. Inside the pull-down menu, select an item with the up/down arrow key and press [Enter] to access the submenu. You can also directly access the submenu by pressing The submenu displays the options you can select. If no submenu appears, simply press [Enter] to enable or disable the item.
3. Inside most submenus, press the [Tab] key to go to the entry field. Select your desired option with the up/down arrow key or the shortcut key. To complete the setting and leave the submenu, press [Enter] and select the "OK" button. To cancel your selection, press [Esc] or select the "Cancel" button.

3.2.2.1 Main Menu

The Main pull-down menu, as shown below, contains the basic configuration settings of the system.



Date and Time

The "Date and Time" item sets the system date and time.

When this item is selected, the submenu will display as shown below.



IDE Settings

The "IDE Settings" item sets the type of the hard disk drive in your system. When this item is selected, the submenu will display as shown below.



Drive 0 is your primary and Drive 1 your secondary.

Fast Boot

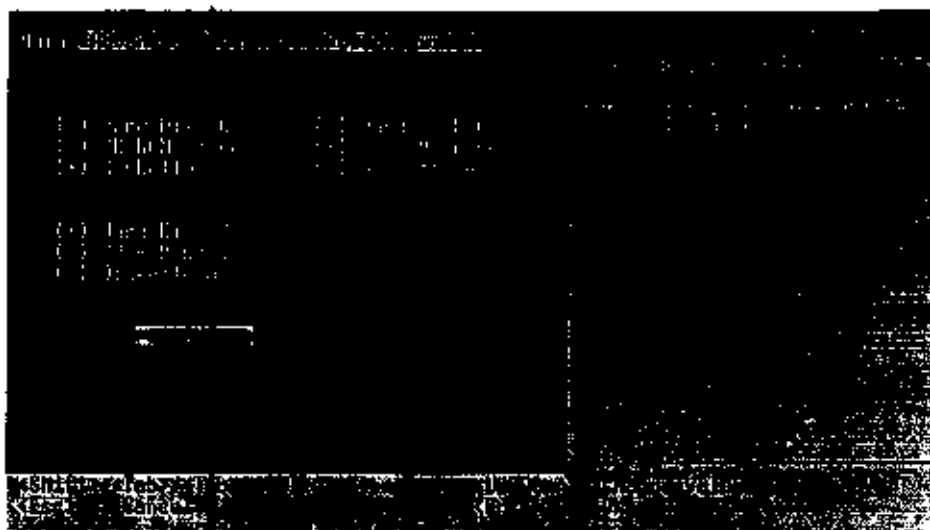
The "Fast Boot" item, when enabled, speeds up the booting procedure by bypassing the memory test.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled, an underline () indicates Disabled.

Boot Sequence

The "Boot Sequence" have three device item sets the sequence of booting.

When this item is selected, the submenu will display as shown below.



For Example: 1st Boot Device: Disk A
 2nd Boot Device: Hard Disk C
 3rd Boot Device: CD-ROM Drive

Descriptions of the available options are:

The system will try to boot from drive A then Hard Disk C then CD-ROM Drive.

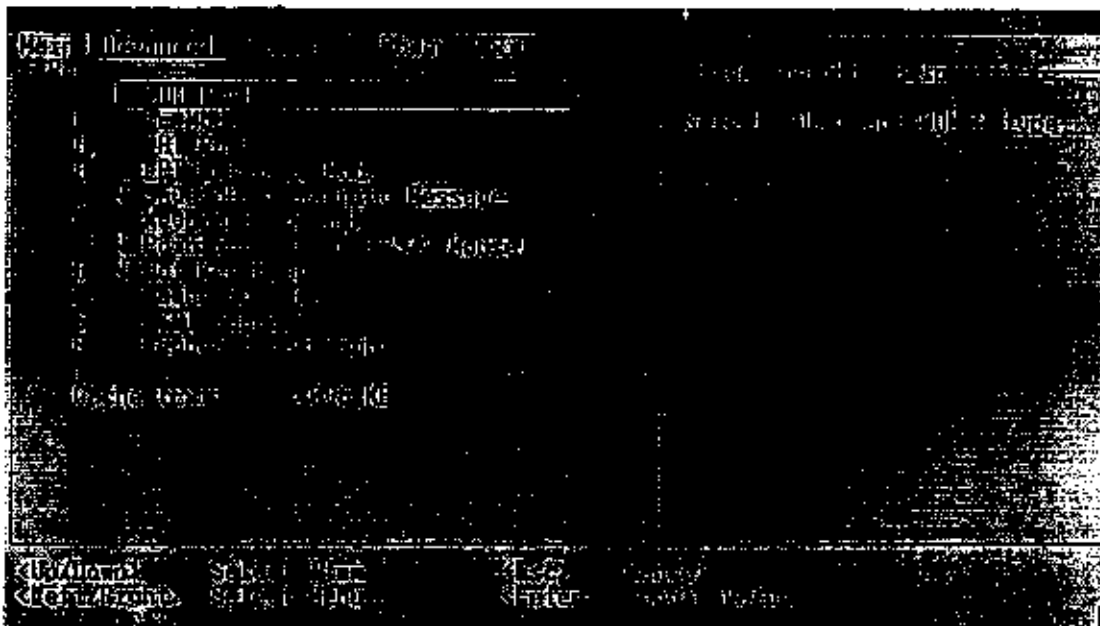
Key Click

The "Key Click" items sets if there will be a click sound whenever a key is pressed.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled; an underline () indicates Disabled.

3-2.2.2 Advanced Menu

The Advanced pull-down menu, as shown below, contains the I/O configuration settings of the system.



The followings describe in sequence all the items of the Advanced menu.

COM Port

The "COM Port" item allows you to assign COM1 and COM2 to specific functions that you wish to use. In general, COM1 can be assigned to RS-232 (the serial port) or touch screen ; COM2 can be assigned to IR or RS-232.

When this item is selected, the submenu will display as shown below. Select Disabled if you need the resources (3F8/IRQ4 of COM1 and 2F8/IRQ3 of COM2) for other devices.

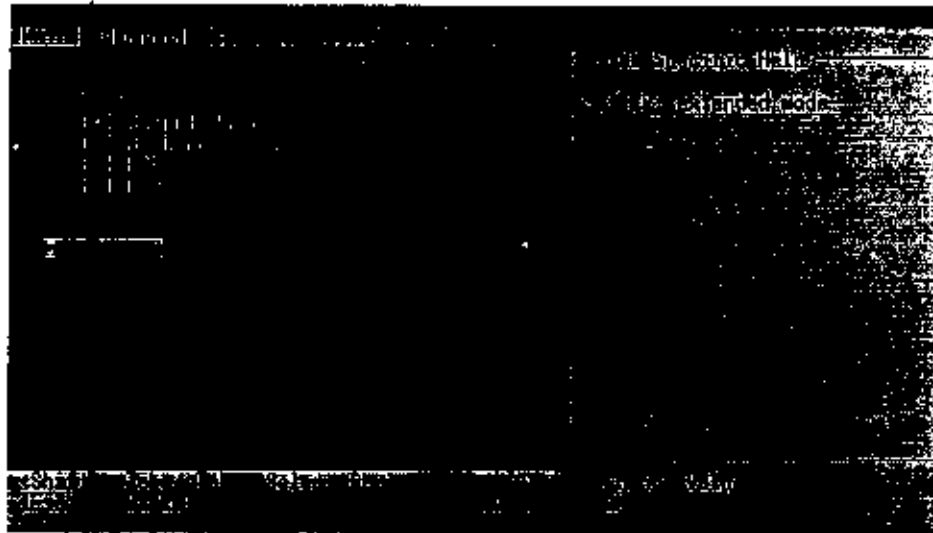
User select the "TouchScn/Disabled" was assigned COM 1 to Touch Screen.

User select the "TouchScn/IR" was assigned COM 1 to TouchScn; Ir is Enabled.

LPT Extended Mode

The "LPT Extended Mode" item sets the LPT (Parallel port) mode. Your system supports EPP (Enhanced Parallel Port) and ECP (Enhanced Capabilities Port) standards, which turn the standard parallel port into a high-speed bi-directional peripheral port.

When this item is selected, the submenu will display as shown below. Select the mode supported by the parallel device you are using.



NOTE

If select "ECP" mode in LPT Extended Mode menu then IR mode IrDA 1.1 could disappear.

Save To Disk Warning Message

The "Save To Disk Warning Message" item sets if the warning message will appear after system power on when there is no Suspend-to-Disk partition on the hard disk.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled, an underline () indicates Disabled.

Keyboard Numlock

The "Keyboard Numlock" item sets if the Num Lock key will be automatically activated after system startup.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled, an underline () indicates Disabled.

Pointing Device (PS/2 Mouse)

The "Pointing Device (PS/2 Mouse)" item enables or disables the built-in touchpad or the PS/2 mouse.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled; an underline () indicates Disabled. Disable this option if you are using a serial mouse.

Hot Key Beep

The "Hot Key Beep" item enables or disables the beep sound when hot keys are pressed.

When this item is selected, no submenu will display. A check mark (✓) indicates Enabled; an underline () indicates Disabled.

Cache Systems

When this item is selected, the submenu will display as shown below.



The "Cache Systems" item Write Back (enables) the cache of your system: L1 cache (internal cache of CPU) and L2 cache (external 256KB or 512KB cache). The cache feature enhances system performance because the most frequently used data is accessed from and written to the high-speed cache memory.

ACPI Support

If user enable the ACPI field, the system will support ACPI function.

Keyboard Backlight

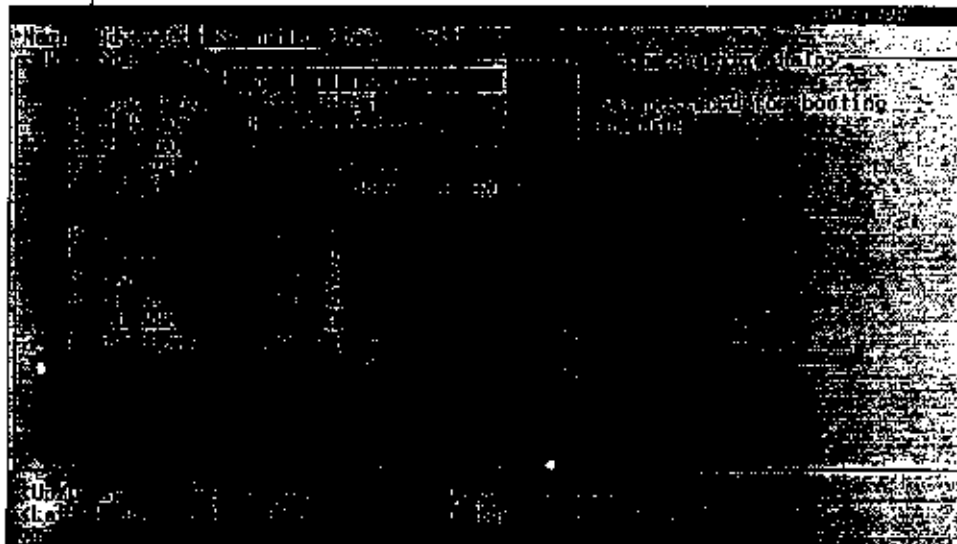
When the LED Keyboard Backlight need light at power on status, then select the "Keyboard Backlight" setting is Enable.

When the LED Keyboard Backlight need dark at power on status, then select the "Keyboard Backlight" setting is Disable.

The Fn + F8 function can toggle Backlight of the keyboard light or dark, but Fn + F8 can't effect the CMOS Setup of the "Keyboard Backlight" item.

3-2.3 Security Menu

The Security pull-down menu, as shown below, contains the Security settings that safeguard your system against unauthorized use.



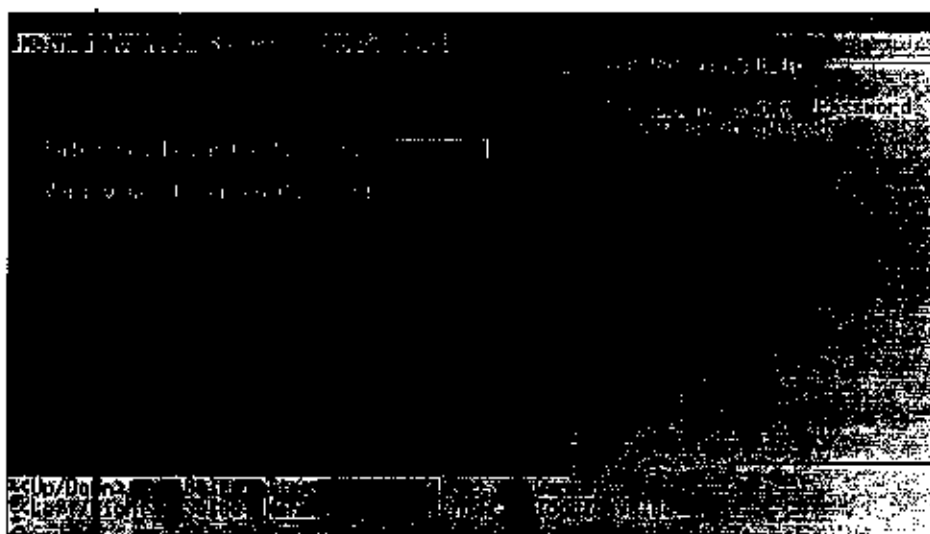
The followings describe in sequence all the items of the Security menu.

System Password

The "System Password" item allows you to set the password for your system. The password is required for starting up the system and running the SCU program.

When the item is selected, the submenu will display as shown below. When setting a password, first make sure that Num Lock is off, then type your password in the entry field and press [Enter]. Confirm your password by typing it again and pressing [Enter].

For the password to take effect, enable the "Enable Password" item.



Max Performance/Balanced Power Saving/Max Power Saving/Customize

These four items are mutually exclusive options. You can select one of them. A check mark (✓) indicates Enabled; an underline () indicates Disabled.

Descriptions of the four options are:

1. **Max Performance:** Select this option for the pre-defined settings that allow maximum performance but shortest battery life.
2. **Balanced Power Saving:** Select this option for the pre-defined settings that allow moderate performance and moderate battery life.
3. **Max Power Saving:** Select this option for the pre-defined settings that allow longest battery life but minimum performance.
4. **Customize:** Select this option for setting up your own performances.
When this option is selected, a submenu will appear. See the following subsection for information.

NOTE

To know the pre-defined settings for the above three options, you can select the next option to view the settings in the submenu.

Customizing Power Management Features

To customize Power Management features, select "Customize" from the Power pull-down menu. The submenu will display as shown below.



To move and select in this pull-down menu, go to an entry field using the arrow key and select an option using the Space/+/-key.

The following describe in sequence all the items of this submenu.

Hard Disk Time-Out

The "Hard Disk Time-Out" item sets the time-out period for the hard disk to power down if it is not in use during the set period. The hard disk will power up again when next accessed.

The available options are Disabled, 1 Min, 2 Min, 4 Min, 8 Min, 10 Min, 15 Min and 20 Min.

Standby After

The "Standby After" item sets the time-out period for initiating Standby mode. If the notebook remains idle until the time-out period for Standby mode has been reached, the notebook enters Standby mode.

In Standby mode, several system components go into standby or off mode so that system power will be reduced. The system will wake up from Standby mode when any activity is detected.

Under DOS, this function will work to make the system go into the "Standby" mode, but will not change the status of the keyboard backlight. In other words, after enter "Standby", the backlight status still keeps intact.

The "SCU\Power\Customize\Standby After" function is replaced by Windows 98, Windows 2000 and Windows NT4.0, so the setting here will not cause the system to enter "Standby" mode.

The available options are Disabled, 1 Min, 2 Min, 4 Min, 6 Min, 8 Min, 12 Min and 16 Min.

Suspend After

The "Suspend After" item sets the time-out period for initiating Suspend mode. It works in conjunction with the previous item "Standby After". After the notebook enters Standby mode, the Power Saving starts the time-out for the Suspend mode. If the notebook remains in Standby mode until the time-out period for Suspend mode has been reached, the notebook enters Suspend mode.

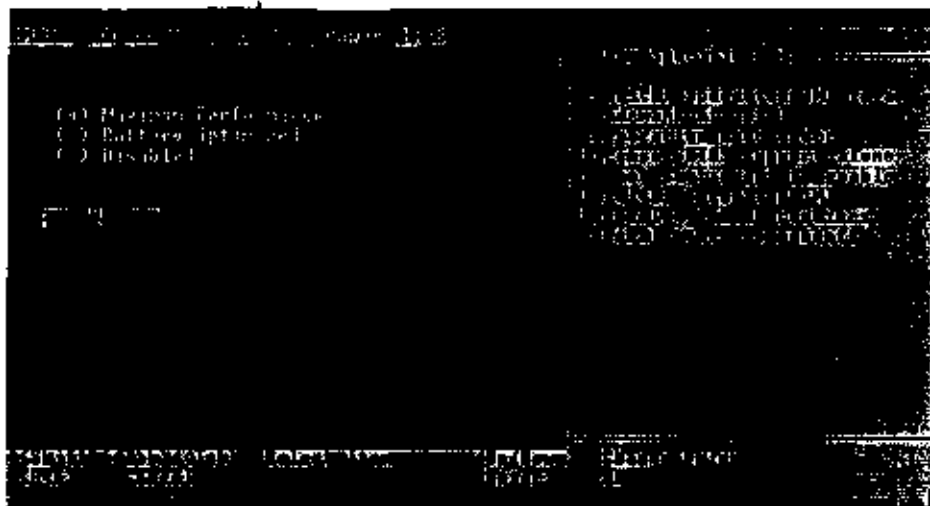
The Suspend mode is determined by the next item, "Suspend Data to." It can be either Suspend-to-RAM or Suspend-to-Disk.

When Suspend mode is initiated, several system components go into standby or off mode so that system power will be reduced further. The system will wake up from Suspend- mode when a key is pressed on the internal keyboard.

"Resume On Time" and "Resume On Modem Ring", if enabled in this submenu, can also wake up the system from Suspend-to-RAM mode.

When Suspend-to-Disk mode is initiated, the system preserves all the running application programs as a file in a "Suspend-to-disk partition" on the hard disk and then turns off automatically.

The available options are Disables, 1 Min, 2 Min, 5 Min, 10 Min and 15 Min.



Maximum Performance:

The select "Maximum Performance" field then CPU setup high-speed mode.

Battery Optimized:

The select "Battery Optimized" field then CPU setup low speed mode.

Disabled:

The select "Disabled" field then CPU setup default speed mode but system will't change speed mode.

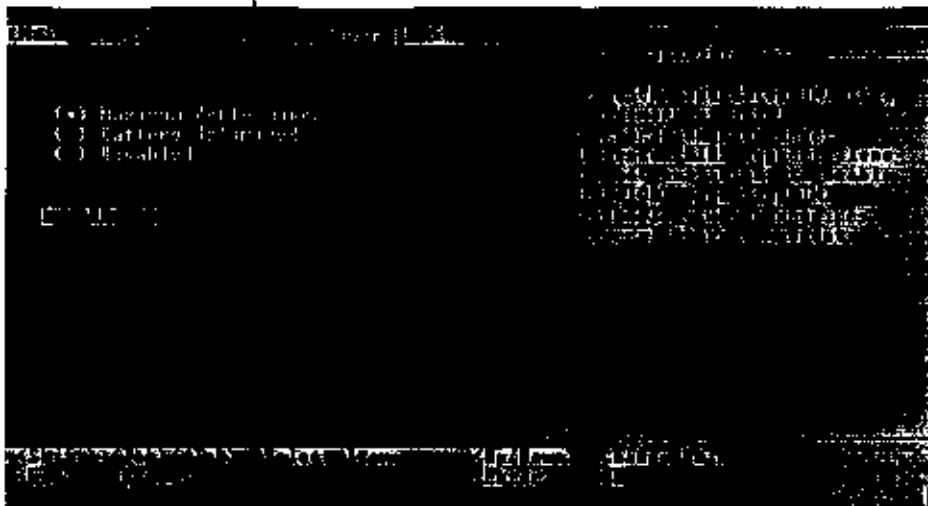
3-2.5 Exit Menu

The Exit pull-down menu, as shown below, displays ways of exiting SCU. After finished with your settings, you must save and exit SCU so that the settings can take effect.



Descriptions of the Exit choices are:

1. Save Change and Exit: Save changes you have made and exit.
2. Discard Changes and Exit: Exit without saving the changes you has made.
3. Get Default Values: Load factory default values for all the items.
4. Load Previous Values: Restore previous values for all the items.

**Maximum Performance:**

The select "Maximum Performance" field then CPU setup high-speed mode.

Battery Optimized:

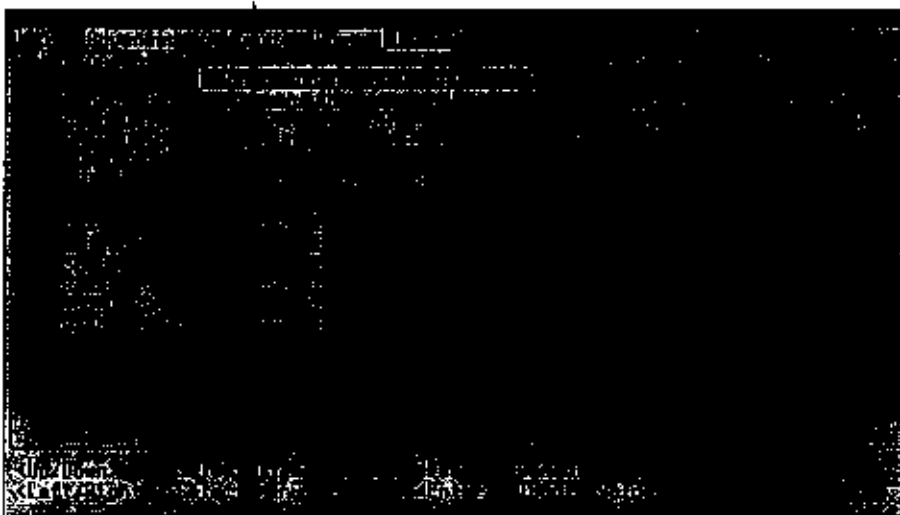
The select "Battery Optimized" field then CPU setup low speed mode.

Disabled:

The select "Disabled" field then CPU setup default speed mode but system willn't change speed mode.

3-2.5 Exit Menu

The Exit pull-down menu, as shown below, displays ways of exiting SCU. After finished with your settings, you must save and exit SCU so that the settings can take effect.



Descriptions of the Exit choices are:

1. Save Change and Exit: Save changes you have made and exit.
2. Discard Changes and Exit: Exit without saving the changes you has made.
3. Get Default Values: Load factory default values for all the items.
4. Load Previous Values: Restore previous values for all the items.

Chapter 4

Notebook Maintenance

4-1 Introduction

This chapter tells how to maintain the notebook in good working order.

4-2 Daily Use

For maximum reliability in the field, keep all access doors shut whenever possible.

4-3 Battery Maintenance

Maintaining and preserving the battery is a key to keeping the notebook productive in the field.

4-3.1 Conserving Power

Even though the notebook has several automatic power saving features, there are ways to maximize the battery life.

- Use the lowest brightness and contrast display settings.
- Avoid using "reverse video". The white text on a black background uses significantly less power than black on white.
- Develop good, consistent work habits. Set the power management features according to your style. For example, if you do not read from or write to the hard disk very often, set the hard disk time-out setting to a very short time.
- Plan each computing session ahead of time. Don't waste valuable time and power thinking about what to do.
- Disable the cache if you do not need it.

4-3.2 Changing the Battery Pack

To change the battery pack:

1. Loose two screws from battery pack of the two sides.
2. To pull handle from battery pack.
3. Take the battery pack out.
4. Put another battery pack back in the battery pack house and make sure that the removal strap is available for future changes.

4-4 Cleaning

Periodically clean the exposed notebook surfaces. Use a soft cloth and water or mild detergent to clean all surfaces. The glass cleaner is recommended for cleaning the display screen.