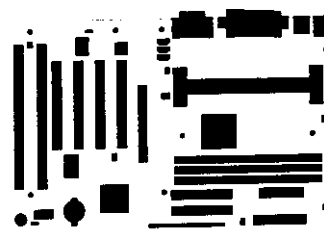


# SE440BX

## Motherboard

## Product Guide

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Order Number: 697967-001

## **MANUAL**

Prepared on behalf of:

Dunn/IDP Computer Corporation  
20 Firstfield Road  
Gaithersburg, MD 20878

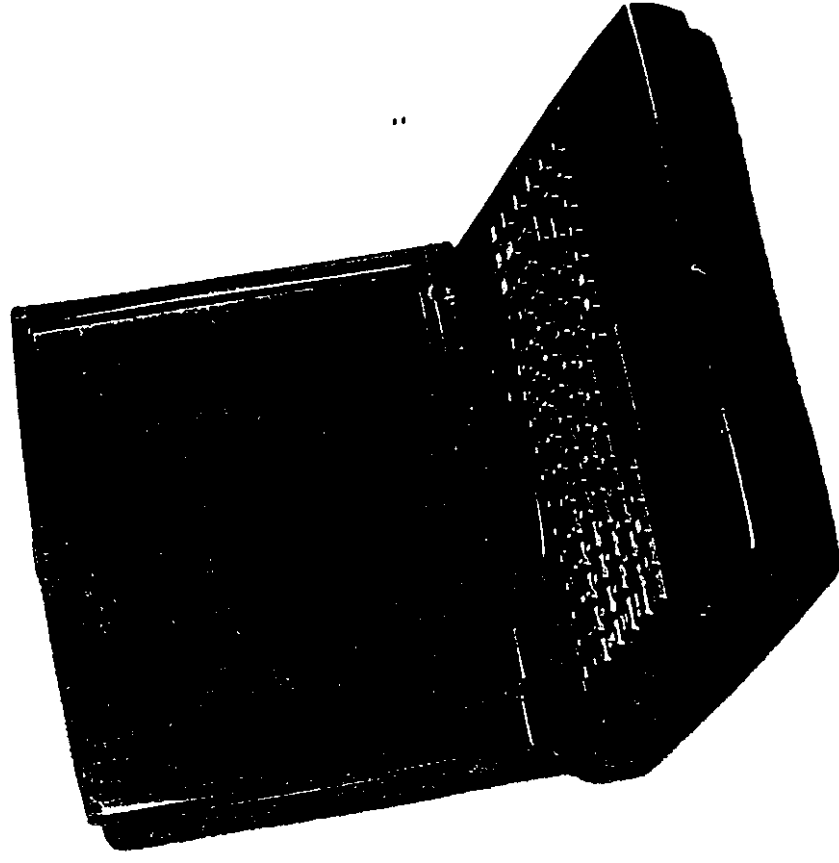
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| <b>FCC ID #:</b>                | <b>ITR-IDP705NB</b> |
| <b>Form 731 Confirmation #:</b> | <b>EA91938</b>      |

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# Notebook Computer

High-speed Intel Pentium or Pentium II Processor with MMX, maximum 192MB RAM, large LCD up to 14.1" XGA-TFT. With CD-ROM and one SmartBay for FDD, LS-120, ZIP and battery



## USER MANUAL

## **NOTICE**

Specifications and information found in this manual are subject to change without notice. Any changes therefore will be incorporated in future editions. The manufacturer assumes no responsibility for errors or omissions in this document.

## **TRADEMARKS**

MS-DOS, Windows 3.1, 95 and NT are trademarks of *Microsoft Corp.*  
Pentium, Tillamook and MMX are trademarks of *Intel Semiconductor*

Other trademarks are property of their respective owners.

Printed in Taiwan, February 1995  
Revision

## SAFETY INSTRUCTIONS

1. Please read these safety instructions carefully.
2. Please keep this User's Manual for later reference.
3. Please disconnect this equipment from AC outlet before cleaning.  
Don't use liquid or sprayed detergent for cleaning.  
Use moisture sheet or cloth for cleaning.
4. For pluggable equipment, the socket-outlet shall be installed near the equipment and shall be easily accessible.
5. Please keep this equipment from humidity.
6. Lay this equipment on a reliable surface when install. A drop or fall could cause injury.
7. The openings on the enclosure are for air convection hence protects the equipment from overheating. **DO NOT COVER THE OPENINGS.** We recommend you to use the rear feet whenever possible, this not only improves the ergonomics when you type it also helps to cool the notebook down. Don't use your notebook on a soft surface, like a bed since this would cover the ventilation holes in the bottom of the notebook.
8. Make sure the voltage of the power source when connect the equipment to the power outlet.
9. Place the power cord such a way that people can not step on it. Do not place anything over the power cord.
10. All cautions and warnings on the equipment should be noted.
11. If the equipment is not used for long time, disconnect the equipment from mains to avoid being damaged by transient overvoltage.
12. Never pour any liquid into opening, this could cause fire or electrical shock.
13. Never open the equipment. For safety reason, the equipment should only be opened by qualified service personnel.

14. If one of the following situations arises, get the equipment checked by a service personnel:
  - a. The power cord or plug is damaged.
  - b. Liquid has penetrated into the equipment.
  - c. The equipment has been exposed to moisture.
  - d. The equipment does not work well or you can not get it work according user's manual.
  - e. The equipment has dropped and damaged.
  - f. If the equipment has obvious sign of breakage.
15. **DO NOT LEAVE THIS EQUIPMENT IN AN ENVIRONMENT UNCONDITIONED, STORAGE TEMPERATURE BELOW 20°C (-4°F) ( ABOVE 60°C (140°F), IT MAY DAMAGE THE EQUIPMENT.**
16. For battery safety , read battery chapter 5.11.
17. For Fax Modem safety read Appendix C.

## Safety Notices

To comply with Canadian and U.S. laws, the safety information is provided in English and French.



**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.

**Attention:** Afin de prévenir les risques d'électrocution, respectez toutes les consignes de sécurité. Les symboles figurant dans la documentation et sur l'appareil indiquent les points dangereux.



**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.

**Avertissement** Les batteries lithium présentent certains risques. Une mauvaise manipulation ou installation peut provoquer une explosion des batteries. N'utilisez que ce type de batteries. Rapportez les batteries usées chez votre revendeur.

**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.

**Connecteurs système IT** Cet appareil n'a pas été conçu pour être connecté à tous les systèmes d'alimentation IT et si vous avez besoin d'y apporter une modification, adressez-vous à votre revendeur ou à un électricien.



## Safety Notices for All Users

This equipment has a 2-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 (Canada, CSA-certified), type SPT-2, 18 AWG, 2-conductor, provided with a molded NEMA type 1-15 P plug cap at one end and a molded-on cord connector body at the other end. The cord length must not exceed 15 feet (4.5 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.

### Consignes de sécurité

Cet équipement possède un cordon d'alimentation à deux fils. Si le cordon d'alimentation venait à être abîmé, avant de le remplacer, consultez votre revendeur.

Aux États-Unis et au Canada, le cordon d'alimentation doit être détachable, homologué (Certifié CSA pour le Canada), de type SPT-2, 18 AWG, à 2 fils, fourni avec une surmoulée NEMA de type 1-15P à une extrémité et un cordon de raccordement surmoulé à l'autre extrémité. La longueur du cordon ne doit pas dépasser 4,5 mètres.

Hors des États-Unis et du Canada, la prise doit être conforme pour 250 V, 2,5 A minimum. La marque d'homologation d'un organisme international doit également figurer sur la prise. Le cordon d'alimentation doit être conforme aux normes du pays de l'utilisateur final. Vous ne savez pas quel type de cordon utiliser, adressez-vous à votre revendeur ou à un électricien. Le changement de voltage survient automatiquement dans l'alimentation.



**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.

**Attention:** Ne tentez jamais de démonter le bloc d'alimentation. Vous ne devez pas qualifier pour en remplacer les éléments. À l'intérieur du bloc d'alimentation, il y a des tensions électriques qui peuvent causer de graves blessures personnelles. En cas de panne, le bloc d'alimentation doit être renvoyé au revendeur.

## Safety Notices for Users Outside of the U.S.A. and Canada



**PELV (Protected Extra-Low Voltage) Integrity** To ensure the extra-low voltage integrity of the equipment, connect only equipment with mains-protected electrically compatible circuits to the external ports.

**Remote Earths** 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** 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 Drive



The CD-ROM drive in this notebook computer is a laser product. The classification label on the CD-ROM drive is located on top of the drive. Below is a sample of the classification label:

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

The CD-ROM 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 CFR) Subchapter J. for Class I laser products.

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

### Caution:

Do not open the CD-ROM drive. There are no user-serviceable parts or components inside. Use of controls, adjustment, or operation procedures other than those specified, may result in hazardous exposure to radiation. Class I (1) laser products are not considered hazardous. The CD-ROM drive has an internal, Class I (1), 0.5 milliwatt, aluminum gallium-arsenide laser that operates at a wavelength of 780 to 810 nanometers. The design of the laser system and the CD-ROM drive ensures that there is no exposure to laser radiation above a Class I (1) level during normal operation, maintenance or servicing conditions.

## Conventions

The following conventions are adopted throughout this manual:

- Notebook in **boldface** (with or without capitalization) refers to the **notebook** computer, which you have purchased.
- **Boldface** type is also used to highlight **important information** in this document.
- The messages, which appear on the notebook screen, will be boxed when they are mentioned.
- Whenever extra caution is called for, the information will be boxed in a darker frame preceded by "Note:" or "Warning:"

## FCC NOTICE

This equipment has been tested and found to comply with the limits for a class B device, pursuant to part 15 of the FCC Rules. These limitations are designed to provide reasonable protection against harmful interference in a residential installation. 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 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 responsible for compliance could void your authority to operate the equipment.

## INFORMATION TO BE SUPPLIED TO THE USERS

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.

## NOTICE

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 transmission 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 conformité aux normes du EMI du Canada

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement matériel brouilleur du Canada.

### European Union CE Marking Declaration

This product has been tested and found to comply with the EMC requirements set out in the EU directive for CE marking.

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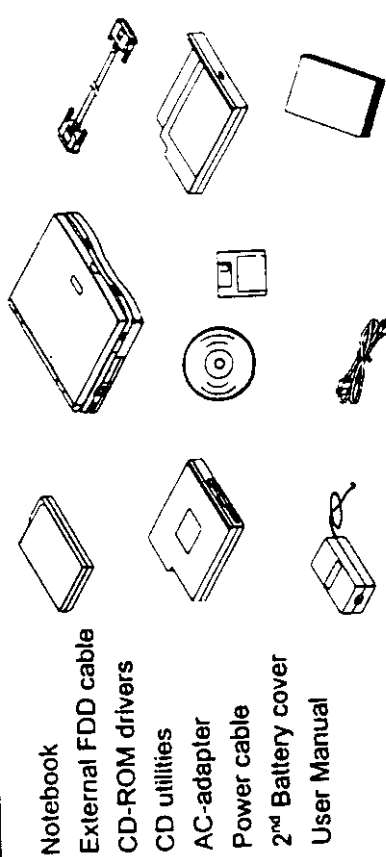
Appendix F Difficult Words

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## Chapter 1 Introduction

Thank you for buying this unique notebook, we are sure it will bring you lots of convenience either at office or on the road.

### 1.1 Unpacking and setting up



Notebook

External FDD cable

CD-ROM drivers

CD utilities

AC-adaptor

Power cable

2<sup>nd</sup> Battery cover

User Manual

Please make sure that you have all the above items, if not call the place where you bought the notebook and inform them. Some of the items might be installed in your notebook already.

If you need to send your notebook for service or upgrade it's recommended to send it in the original packing box, so save it for the future.

### 1.2 Accessories

There are many standard notebook accessories available for notebook computers to enhance the use of your notebook. Some accessories are proprietary and can only be used with your notebook, these accessories are described in Chapter 8.

## Introduction

## 1.3 Operating environment

Care should be taken when traveling with or using the system when mobile. When selecting a suitable working location, please consider the ventilation, temperature, dust and dirt, and electromagnetic and RF interference.

The selected location should provide a sturdy and reasonably level surface with at least four inches of open space around the computer cabinet for proper airflow. Your computer functions best at room temperature. Choose a location free from extreme heat or cold.

**Note:** We recommend the use of the feet in the rear of the notebook, when using these the notebook operates cooler since the ventilation is better. It's also important not to operate the notebook on soft surfaces, like a bed since this will cover the ventilation holes of the notebook.

**Warning:** Don't expose the notebook to cold (frost) or heat, don't leave the notebook in the car, don't drop it, spill fluids 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.

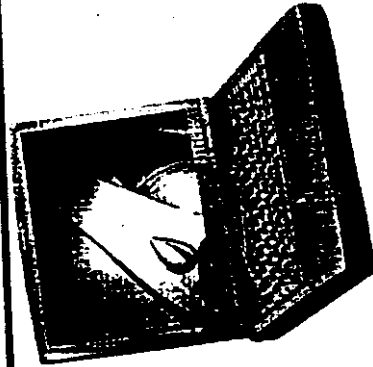
## 1.4 Fans

There is one fan on the left side of the notebook, it will turn on when you power up the notebook. The fan will turn off when the notebook enters Suspend or Save-to-RAM (S2R) modes. When you wake-up from either Suspend or S2R the fan will turn on again.

**Warning:** If the temperature continues to rise above the CPU allowable limit, either due to defect fan or the notebook is operated in a too 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 PHDISK partition (see Chapter 3) the notebook will shutdown and your data will be lost.

## Chapter 2 Before you begin

## 2.1 Front view



Gently press the release button on front of notebook and raise the display until it is at 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.

When you close the notebook make sure that there are no items on the keyboard or palmrest since this might damage the LCD panel.

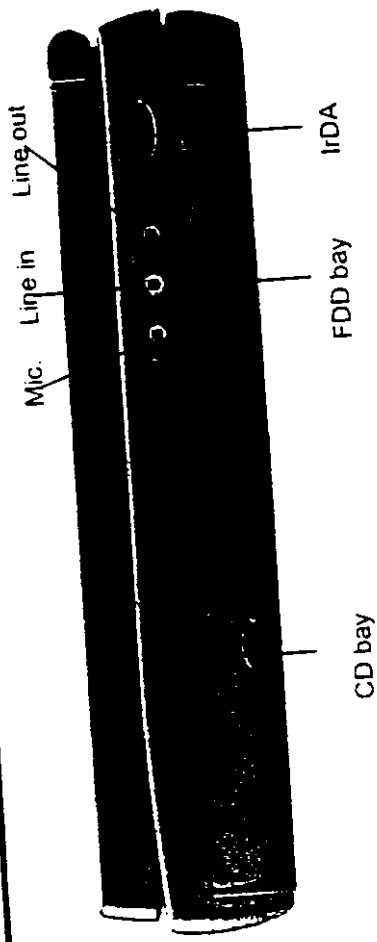
## 2.2 Left view



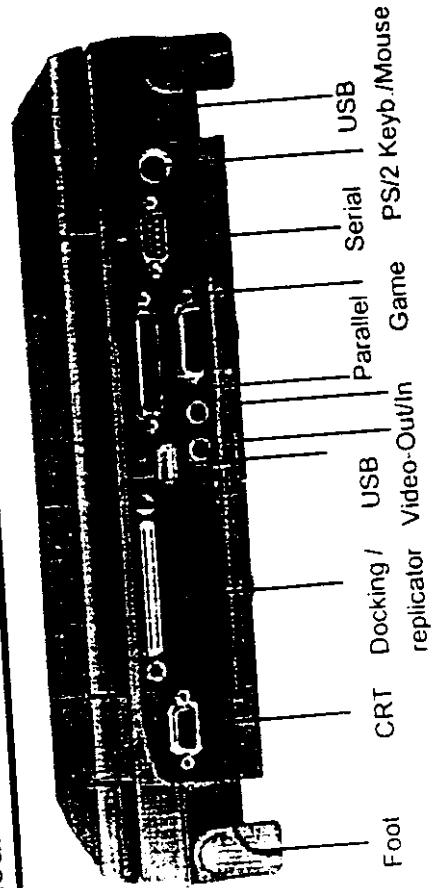
DC-jack    Fan    PCMCIA slots    Main battery    Faxmodem (optional)

Before you begin

### 2.3 Right view

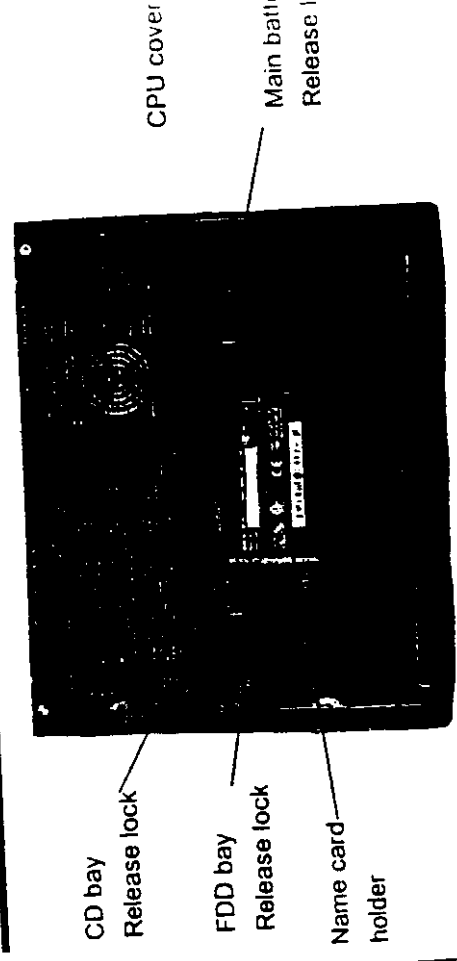


### 2.4 Rear view

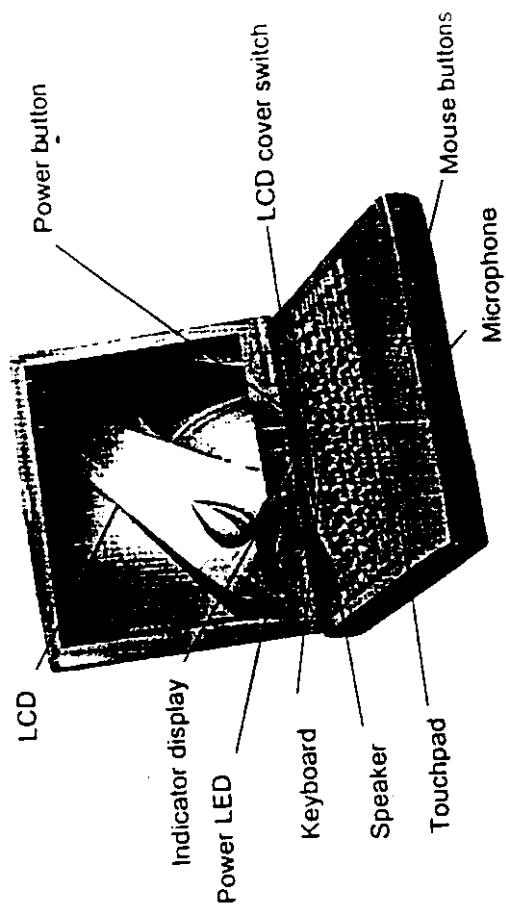


**Note:** We recommend you to use the feet whenever possible, this not only improves the ergonomics when you type it also helps to cool the notebook down.

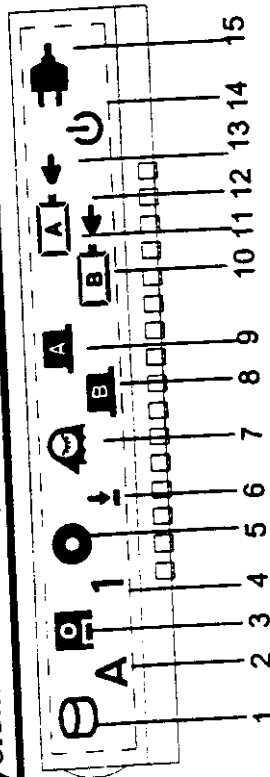
### 2.5 Bottom view



### 2.6 Interior features



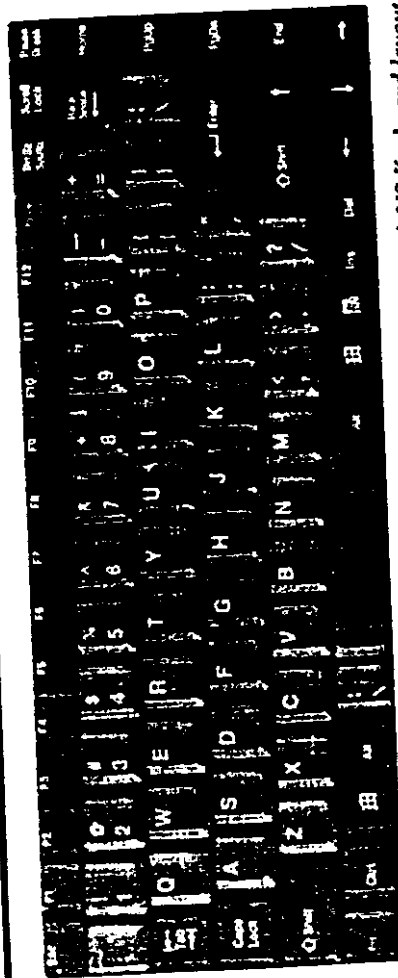
## 2.7 System Status display indicators



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.
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 card.
10. **Secondary Battery Icon**  
This indicator lights when the secondary battery pack is installed at System Mode or Power source is Adapter.
11. **Main Battery Icon**  
This indicator lights when the primary (main) battery pack is installed.
12. **Secondary Battery Charge Indicator**  
This indicator lights when the Secondary Battery is in full charge mode (unit turned off). This indicator flashes when the Secondary Battery is in trickle charge mode (unit is turned on).
13. **Main Battery Charge Indicator**  
This indicator lights when the Main Battery is in charge mode (unit is turned off). This indicator flashes when the Main Battery is in trickle charge mode (unit is turned on). If this indicator flickers continuously for more than eight hours, then indicates that the battery may be damaged.
14. **Power On/Off Icon**  
The Icon Indicates Status Of Power On & Off.
15. **AC Power**  
This indicator lights when the system is operating on AC power.

## 2.8 Keyboard



• US Keyboard layout

## 2.9 Hot-key functions

You can use hot-key combinations to control system functions.

| Hot-Keys | System Function                                        |
|----------|--------------------------------------------------------|
| Fn+F1    | NTSC/PAL toggle                                        |
| Fn+F3    | Increase contrast (DSTN panels only)                   |
| Fn+F4    | Decreases contrast (DSTN panels only)                  |
| Fn+F5    | Increases brightness                                   |
| Fn+F6    | Decreases brightness                                   |
| Fn+F7    | Increases volume                                       |
| Fn+F8    | Decreases volume                                       |
| Fn+F9    | Enters Standby mode                                    |
| Fn+F10   | Enters Suspend mode (Save to RAM)                      |
| Fn+F11   | Enters Save to Disk mode                               |
| Fn+B     | Enables/disables speaker and battery low warning beeps |
| Fn+T     | Toggles display to CRT, CRT & LCD or LCD               |

To use a hot key combination, press and hold Fn and press the other hot key simultaneously. After pressing the last key, release both keys at once.

## 2.10 Touchpad

The built-in pointing device works just like a mouse. The pointing device is located below the keyboard. This pointing device detects the position of a finger over a touch-sensitive area. To move the cursor, slide a finger lightly over the smooth sensor area. To click gently tap on the surface or click the left or the right touchpad buttons.

## 2.11 Power button

The power button on your notebook has got more uses than just ON and OFF, for security and power management reasons.

### Power ON:

If the notebook is OFF (no power on light) then 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 other reason, then you need to 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.

### Wake up from Suspend-to-RAM:

When the notebook is in Suspend-to-RAM the power LED is flashing.\* To wake up from the Suspend-to-RAM cannot be done by pressing any key on the keyboard (during normal suspend any key can wake up the notebook), the only way to wake up the notebook is to press the power button.

## Chapter 3 Software installation

These chapters explain how to install DOS, Windows 3.1, Windows 95 and Windows NT 4.0 onto an empty HDD. If your notebook was shipped with a pre-installed OS, then please skip this chapter.

**Warning:**

If you for any reason decide to reinstall your operating system, then please make a backup of your important files, for this purpose a LS-120, ZIP drive is a very good backup device. See Chapter 8 for more information about these devices

### 3.1 DOS 6.22

**Create S2D partition (If the HDD is new, without any partition)**

1. Boot from the FDD and then insert PHDISK utility diskette into the FDD.
2. Type "PHDISK /CREATE /P" under A: prompt.

**Install the Microsoft DOS 6.22**

1. Insert MS-DOS Setup Disk into A drive to start the computer.
2. Click [Enter] to install MS-DOS.
3. Select "Continue unallocated disk space"
4. Press Enter to restart the computer after format
5. Check "Date/Time", "Country", "Keyboard layout", is correct or not. If there anything wrong, press the UP or DOWN ARROW keys to select it and press ENTER to see alternatives. If all the settings are correct, press ENTER.
6. To place MS-DOS files in this directory, press ENTER, if not, type its path and press ENTER.
7. After finish the installation of Disk #1, follow the displayed message and press [Enter] to setup Disk #2.
8. After finish the installation of Disk #2, follow the displayed message and press [Enter] to setup Disk #3.
9. After MS-DOS Setup is complete, press ENTER to restart your computer.

5. To place Yamaha sound driver files in this directory, press ENTER, if not, type its path and press ENTER.
6. Press [Enter] and your original "AUTOEXEC.BAT" file was saved as "AUTOEXEC.BAK".

7. Press [Enter], if it shows "YES", it means Windows 3.1 is installed on this computer.
8. "In which directory is Windows installed?", answer and then press [Enter].
9. Answer "YES" to replace original MIDI Mapper.
10. Press [Enter] to accept all the Settings.

11. Press [Enter] and your original "SYSTEM.INI" file was saved as "SYSTEM.OPL".
12. Exit Windows 3.1, reload Windows 3.1, and then complete Yamaha sound driver installation.

### 3.3 Windows 95

#### Create S2D partition (If the HDD is new, without any partition)

1. Boot from the FDD and then insert PHDISK utility diskette into the FDD.
2. Type "PHDISK /CREATE /P" under A: prompt.

#### Create work partition (Please refer to DOS user's manual)

##### Install CD-ROM driver

1. Insert CD-ROM driver diskette into the FDD.
2. Type setup.exe under A: prompt.
3. After reboot, CD-ROM installs successfully.

##### Install WIN95 system

1. Insert WIN95 CD into CD-ROM.
2. Type Setup under D prompt. (Assume that the CD-ROM is D drive)
3. Refer to WIN95 user's manual, key in the ID, CD-KEY ....
4. Don't check the following two selections when WIN95 install program scans the resources.

☐ Network adapter

☐ Sound, MIDI or video capture

After finish Win95 setup, reboot system, and then set up local time and printer.

#### Install CD-ROM Driver

1. Insert CD-ROM drive diskette into the FDD.
2. Type "A:\SETUP.EXE".
3. Press Ctrl+Alt+Del to reboot the notebook.
4. After reboot, the System will detect the CD-ROM.

### 3.2 Windows 3.1

1. Follow the installation of DOS as above
2. After power on or reboot, insert the Windows 3.1 setup diskette into the FDD.
3. Type "A:\SETUP.EXE".
4. Press [Enter] for express install or press "C" for custom install.
5. Follow the directions of installation to press [Enter] and enter the user's name.
6. Click "OK" to install printer or setup application.
7. Click "Reboot" or "Exit to DOS" to finish the setup of Windows 3.1.

#### Install VGA Driver

1. Restart Windows 3.1, then insert VGA disk into A drive.
2. Type "A:\SETUP.EXE" under Program Manager-File-Run, then click "OK".
3. Press any key to start install VGA driver.
4. Press [Enter] to select any Application Driver to install for "All Resolutions".
5. Press [End] to start
6. Enter the [drive:path] for installation, then press [Enter].
7. After Setup, press any key to back to the Display of VGA Install. Then press [Esc] to go back to Windows 3.1.
8. Exit Windows 3.1, reload Windows 3.1, and then complete VGA driver installation.

#### Install Sound Driver

1. Restart Windows 3.1, then insert Yamaha sound driver for Win 3.1 disk into the FDD.
2. Under Program Manager-File-Run type A:\UNSTALL.EXE, then click "OK".
3. Select "0" for English country, then press "Y" to reconfirm.
4. Select "YES" to setup Yamaha Opl3-3Ax.

### Install O<sub>2</sub> Micro

1. After freshly installing Win95 on your HDD, under Control Panel click system and select device manager. Remove "PCIC Compatible Controller with X mark" under PCMCIA card.
2. Insert O<sub>2</sub> Micro diskette driver in drive A and click on setup.
3. Click on Next, Next, Next, then Finish.
4. Restart the computer.
5. Insert again the diskette driver in "drive A" and type "A:", then press enter.
6. The computer will ask you to Insert Win'95 OSR2 CDROM on the CD-ROM drive and type the specific drive and file name where the CDROM is.
7. Click Next, Next, and Finish.
8. Click Yes to shut down the computer.
9. Restart the computer and go to control panel. Click System icon and select device manager. Click on PCMCIA socket and now you'll have 2 "O<sub>2</sub> Micro OZ6386 Cardbus Controller".

### Install Sound driver

1. Insert YAMAHA driver for WIN95 disk into the FDD.
2. Point to Start→Control Panel→System→Device Manager→? Other Devices.
3. Select ? Unknown Devices→Driver→Update Driver
4. Select "YES" →Next→Finish.
5. System will require you to insert "OPI3-SAX driver for Windows95 disk 1", then click "OK".
6. Select the source of copies files from A: drive then click "OK"
7. Close the window of "YAMAHA OPI3-SAX Sound System Properties".

### Install VGA driver

If your notebook has got 12.1" SVGA select 800x600 resolution instead of 1024x768 XGA resolution

1. Point to Control Panel→Display→Setup→Advanced Properties→Adapter
2. Insert 65555 VGA driver for WIN95 disk into the FDD
3. Click Change→Have Disk

4. Select the source of copies files from A: drive then click: "OK".
5. Select Chips and Tech 65555 PCI, then click "OK".
6. The window back to Advanced Display Properties then click Monitor.
7. Click Change, select Standard monitor types, double click "Laptop Display 1024x768", then click "OK".
8. Click "Close", back to "Display Properties", set up Desktop area and Color palette, and then click "Close".
9. System Settings Change will ask if restart the computer or not, click "YES".

### 3.4 Windows NT 4.0

1. Start from a bootable FDD.
2. Type A:\>PHDISK /CREATE /P, press Enter key and then restart the notebook.
3. Insert Microsoft NT Workstation Disk 1 into Floppy to restart, then put Windows NT CD into CD-ROM.
4. Follow all instruction on your screen, change Disk.
5. Until it shows Format the partition using the FAT file system. Format the partition using the NTFS file system then select one File System that fits your requirements [ENTER].
6. Then follow all instructions on your screen, restart, and then remove the disc.
7. Restart from HDD, follow the instructions on the screen to insert Windows NT into CD-ROM [ENTER].
8. Check Multimedia when you are at the Selection of Select Components.
9. When you are in the Selections of Display Properties, you don't have to do any change action, just click [ENTER] to install.
10. After restart, please select "Windows NT Workstation Ver 4.00" [ENTER].

### Install Sound Driver:

1. Select "Plug and Play" [NO] of Main in BIOS.
2. Select Sound: [Auto] of Advanced-Audio Options Menu in BIOS.
3. Click Windows NT Explorer [ENTER] in the programs.
4. Select the Content of CD (CD must be Windows NT 4.00 CD).
5. After restart, then you have to insert Yamaha Driver Disk into the floppy drive, then double click "Device" of Multimedia in the control panel.

6. Double click ADD when the light bar is in the "Multimedia Drivers".
  7. Double click "OK" when the light bar is in the "Unlisted or Update Driver".
  8. A:\[ENTER], choose "OPL3-SA Sound System [English]" and double click "OK".
  9. Click "OK" when you are in the selections of Yamaha OPL3-SA series driver.
  10. Restart the notebook
- Install VGA Driver:**
1. Click the Start button, point to Settings, and the click Control Panel. Click "Display Type".
  2. Click "Change", then point to Change Display, click "Have Disk".
  3. Point to "Install From Disk", then click A:\ "OK" [ENTER].
  4. When you see "Chips Video Accelerator (64300/10 65535/40/45/48/50/54/55), click "OK".
  5. Point to Third party Drivers, click "YES".
  6. Point to Installing Driver, click "OK".
  7. Close "Display Type" and "Display Properties", then restart.
  8. Click "List ALL Modes", choose "1024 by 768 pixels, 65536 Colors, 60 Hz, then click "OK".
  9. Point to "Display Properties", then choose "OK".
  10. Restart the notebook

### 3.5 Other OS

There are many other OS like OS/2 Warp, Linux, Unix, BSD etc. that will work in your notebook. To install these OS please refer to the installation guide with your OS, for VGA and Sound drivers you might find them on the Internet, see Chapter 3.6 for Internet addresses to the different hardware vendors.

### 3.6 New software drivers over the Internet

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. If you have access to the Internet you can go these addresses to search for a newer driver:

| Device       | Address                                                           | Search for                      |
|--------------|-------------------------------------------------------------------|---------------------------------|
| VGA          | <a href="http://www.chips.com">http://www.chips.com</a>           | C&T 65555                       |
| Sound        | <a href="http://www.yamaha.com">http://www.yamaha.com</a>         | Yamaha YMF715 / YMF711          |
| PCMCIA       | <a href="http://www.o2micro.com">http://www.o2micro.com</a>       | O2 Micro                        |
| Chipset      | <a href="http://www.intel.com">http://www.intel.com</a>           | Intel 430TX                     |
| I/O contr.   | <a href="http://www.ns.com">http://www.ns.com</a>                 | NS PC87338                      |
| *BIOS        | <a href="http://www.phoenix.com">http://www.phoenix.com</a>       | NoteBIOS                        |
| CD-ROM       | <a href="http://www.teac.com">http://www.teac.com</a>             | See your CD-ROM                 |
| ZIP drive    | <a href="http://www.ionega.com">http://www.ionega.com</a>         | ZIP drive                       |
| LS-120 drive | <a href="http://www.ortecology.com">http://www.ortecology.com</a> | LS-120                          |
| CPU          | <a href="http://www.intel.com">http://www.intel.com</a>           | Depend on which CPU you have    |
| Vendor       | <a href="http://www">http://www</a>                               | Write down your vendors address |

\* Note that the latest BIOS is NOT available on Phoenix homepage, ask your vendor what you can download future BIOS versions.

## Chapter 4 Smartbays

When you bought your notebook, you probably only got a FDD and a CD-ROM, but there are many ways to enhance and personalize your notebook with the smartbays. If you travel a lot and need all the battery life you can get, a 2<sup>nd</sup> battery makes sense. If you do a lot of presentations, or need to save large amounts of data a LS-120 or a ZIP would be very handy, a 2<sup>nd</sup> HDD would give you even higher capacity and much faster speeds.

### 4.1 FDD bay

The FDD module is easily replaced with another module. Currently these modules are available:

- FDD drive 1.44MB (3 mode)
- ZIP drive 100MB capacity
- LS-120 drive 120MB capacity
- 2<sup>nd</sup> HDD Standard 2.5" HDD with several GB capacity (17mm high max)
- 2<sup>nd</sup> Battery Doubles your battery life

For more information about these optional devices see Chapter 8.



#### External FDD:

It's possible to have the FDD attached to the Printer port as well. This is very good when you are using the FDD-bay with another device.

**Note:**

Only the standard FDD can be connected externally and not the other FDD-bay devices.

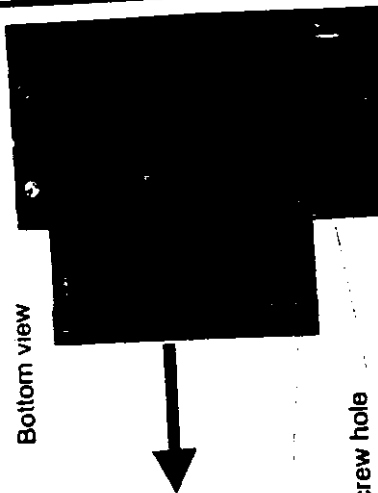
## 4.2 CD-ROM bay

The CD-ROM can be replaced either by a faster CD-ROM (maximum speed is 24x) or a DVD-ROM. The DVD can play standard CD's as well as DVD discs.

### CLASS 1 LASER PRODUCT LASER KLASSE 1

To remove the CD-ROM is done similar to the FDD and the Battery, please see Chapter 4.1 and 4.3 respectively.

**Note:** The CD-ROM drive is not removable. As with the FDD, the battery, we strongly recommend the use of the Security screw which should at all times be locked in it's position.



To remove the FDD bay device, release the knob and pull the device out. Insert the new device until you hear a click.

Release knob for FDD bay

Security screw hole

**Warning:** Only remove the device when the power is off, failing to do so could hurt your data and/or your notebook computer.

When the device is out of the computer it should be protected from shocks and liquid.

### Special Attention:

To avoid your SmartBay accessories, such as the battery, CD-ROM and FDD from being removed easily during traveling, we advise you to put on the screws on the locks found at the bottom of the notebook so in this way the locks won't move.

In case you would like to interchange your FDD with ZIP drive, please kindly remove the screw of the lock for the FDD so you can remove the FDD from it's bay. After interchanging the FDD, please don't forget to put the screw on the lock.

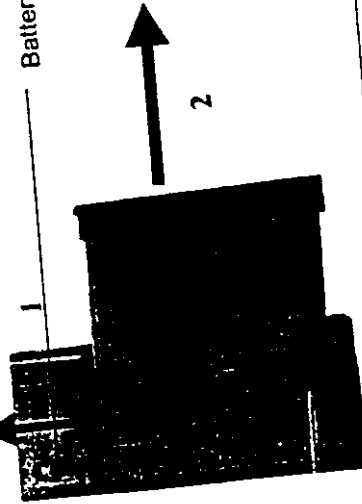
The screw for the battery's lock can be found on the gift box packed together with this manual.

### 4.3 Battery bay

The main battery can be exchanged with a higher capacity battery or a fully recharged battery. There are two types of batteries available, Li-Ion and Ni-MH. If you are concerned about the weight of your notebook we recommend the Li-Ion battery since it's half the weight of the Ni-MH.

You can replace the battery while power is on provided that either a secondary battery is installed (in the FDD bay, see Chapter 4.1) or the AC-adaptor is plugged in.

1 Battery bay release knob

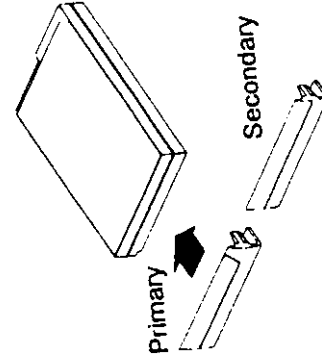


To remove the battery, release the knob and pull out the battery. Insert the new battery until you hear a click.

#### Warning:

Handle batteries carefully and don't tamper with the connectors, short circuit of the battery leads can lead to serious injuries.

Empty batteries should be returned to battery collecting sites and not thrown away in the garbage.

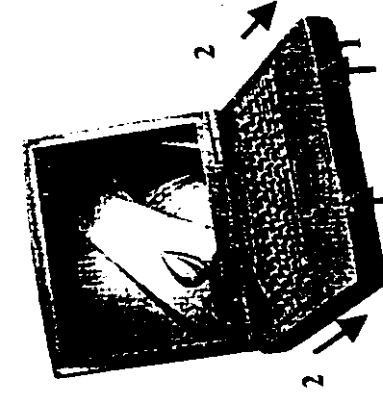


**Note:** The battery cover for Primary and Secondary batteries are not the same. The battery itself is the same.

See the picture to the right for the difference between Primary and Secondary battery covers.

### 4.4 HDD bay

The HDD can be replaced easily with a higher capacity drive. Many people like to have many HDD drives for different purposes or for backup.



First pull up the two lids in the front of the notebook, then drag the whole palmrest towards you.

The HDD is located to the right. Push the HDD to the right and then lift up to remove it.

HDD fixed top frame

If you want to install a new HDD

then follow the drawing to the right how to mount the HDD into the

HDD drive

HDD mylar

HDD fix bottom frame

**Note:** When the HDD is out of the notebook it is very vulnerable. Treat it very carefully.

If your data is valuable, back it up!

## Chapter 5 Batteries

### 5.1 Different kind of batteries

Your notebook can be equipped with two kinds of batteries, Li-Ion and Ni-MH. The capacity of these batteries are almost the same, while the Li-Ion battery is much lighter and much more expensive. Both batteries have the same external size and can be used either as primary or secondary battery in your notebook. The battery pack is proprietary, so if you need to buy more batteries you can only buy batteries of the same kind.

### 5.2 Recharging the batteries

1. For best battery charging performance, make sure the battery pack is fully discharged prior to charging.
2. The battery shall start to charge either main – or second battery is installed while AC adapter is already in connection, or the battery shall start to charge whenever AC adapter is plugged in while either main-or second battery is already installed. If both are present, charging main battery takes precedence over charging the second battery.
3. No change of charging priority during uninterrupted charging time and until main – or second battery achieves Battery-Full detection .
4. Please check the charging icon for understanding the battery charging condition . The charging icon will stay on if the battery is in charging state and will disappear if the battery is in fully charged state.

### 5.3 Battery maintenance

To maintain the battery pack's maximum capacity, occasionally you should let the Notebook deplete its DC power completely before the battery is recharged. To carry out a complete depletion of the battery, disconnect the AC adapter and let your Notebook use up the remaining battery energy. When the battery is empty wait for the Notebook to cool down, especially the battery temperature should be under 25°C, and insert the AC adapter to charge the battery.

### 5.4 Removing the battery

See Chapter 4.3, Battery bay how to remove the battery

## 5.5 The Best Battery Life for Storage

### Storage Temperature & Humidity

Storage outside the specified temperature range or in extremely high humidity may accelerate deterioration of battery materials, cause leakage or corrosion of metal parts of battery.

### Long Storage (more than 3 months)

In case of long storage, the battery must be charged at 30-50% to save a loss by self-discharge and avoid deterioration of battery performance. The battery voltage decreases faster for long storage at discharge condition. When the battery voltage is below 1.5V/cell, the capacity will decrease extremely even after re-charge. On the other hand, storage at 100% charged condition causes bigger self-discharge and deterioration of discharge capacity even after re-charge comparing to storage at 30-50% charge condition.

## 5.6 Power consumption

The Notebook's power use the C.P. (Constant Power) management. When the system turn off, the system power will used 35 Watt for the full charge mode. When the system turn on, the power will support system power and charger power at maximum 48 Watts.

## 5.7 Reducing power consumption

Although power conservation is a built-in function in your Notebook, there are measures you can take to reduce the power consumption:

- Use AC power whenever possible.
- Lower the intensity of the LCD backlight. A very bright screen translates to higher power usage.
- Try to use the HDD, to read and write files rather than using the FDD.
- Don't use "screensavers" since these use a lot of the CPU power, a blank screen is much better

## 5.8 Battery LED and Alarm

When only 10 minutes battery life remains the notebook will make a battery low alarm, this can be turned off by pressing Fn + B. During these 10 minutes you can either insert a new fully recharged battery in the FDD bay (secondary battery) or plug in the AC-adaptor. If you fail to do so within these 10 minutes the notebook will save your data to the HDD (the HDD needs to be prepared for this first, see Chapter 3) to prevent data loss. Next time you turn on the notebook you will start up where you left off.

## 5.9 Lithium Battery Disposal

Under the keyboard, between C and V keys is a small Lithium battery for CMOS backup. This keeps track of the time and date. If the notebook loses the time and date this battery should be replaced. See Appendix E, how to locate the Lithium battery.

### \*ADVARSEL!

Lithiumbatteri - Explosionsfare ved fejlagtig h ndtering. Udskiftning m  ske med batteri af samme fabrikat og type. Lever det brugte batteri tilbage til leverand ren.

### WARNING!

Lithium battery - Danger of explosion if battery is incorrectly handled. Replacement can only be done with a battery of same kind and from the same manufacturer. Return the old battery to the manufacturer.

\*Danish text for Demko approval

## 5.10 AC adapter

**Notes:** The AC adapter can accept a line voltage ranging from 100V to 240V. For different cords to the outlet ask your dealer or buy in any electrical store.

**Caution:** This unit is to be used with Delta model ADP-50GB, or Bestec model BPA-501-19N

**Attention:** Pour utiliser avec Delta mod le ADP-50GB, Bestec mod le BPA-501-19N

## 5.11 Battery Safety notice

### RECHARGEABLE BATTERY



#### Li-Ion Type

DO NOT CRUSH, PUNCTURE, INCINERATE OR SHORT EXTERNAL CONTACTS. LITHIUM-ION BATTERY MUST BE RECYCLED AND DISPOSED OF PROPERLY. PLEASE USE ONLY WITH SPECIFIED CHARGER AND SUPPLIED AC ADAPTOR FOR BATTERY CHARGING.

#### CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Discard used batteries according to the manufacturer's instructions

#### VORSICHT!

Explosionsgefahr bei unsachgemäßem Austausch der Batterie. Ersatz nur durch denselben oder einen vom Hersteller empfohlenen gleichwertigen Typ. Entsorgung gebraucher Batterien nach Angaben des Herstellers.

#### ATTENTION

Il y a danger d'explosion s'il y a remplacement incorrect de la batterie. Remplacer uniquement avec une batterie du même type ou d'un type recommandé par le constructeur. Mettre au rebut les batteries usagées conformément aux instructions du fabricant.

#### ADVARSEL!

Lithiumbatteri Eksplosionsfare ved fejlagtig håndtering. Udskiftning må kun ske med batteri af samme fabrikat og type. Lever det brugte batteri tilbage til leverandøren.

#### WARNING

Explosionsfara vid felaktigt batteritype. Använd samma batterityp eller en ekvivalent typ som rekommenderas av apparattillverkaren. Kassera använt batteri enligt fabrikantens instruktion.

#### VAROITUS

Paristo voi räjähtää, jos se on virheellisesti asennettu. Vaihda paristo ainoastaan laitevalmistajan suosittelemaan tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden mukaisesti.

## Chapter 6 Power Management

### 6.1 Full on mode

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

### 6.2 Standby mode

There are two ways to enter the standby mode:

1. The Standby timer was timed out
2. The Standby Hot-Key was pressed (Fn+F9)

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

When the notebook enters the Standby mode these things will occur:

1. The Standby LED will alight
2. Both the HDD and VGA controller will enter Standby mode to save power
3. The internal clock in the CPU will stop

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

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

## 6.3 Suspend / Suspend to RAM

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

1. The Suspend Timer was timed out
2. The Suspend Hotkey was pressed (Fn+F10)

When the notebook enters the Suspend mode these things will occur:

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

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

1. Internal keystroke (Power on button be pressed)
2. RTC alarm ring
3. Modem ring from serial or Cardbus source

## 6.4 0 Volt Suspend mode / Suspend to disk

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

1. The Suspend Timer was timed out and the 0 Volt suspend condition is matched
2. The Suspend Hotkey was pressed (Fn+F11)
3. Low battery warning has been issued and the battery is going into Low Low battery
4. If the temperature of the CPU should become over the maximum allowed (depending on the CPU you use)

When the notebook enters the 0-Volt Suspend mode, all components except the RTC and the power switch will be turned off.

The only way to resume from the 0-Volt Suspend mode is to press the Power On button

## Chapter 7 Connectors and Peripherals

### 7.1 CRT port

Here you can connect an external monitor, like standard CRT monitors.

### 7.2 USB port

USB stands for Universal Serial Bus; this is a new connector for keyboard, mouse, digital camera, modem, joystick, printer etc. The USB port will replace the slower serial and parallel ports, if you plan to buy a new device ask your dealer for their USB devices, you can also see all devices available on the Internet: <http://www.usb.org>

### 7.3 Parallel port

Most printers are connected to the parallel port as well as some "pocket" devices like network adapters. If you intend to copy files between computers using "Direct Cable Connection" under Windows 95, the parallel port is much faster than the serial port.

### 7.4 Game port

To the game port you can connect a joystick, game pads, flight sticks and other game devices.

### 7.5 Serial port

Here you can connect either an external modem or a serial mouse.

### 7.6 PS/2 port

The PS/2 port can either connect a PS/2 mouse or a PS/2 keyboard. If your keyboard connector is much larger than the PS/2 connector you can buy a transfer connector. There are also many pocket adapters that require power from the PS/2 port, these devices usually have a through port connector.

## 7.7 Video In/Out connectors

To the Video-In port you can connect a Video camera, VCR or another video signal. You can use this video signal for videoconference. Your notebook supports both PAL and NTSC signals, this is changed by software.

You can also connect the notebook to a TV or a video device via the Video-Out port, then you can display the notebook screen on that device, like a large screen TV. The maximum resolution on a TV is only 640x480.

## 7.8 Audio connectors

There are three audio connectors; Microphone, Speaker and Line-in. Your notebook has got a built-in microphone as well as two stereo speakers. It's very easy to connect your notebook to your audio system at home where you probably have large powerful speakers, this gives a whole new dimension to games, movies etc.

## 7.9 IrDA interface

With the IrDA interface in your notebook you can connect to other notebooks and some printers. Note that the IrDA in your notebook is FIR standard and can transfer up to 4MB/s, while many other notebooks can only transfer 1MB/s. The specification of IrDA is one meter further than that can cause transmission problems and slower speeds.

# Chapter 8 Optional accessories

For installations of any of these devices please refer to the installation manual with your accessory, some devices might not have a manual, like 2<sup>nd</sup> battery. See Chapter 4 how to remove and insert the SmartBay devices.

## 8.1 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.

## 8.2 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 100MB on a ZIP diskette. Note that floppy diskettes cannot be read in the ZIP drive.

## 8.3 2<sup>nd</sup> Battery

With a 2<sup>nd</sup> battery you can double the battery life in your notebook. You can use two batteries at the same time as you use the CD-ROM or DVD. The 2<sup>nd</sup> battery is the same size as the primary battery and can easily be used in either the primary or the secondary battery bay. The battery is smartbattery so you can see how much power there is left in the battery by clicking on the button on the battery pack or see the status under Windows 95.

## 8.4 2<sup>nd</sup> HDD

Use a 2<sup>nd</sup> HDD as a backup device, you can easily copy the whole HDD to a large secondary drive, or you can use the primary HDD for programs and the secondary for data, the speed of a HDD is much faster than both CD, FDD, ZIP and LS-120.

## Optional accessories

### DVD-ROM

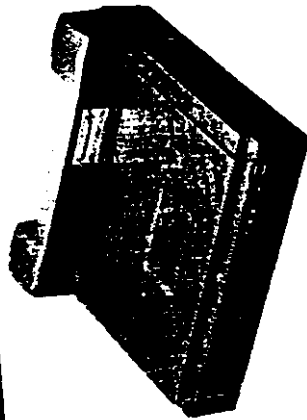
This is the new medium that will eventually replace CD. Your notebook is prepared for DVD-ROM when it's available in notebook size. Ask your dealer for more information.

### Docking station

Docking Station is an excellent accessory to expand your notebook. In the Docking Station there are two bays where you can put your smartbay devices, see 8.1 to 8.6.

You can also put one PCI card (not VGA) in the available slot.

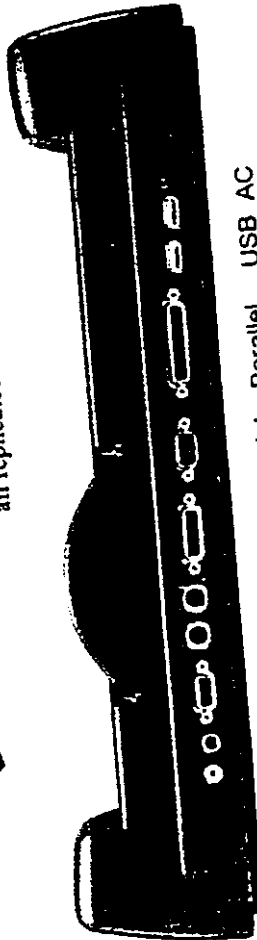
All the ports on the back of your notebook are replicated in the rear.



### 3.7 Port Replicator

With the Port Replicator you no longer need to have the hassle to plug in all the cables whenever you come back from travelling. Many people that use a notebook prefer to use an external mouse, big keyboard, CRT monitor, joystick, hook it up to a printer etc when in office or at home.

All the ports on the back of your notebook are all replicated in the rear.



Video-In/Out VGA PS/2 Game Serial Parallel USB AC

## Appendix A Setting up the BIOS

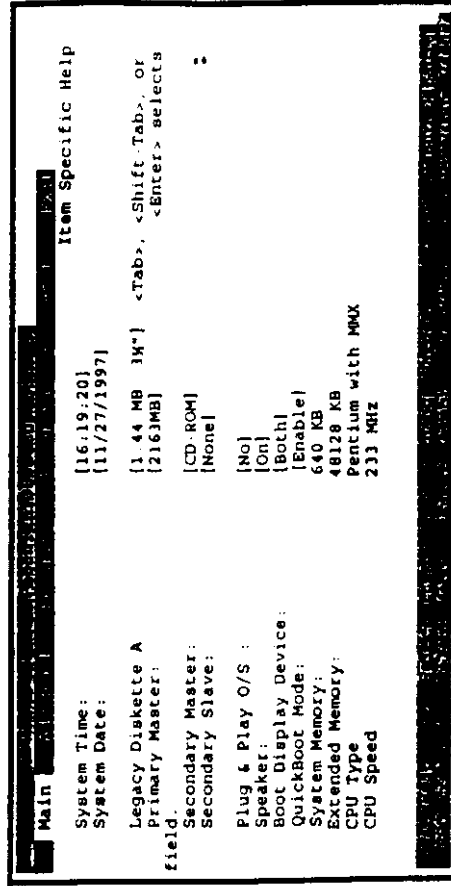
With the PhoenixBIOS Setup program, you can modify BIOS settings and control the special features of your computer. The Setup program uses a number of menus for making changes and turning the special features on or off.

The menus shown here are from a typical system. The actual menus displayed on your screen may be quite different and depend on the hardware and features installed in your computer.

### A.1 The Main Menu

To start the PhoenixBIOS Setup utility:

1. Turn on or reboot your system. PhoenixBIOS displays this message:  
Press <F2> to enter SETUP
2. Pressing <F2> displays the Main Menu, which looks like this:



See page A.7 for a description of the fields on this menu.

## The Menu Bar

The Menu Bar at the top of the window lists these selections:

|                     |                                                                                              |
|---------------------|----------------------------------------------------------------------------------------------|
| <b>Main</b>         | Use this menu for basic system configuration.                                                |
| <b>Advanced</b>     | Use this menu to set the Advanced Features available on your system's chipset.               |
| <b>Security</b>     | Use this menu to set User and Supervisor Passwords and the Backup and Virus-Check reminders. |
| <b>Power Saving</b> | Use this menu to configure Power-Management features.                                        |
| <b>Boot</b>         | Use this menu to configure system boot up sequence.                                          |
| <b>Exit</b>         | Exits the current menu                                                                       |

Use the left/right "← →" arrow keys to make a selection.

## The General Help Window

Pressing <F1> or <Alt-H> on any menu brings up the General Help:

| General Help                                                                                                                                                                       |  |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|
| Setup changes system behavior by modifying the power on initialization parameters. Selecting incorrect values may cause system boot failure; load Setup Default values to recover. |  |
| <Up/Down> arrows select fields in current menu.                                                                                                                                    |  |
| <PgUp/PgDn> moves to previous/next page on scrollable menus.                                                                                                                       |  |
| <Home/End> moves to top/bottom item of current menu.                                                                                                                               |  |
| Within a field, <F5> or <+> selects next lower value and <F6>, <->, or <Space> selects next higher value.                                                                          |  |
| <Left/Right> arrows select menus on menu bar.                                                                                                                                      |  |
| <Enter> displays the sub-menus marked with a <+>.                                                                                                                                  |  |
| <Enter> also displays an option list on some fields.                                                                                                                               |  |
| <F9> loads factory-installed Setup Default values.                                                                                                                                 |  |
| <F10> restores previous values from CMOS.                                                                                                                                          |  |
| <ESC> or <Alt-X> exits Setup; in sub-menus, pressing these keys returns to the previous menu.                                                                                      |  |
| <F1> or <Alt-H> displays General Help (this screen).                                                                                                                               |  |

The scroll bar on the right of any window indicates that there is more than one page of information in the window. Use <PgUp> and <PgDn> to display all the pages. Pressing <Home> and <End> displays the first and last page. Pressing <Enter> displays each page and then exits the window. Press <Esc> to exit the current window.

## The Field Help Window

The help window on the right side of each menu displays the help text for the currently selected field. It updates as you move the cursor to each field.

## The Legend Bar

Use the keys listed in the legend bar on the bottom to make your selections or exit the current menu. The chart on the following page describes the legend keys and their alternates:

| Key                    | Function                                              |
|------------------------|-------------------------------------------------------|
| <F1> or <Alt-H>        | General Help window (See below).                      |
| <Esc>                  | Exit this menu.                                       |
| ← or → arrow keys      | Select a different menu.                              |
| ↑ or ↓ arrow keys      | Move cursor up and down.                              |
| <Tab> or <Shift-Tab>   | Cycle cursor up and down.                             |
| <Home> or <End>        | Move cursor to top or bottom of window.               |
| <PgUp> or <PgDn>       | Move cursor to next or previous page.                 |
| <F5> or <+>            | Select the Previous Value for the field.              |
| <F6> or <+> or <Space> | Select the Next Value for the field.                  |
| <F9>                   | Load the Default Configuration values for this menu.  |
| <F10>                  | Load the Previous Configuration values for this menu. |
| <Enter>                | Execute Command or Select Submenu.                    |
| <Alt-R>                | Refresh screen.                                       |

To select an item, use the arrow keys to move the cursor to the field you want. Then use the plus-and-minus value keys to select a value for that field. The Save Values commands in the Exit Menu save the values currently displayed in all the menus.

To display a sub menu, use the arrow keys to move the cursor to the sub menu you want. Then press <Enter>.

A pointer ( ) marks all sub menus.

## Menu Selections

You can make the following selections on the Main Menu itself. Use the sub menus for selections.

| Feature                  | Options              | Description                                                                                                                                                                                                                                           |
|--------------------------|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Item Time                | HH:MM:SS             | Set the system time.                                                                                                                                                                                                                                  |
| Item Date                | MM/DD/YYYY           | Set the system date.                                                                                                                                                                                                                                  |
| Item Diskette A:         | 1.44 MB 3 1/2"       | Enable or disable the FDD installed in the system, which supports 3-Mode Diskette drive.                                                                                                                                                              |
| Item & Play O/S          | Disabled             | If your system has a Plug and Play Operating System, Yes lets the Operating System configure Plug and Play devices not required for boot. No makes the BIOS configure them. Auto sets to Yes if the Operating System is PnP aware (e.g., Windows 95). |
| Item Boot Mode:          | Enable / Disable     | Allows the system to skip certain tests while booting. This will decrease the time to boot.                                                                                                                                                           |
| Item Speaker             | On / Off             | Enable/Disable the system speakers                                                                                                                                                                                                                    |
| Item Boot Display Device | LCD / CRT / Both     | Set the video device to display when system boot                                                                                                                                                                                                      |
| Item System Memory       | Not for user setting | Displays amount of conventional memory detected during boot up                                                                                                                                                                                        |
| Item Extended Memory     | Not for user setting | Displays the amount of extended memory detected during boot up.                                                                                                                                                                                       |
| Item CPU Type            | Not for user setting | Displays the CPU Type.                                                                                                                                                                                                                                |
| Item CPU Speed           | Not for user setting | Displays the CPU Speed.                                                                                                                                                                                                                               |

You can set the boot sequence of the bootable drives by selecting Boot Sequence on the boot menu.

## Masters and Slaves

The Master and Slave settings on the Main Menu control these types of devices:

- Hard-disk drives
- Removable-disk drives
- CD-ROM drives

When you enter Setup, the Main Menu displays the results of Autotyping— information each drive provides about its own size and other characteristics and how they are arranged as Masters or Slaves on your machine.

If you need to change your drive settings, use one of the Master or Slave sub-menu as explained in the following.

## Hard Disk Advanced Settings

Selecting one of the Master or Slave sub-menus on the Main Menu displays this menu:

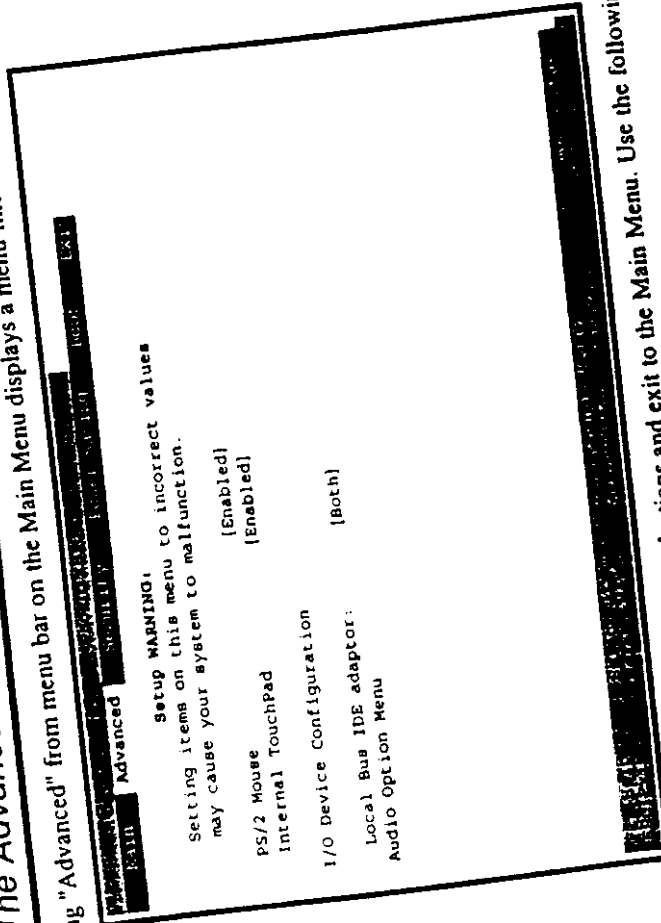
| Main                    | Primary Master (2163KB) | Item Specific Help                                          |
|-------------------------|-------------------------|-------------------------------------------------------------|
| Type:                   | (Auto)                  | User- Select parameters of hard-disk drive installed here.  |
| Cylinders:              | { 4191 }                | Auto- autotype disk drive installed here.                   |
| Heads:                  | { 16 }                  | CD-ROM- CD-ROM drive installed here.                        |
| Sectors/Track:          | { 63 }                  | ATAPI removable- ATAPI removable disk drive installed here. |
| Maximum Capacity        | 2163 MB                 |                                                             |
| Multi-Sector Transfers: | { 16 Sectors }          |                                                             |
| LBA Mode Control:       | { Enabled }             |                                                             |
| 32-bit I/O:             | { Disabled }            |                                                             |
| Transfer Mode:          | { Fast PIO 4 }          |                                                             |

| Feature Type           | Options                                                            | Description                                                                                                                                                                                                                                                                                                                                             |
|------------------------|--------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                        | None<br>User<br>Auto<br>CD-ROM<br>ATAPI Removable<br>IDE Removable | None = Autotyping is not able to supply the drive type or end user has selected None, disabling any drive that may be installed.<br>User = You supply the HDD inf. in the fields<br>Auto = Autotyping, the drive supplies the information.<br>CD-ROM = CD-ROM drive.<br>ATAPI Removable = Removable disk drive.<br>IDE Removable = IDE removable device |
| Cylinders              | 1 to 65,536                                                        | Number of cylinders.                                                                                                                                                                                                                                                                                                                                    |
| Heads                  | 1 to 16                                                            | Number of read/write heads.                                                                                                                                                                                                                                                                                                                             |
| Sectors/Track          | 1 to 63                                                            | Number of sectors per track.                                                                                                                                                                                                                                                                                                                            |
| Multi-Sector Transfers | Disabled<br>2, 4, 8, 16 sectors                                    | Any selection except Disabled determines the number of sectors transferred per block.                                                                                                                                                                                                                                                                   |
| LBA mode               | Enabled<br>Disabled                                                | Enabling LBA causes Logical Block Addressing to be used in place of cylinders, heads and sectors                                                                                                                                                                                                                                                        |
| 32-Bit I/O             | Enabled<br>Disabled                                                | Enables 32-bit communication between CPU and IDE card. Requires PCI or local bus.                                                                                                                                                                                                                                                                       |
| Transfer Mode          | Standard<br>Fast PIO 1 through 4<br>FPIO3/DMA 1<br>FPIO4/DMA 2     | Selects the method for transferring the data between the hard disk and system memory.                                                                                                                                                                                                                                                                   |
| Ultra DMA mode         | Disable<br>Mode 0 - 2                                              | Select the Ultra DMA mode used for moving data to/from the drive. Autotype the drive to select the optimum transfer mode.                                                                                                                                                                                                                               |

**Warning:** Incorrect settings can cause your system to malfunction.

## A.2 The Advanced Menu

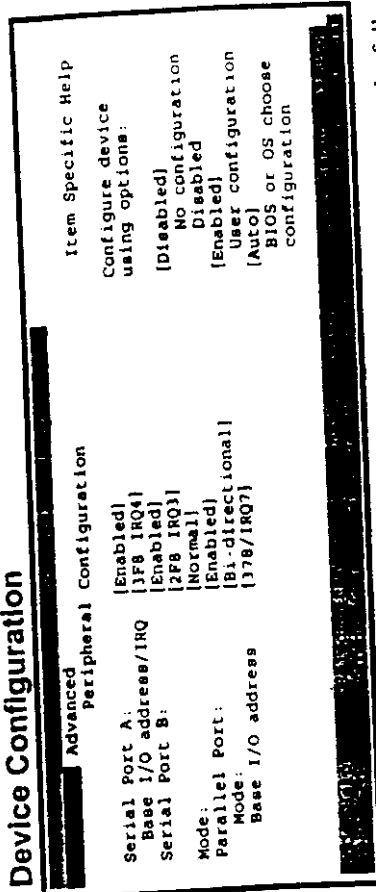
Selecting "Advanced" from menu bar on the Main Menu displays a menu like this:



Use the legend keys to make your selections and exit to the Main Menu. Use the following

| Feature               | Options                                  | Description                                                                                                                                                                     |
|-----------------------|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PS/2 Mouse            | Enabled<br>Disable                       | Enable allows the operating system to determine whether to enable or disable the mouse.<br>Disable prevents any installed PS/2 mouse from functioning, but will free up IRQ 12. |
| Internal TouchPad     | Enabled<br>Disable                       | Enables or disables the Touchpad.                                                                                                                                               |
| Local Bus IDE adaptor | Primary<br>Secondary<br>Disabled<br>Both | Select the integrated local bus IDE adaptor.                                                                                                                                    |

## I/O Device Configuration



Use the legend keys to make your selections and exit to the Main Menu. Use the following chart to configure the Input/Output settings:

| Feature                          | Options                                                                     | Description                                                                                                                                                                               |
|----------------------------------|-----------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Serial port A:<br>Serial port B: | Disabled<br>Enabled<br>Auto                                                 | Disabled, turns off the port.<br>Enabled requires you to enter the base Input/Output address and the Interrupt number on the next line.<br>Auto makes the BIOS autoconfigure during POST. |
| Base I/O<br>Address IRQ<br>Mode  | 3F8, IRQ 4 / 2F8, IRQ 3<br>3E8, IRQ 4 / 2E8, IRQ 3<br>Normal<br>IrDA<br>FIR | If you select Enabled, choose one of these combinations.<br>Normal cannot do IrDA transfers.<br>IrDA transfers enabled at 115.2kbps.<br>FIR with high speed 4MB data rates.               |
| Parallel Port:                   | Disabled<br>Enabled<br>Auto                                                 | Disabled, turns off the port.<br>Enabled requires you to enter the base Input/Output address and the Interrupt number below.<br>Auto makes the BIOS autoconfigure during POST.            |
| Mode                             | Output only /<br>Bi-directional / ECP/EPP                                   | Select the mode for Parallel Port.                                                                                                                                                        |
| Base I/O<br>Address              | 378/IRQ7 / 378/IRQ5<br>278/IRQ7 / 278/IRQ5<br>3BC/IRQ7 / 3BC/IRQ5           | If you select Enabled for the Parallel Port, choose one of these I/O addresses and interrupt.                                                                                             |

**Warning:** If you choose the same I/O address or Interrupt for more than one port, the menu displays an asterisk (\*) at the conflicting settings; also displays this message at the bottom of the menu:

\* Indicates a DMA, Interrupt, I/O, or memory resource conflict with another device.

Appendix A

Resolve the conflict by selecting other settings for one of the devices.

Audio Option Menu

When you selecting "Audio Option Menu" from the Advanced menu, the system displays a menu like this:

Advanced Audio Option Menu

Sound:

[Enabled] [220-22F]

SB I/O address: [530-538]

WSS I/O address: [388-38F]

ADLib I/O address: [300-301]

MPU I/O address: [230-231]

CTRL I/O address: [DMA 0]

DMA A: [DMA 1]

DMA B: [DMA 2]

IRQ: [IRQ 5]

Joystick:

[Enabled]

MODEM:

[3E8]

MODEM I/O Address:

[IRQ9]

IRQ:

[IRQ 3]

Item Specific Help

Configure device using options:

[Disabled] No conflict

[Enabled] User configuration

[Auto] BIOS or OS choose configuration

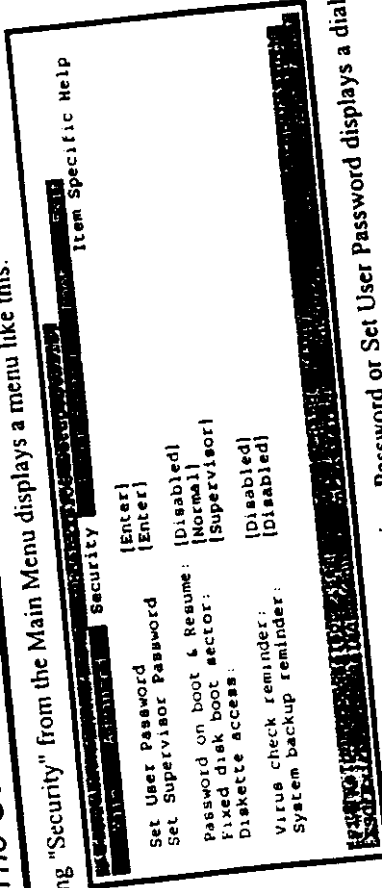
Use the legend keys to make your selections and exit to the Main Menu.

| Feature        | Options                                  | Description                                                                                                           |
|----------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| Sound          | Disabled<br>Enabled<br>Auto              | Determines the system Sound Device function or not. Set Auto for system auto-configuration.                           |
| SB I/O address | 220-22F<br>240-24F<br>260-26F<br>280-28F | When the system Sound Device is enabled, choose one of the options I/O addresses for Sound Blaster compatible device. |

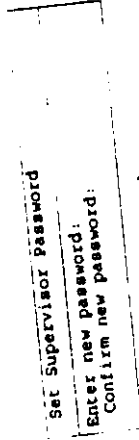
|                   |                                            |                                                                                                                             |
|-------------------|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| WSS I/O address   | 530-538<br>540-548<br>550-558<br>560-568   | When the system Sound Device is enabled, choose one of the option I/O addresses for Windows Sound System compatible device. |
| ADLib I/O address | 388-38F<br>398-39F<br>3A8-3AF<br>3B8-3BF   | When the system Sound Device is enabled, choose one of the option I/O addresses for ADLib compatible device.                |
| MPU I/O address   | 300-301<br>310-311<br>320-321<br>330-331   | When the system Sound Device is enabled, choose one of the option I/O addresses for MPU-401 compatible device.              |
| CTRL I/O address  | 100<br>120<br>140<br>160                   | When the system Sound Device is enabled, choose one of the option I/O addresses for OPL3 chip control.                      |
| DMA A:            | DMA 0<br>DMA 1<br>DMA 7                    | When the system Sound Device is enabled, choose one of the option DMA for DMA A.                                            |
| DMA B:            | DMA 0<br>DMA 1<br>DMA 7                    | When the system Sound Device is enabled, choose one of the options DMA for DMA B.                                           |
| IRQ               | IRQ 3<br>IRQ 5<br>IRQ 7<br>IRQ 9<br>IRQ 10 | When the system Sound Device is enabled, choose one of the option IRQ for the sound device.                                 |
| Joystick          | Disabled<br>Enabled<br>Auto                | Determines the Joystick port enabled or not. Set Auto for system auto-configuration.                                        |
| Modem             | Disabled<br>Enabled<br>Auto                | Determines to use the internal modem or not. Set Auto for system auto-configuration.                                        |
| Modem I/O Address | 3E8<br>3F8<br>2E8<br>2F8                   | When the legacy modem is enabled, choose one of the option I/O addresses for the legacy modem.                              |
| IRQ               | IRQ 3<br>IRQ 5<br>IRQ 7<br>IRQ 9<br>IRQ 10 | When the legacy modem is enabled, choose one of the option IRQ for the legacy modem.                                        |

### 3 The Security Menu

Selecting "Security" from the Main Menu displays a menu like this:



Pressing <Enter> at either Set Supervisor Password or Set User Password displays a dialog box like this:



Type the password and press <Enter>. Repeat.

- Enabling "Supervisor Password" requires a password for entering Setup. The passwords are not case sensitive.
- If you set both "Supervisor Password" and "User Password", when you want to enter the Setup menu, you can choose either one of them.
- If you type the "User password", this only gives full access to "Power Saving" menu and gives restricted access to the other Setup menus.
- If you type in the "Supervisor Password" this gives full access to Setup menus.
- "User Password" can only be set when supervisor password is set.
- When system boots, the user can type in either User or Supervisor passwords to boot the system.

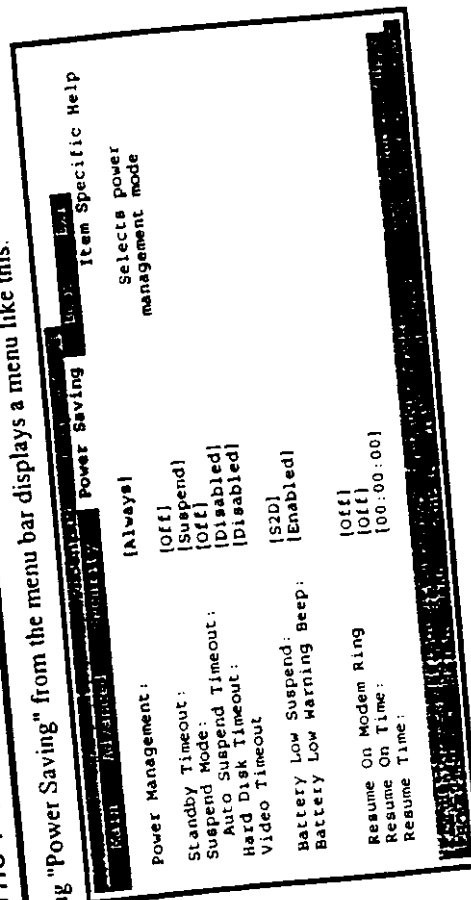
**Warning:** If you forget the password, or type wrong password three times, you need to call the service department where you bought your notebook.

Use the following chart to configure the system-security and anti-virus options.

| Feature                                        | Options                                | Description                                                                                                                                                                                                                                                                                                          |
|------------------------------------------------|----------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Supervisor Password                            | Up to seven alphanumeric characters    | Pressing <Enter> displays dialog box for entering the supervisor password. This password gives full access to SETUP menus.                                                                                                                                                                                           |
| Set User Password                              | Up to seven alphanumeric characters    | Pressing <Enter> displays the dialog box for entering the user password. This password gives restricted access to SETUP menus. Requires prior setting of Supervisor password.                                                                                                                                        |
| Password on boot & resume                      | Enabled<br>Disabled                    | Enabled requires a password on boot. Requires prior setting of the Supervisor password. If supervisor password is set and this option disabled, BIOS assumes user is booting.                                                                                                                                        |
| Fixed disk boot sector                         | Normal<br>Write Protected              | Write protected helps prevent viruses.                                                                                                                                                                                                                                                                               |
| Diskette Access                                | User<br>Supervisor                     | Supervisor restricts use of floppy drives to supervisor. Requires setting the Supervisor password.                                                                                                                                                                                                                   |
| System backup reminder<br>Virus check reminder | Disabled<br>Daily<br>Weekly<br>Monthly | Displays a message during bootup asking (Y/N) if you have backed up the system or scanned it for viruses.<br>Message returns on each boot until you respond with "Y".<br>Daily displays the message on the first boot of the day, Weekly on the first boot after Sunday, and Monthly on the first boot of the month. |

## 1.4 The Power Saving Menu

electing "Power Saving" from the menu bar displays a menu like this:



Use this menu to specify your settings for Power Management. Remember that the options available depend upon the hardware installed in your system. Those shown here are from a typical system.

A power-management system reduces the amount of energy used after specified periods of inactivity. The Setup menu pictured here supports a **Full On** state, a **Standby** state with partial power reduction, and a **Suspend** state with full power reduction.

Use the Advanced Options on this menu to specify whether or not the activity of interrupts can terminate a Standby or Suspend state and restore Full On. Do not change these settings without knowing which devices use the interrupts.

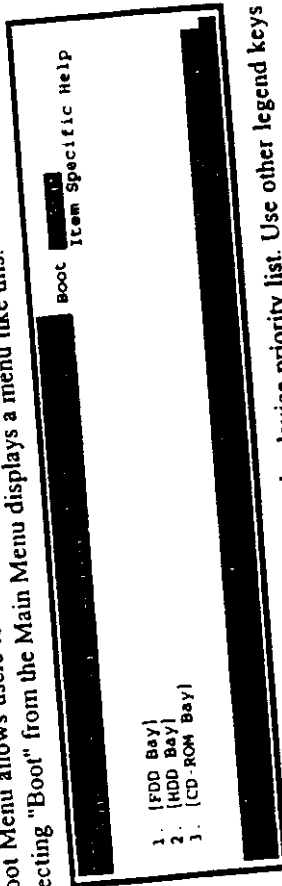
Use the legend keys to make your selections and exit to the Main Menu. Use the following chart in making your selections:

Use the legend keys to make your selections:

| Feature                  | Options                                                         | Description                                                                                                                                                                                                |
|--------------------------|-----------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Power Management         | Disabled Always                                                 | Allows you to disable the power management or set it to high performance or long battery life                                                                                                              |
| Standby Timeout          | Off<br>1, 2, 4, 6, 8, 12, 16 min                                | Amount of time the system needs to be in idle mode before entering the standby mode. Standby mode turns off various devices in the system, including the screen, until you start using the notebook again. |
| Suspend Mode             | Suspend<br>Save To Disk                                         | Inactivity period required to put system in Standby (partial power shutdown)                                                                                                                               |
| Auto Suspend Timeout     | Off<br>5, 10, 15, 20, 30, 40, 60 min                            | Inactivity period required after Standby to Suspend (maximum power shutdown)                                                                                                                               |
| Auto Save To Disk        | Off<br>After 1 Hour                                             | Determines to use auto save to disk function.                                                                                                                                                              |
| Hard Disk Timeout        | Disabled<br>10, 15, 30, 45 Seconds<br>1, 2, 4, 6, 8, 10, 15 min | Inactivity period of fixed disk required before standby (motor off)                                                                                                                                        |
| Video Timeout            | Disabled<br>10, 15, 30, 45 Seconds<br>1, 2, 4, 6, 8, 10, 15 min | Inactivity period of video screen.                                                                                                                                                                         |
| Battery Low Suspend      | Disabled<br>S2D                                                 | Select the status of battery low suspend. S2D sets battery low suspend to hard drive.                                                                                                                      |
| Battery Low Warning Beep | Enabled<br>Disabled                                             | In case the system hangs, press Power button for 5 seconds or longer to power off the system.                                                                                                              |
| Resume On Modem Ring     | On / Off                                                        | Determines modem ring resume or not when an incoming call is detected on your system                                                                                                                       |
| Resume On Time           | On / Off                                                        | Enable wakes the system up at a specific time. Resume on time will not work when the Suspend mode is set to Save to Disk                                                                                   |
| Resume Time              | HH:MM:SS                                                        | Set the resume time after system suspend to RAM.                                                                                                                                                           |

## A.5 The Boot Menu

The Boot Menu allows users to decide the boot sequence of the boot devices when power on. Selecting "Boot" from the Main Menu displays a menu like this:



Use +/- keys to move the device up/down the device priority list. Use other legend keys to make your selections and exit to the Main Menu.

| Feature              | Options                          | Description                                                                                                           |
|----------------------|----------------------------------|-----------------------------------------------------------------------------------------------------------------------|
| 1-3 of Priority list | FDD Bay<br>HDD Bay<br>CD-ROM Bay | Decide the sequence of bootup device priority list. Use +/- keys to move the device up/down the device priority list. |

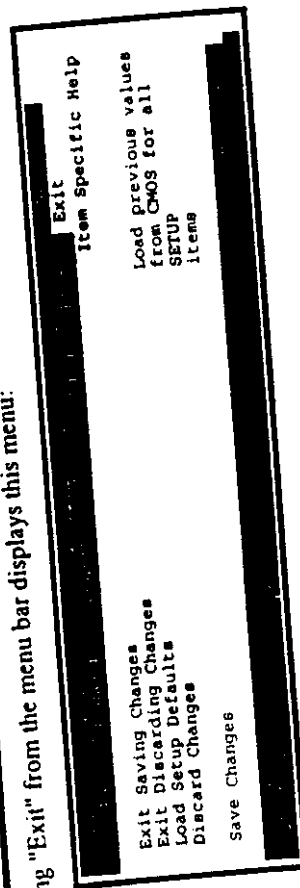
### Note:

There can be several different devices in the FDD Bay, ZIP, LS-120, 2<sup>nd</sup> HDD) and the CD-ROM bay could also be the DVD-ROM.

See Chapter 4 for more details about the SmartBays.

## A.6 The Exit Menu

Selecting "Exit" from the menu bar displays this menu:



## Exit Saving Changes

After making your selections on the Setup menus, always select either "Exit Saving Changes" or "Save Changes". Both procedures store the selections displayed in the menus in CMOS (short for "battery-backed CMOS RAM") a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS.

During bootup, PhoenixBIOS attempts to load the values saved in CMOS. If those values cause the system boot to fail, reboot and press <F2> to enter Setup. In Setup, you can get the Default Values (as described below) or try to change the selections that caused the boot to fail.

## Exit Discarding Changes

Use this option to exit Setup without storing in CMOS any new selections you may have made. The selections previously in effect remain in effect.

## Load Setup Defaults

To display the default values for all the Setup menus, select "Load Setup Defaults" from the Main Menu. The program displays this message:

Load default configuration now?

Press [Yes] to continue. If, during bootup, the BIOS program detects a problem in the integrity of values stored in CMOS, it displays these messages:

System CMOS checksum bad - run SETUP  
Press <F1> to resume, <F2> to Setup

Press <F1> to resume, <F2> to Setup

The CMOS values have been corrupted or modified incorrectly, perhaps by an application program that changes data stored in CMOS.

Press <F1> to resume the boot or <F2> to run Setup with the ROM default values already loaded into the menus. You can make other changes before saving the values to CMOS.

## Discard Changes

If, during a Setup Session, you change your mind about changes you have made and have not yet saved the values to CMOS, you can restore the values you previously saved to CMOS.

Selecting Discard Changes on the Exit menu updates all the selections and displays this message:

Load previous configuration now?

Select [Yes] to continue to restore the values previously saved to CMOS.

## Save Changes

Save Changes saves all the selections without exiting Setup. You can return to the menus if you want to review and change your selections.

## Appendix B Specifications

|                     |                                                                                                                                           |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CPU</b>          | P55C 133-166MHz with MMX, Tillamook 166-266MHz with MMX, Pentium II 233-266MHz (Intel MM0 Module)                                         |
| <b>Core Logic</b>   | Intel 430TX (for Pentium and Tillamook) 440BX for Pentium II                                                                              |
| <b>Memory</b>       | Base Memory 0 MB<br>Memory Expand to 0-192 MB, 144-pin x3, DIMM (EDO or SDRAM)                                                            |
| <b>Cache</b>        | Cache (L1 / L2) 32kb / (256kb In P55C) 512kb                                                                                              |
| <b>Display</b>      | Controller C&T 65555<br>Display Memory 4MB                                                                                                |
| <b>LCD</b>          | TFT or DSTN Color, 12.1" / 13.0" / 13.3" / 14.1"                                                                                          |
|                     | SVGA 800x600, XGA 1024x768 high colors                                                                                                    |
| <b>Battery</b>      | Smart Battery compatible<br>Ni-MH 4500mAh or Li-Ion 4200mAh (same Primary/Secondary)                                                      |
| <b>Pointing dev</b> | Touchpad                                                                                                                                  |
| <b>Power mgmt</b>   | Doze, Sleep, Suspend, Hibernation                                                                                                         |
| <b>BIOS</b>         | Phoenix, Plug & Play, 256kb                                                                                                               |
| <b>Disk Drives</b>  | HDD (Exchangeable), 2.5", 12.7 & 17mm height<br>CD-ROM or DVD-ROM (exchangeable)<br>:                                                     |
| <b>SmartBay</b>     | FDD (1.44MB) / Zip (100MB) / LS-120 (120MB) / 2 <sup>nd</sup> HDD / 2 <sup>nd</sup> Battery                                               |
| <b>Keyboard</b>     | 19 mm Pitch                                                                                                                               |
| <b>Sound</b>        | Yamaha YMF 715                                                                                                                            |
| <b>I/O ports</b>    | NS 87338 controller<br>Serial, Parallel, IrDA, CRT, Game, PS/2, 3 Audio jacks, 2 USB, Docking/Port connector, 2 Video Jack (Video In/out) |
| <b>PCMCIA</b>       | Type II x 2 or Type II x1 and Type III x 1<br>PCMCIA Card bus Controller, O2 Micro                                                        |

## Appendix B

### Power Options

- Adapter 50W (min.) AC 100-240 V
- FaxModem (56Kbps)
- Car Adapter
- Quick Charger
- Docking Station (1 PCI slot, Hot docking, SmartBay)

### Dimension

- 316x259x55.5mm (W x D x H)
- 3.4 kg with 12.1" TFT, LI-Ion, CD-ROM and FDD

## Appendix C Faxmodem installation

Open the palmrest as described in Chapter 4.4. On your left side is an empty space for a faxmodem card.

- Make sure that the notebook is turned off and remove battery and power cord.

- Insert the faxmodem with the connector facing the connector in the notebook.

- Attach the metal cover as seen in the picture

- Close the palmrest and reinsert battery and power cords.

- When you need to use the Faxmodem, attach the Faxmodem cable to the notebook's faxmodem connector and the other with the phone jack to the wall.

- Now you can turn on the notebook and press F2 to enter the Setup (See Appendix for the Setup)

- Go to the Advanced Menu's "Audio Option Menu"

- Enable the Modem

- Press Esc key and save the settings, the notebook should now reboot

- Enter Windows 95 operating system

- Click Start → Settings → Control Panel

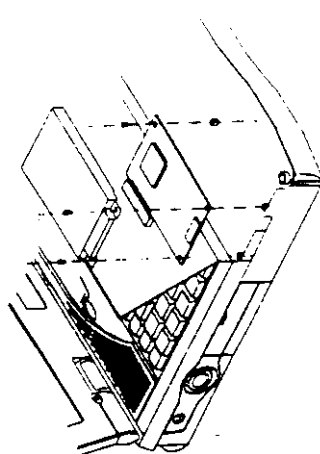
- Doubleclick the "Add New Hardware" icon.

- An "Add New Hardware Wizard" screen will come up

- Click Next and select No on the question to have Windows searching for the device

- On the next screen you can select what kind of device you would like to install, "Modem".

- Click the Next button to have Windows 95 to search for the modem.



Windows will find a "Standard Modem" on the COM3 port, now you should click on the "Change" button and then the "Have Disk" button.

Insert the Modem diskette in the FDD and click OK.

Follow the instructions on the screen to complete the installations.

**Caution:** Always disconnect the fax/modem board (the one that is described above) from the telephone system when installing or when the modem is in open position.

**Attention:** Toujours débrancher la ligne téléphonique de la carte modem (munie d'une prise ou d'une fiche) avant de procéder à l'installation dans l'appareil ou lorsque le couvercle de celui-ci est retiré.

## Appendix D CPU upgrade

Your notebook supports Intel's latest CPU technology, the MMO (Mobile Module). This makes it very easy for your dealer to exchange the CPU for you.

This manual doesn't mention how to make this change since this should be done by your dealer, or the manufacturer of your notebook.

**Warning:** We don't recommend you to upgrade the CPU by yourself, please consult your dealer or another authorized service center for notebooks.

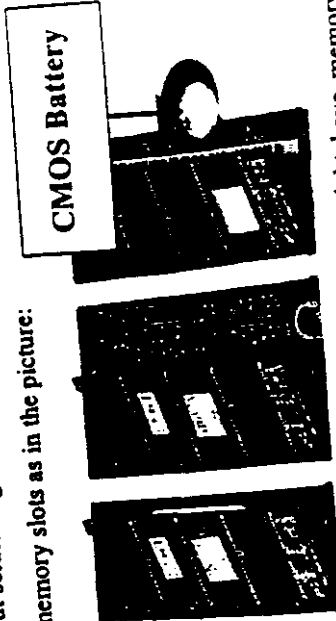
The connector on the MMO is very sensitive and a maximum of five removals of the CPU is allowable, after this the connector might break and thus making the MMO useless.

# Appendix E Memory upgrade

Your notebook can easily be expanded with more memory, a maximum 192MB can be fitted.

When you want to upgrade memory open the palmrest as seen in Chapter 4.4, then lift the keyboard carefully without scratching the very fragile LCD.

You will now see three memory slots as in the picture:



When you bought the notebook one or two of the slots might have memory modules already. To upgrade the memory, see the table below:

Some RAM combinations:

|       | Left | Middle | Right |
|-------|------|--------|-------|
| 32MB  | 0    | 0      | 32    |
|       | 0    | 16     | 16    |
|       | 32   | 0      | 0     |
| 64MB  | 64   | 0      | 0     |
|       | 32   | 32     | 0     |
|       | 32   | 16     | 16    |
| 192MB | 64   | 64     | 64    |

## Note:

Maximum 128MB SDR modules can only be used in left and middle slots, if 32 or 64 MB modules are used, the slot must remain empty, the right slot doesn't support 32 or 64 MB SDRAM.

EDO RAM modules can only be used in all these slots.

Only 3.3V modules are supported.

## Appendix F Difficult Words

|         |                                                                                                                                                                                    |
|---------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| APM     | Advanced Power Management, an operating and application level of power management, your notebook is fully compatible to this.                                                      |
| BIOS    | Basic Input Output System. In the manual we refer the BIOS Setup. To modify the BIOS settings press F2 when you start your notebook, for more information see Appendix A.          |
| BIT     | A binary digit, the smallest unit used in a computer, it takes 8 bits to make a byte.                                                                                              |
| BOOT    | To load a program or operating system into the memory.                                                                                                                             |
| BUS     | Electrical circuit within the system, used to transmit data from one device to another. Your notebook uses both ISA and PCI bus. The PCI bus is much faster (VGA, PCMCIA and IDE). |
| BYTE    | 8 bits                                                                                                                                                                             |
| CACHE   | Very fast kind of memory, your CPU has got 32kb of Level 2 cache. There is also Level 1 cache of 512kb.                                                                            |
| CARDBUS | The bus for your PCMCIA cards.                                                                                                                                                     |
| CMOS    | A special low power memory, this is kept even if you turn off the notebook, the BIOS code is saved here.                                                                           |
| CPU     | See Appendix D for detailed information. Your CPU has a number indicating the speed in MHz (Million Hertz), the higher the number, the faster.                                     |
| CRT     | Cathode Ray Tube. Another name is external monitor.                                                                                                                                |
| DMA     | Direct Memory Access.                                                                                                                                                              |
| DOS     | Disk Operating System                                                                                                                                                              |

## Appendix F

## Notebook user's manual

## Dynamic Random Access Memory

Dualscan Twist Neu-matic. This kind of LCD is not as fast as TFT, if you want to watch a movie clip we recommend TFT or CRT. Also known as passive color.

## Extended Capabilities Port

Enhanced Parallel Port, much faster than the standard Parallel port, but to be able to use it your device must be compatible.

Floppy Diskette Drive. The storage of a standard diskette is 720kb, 1.2MB (Japan only) and 1.44MB. Also see LS-120 and ZIP for new diskette types.

Preparing a diskette (floppy or HDD) for use with a DOS, this erases all the information.

Hard Disk Drive. This is the main storage device in your notebook, the access to the HDD is much faster than CD, FDD, ZIP, LS-120 and other devices. You can change hard disk quite easily by buying a harddisk storage module, see Chapter 4.

Integrated (or Intelligent) Drive Electronics. Your HDD, CD, DVD, LS-120, ZIP and are all IDE devices.

## Input/Output

Interrupt Request, every device has got an IRQ number, if two devices share the same number there will be a conflict and none of the devices will work.

A standard for 8 and 16-bit expansion cards, this standard is also referred as AT-bus. The speed on the bus is 8MHz.

## Kilo Byte (1024 bytes)

Local Area Network. There are many different standards for LAN, ETHERNET, Token ring, etc...

## Notebook user's manual

## LBA

Enabling LBA causes Logical Block Addressing to be used in place of cylinders, heads and sectors, this can be done in BIOS, see Appendix A.

## LCD

Liquid Crystal Display. A common name for your notebook screen. There are two types, DSTN and TFT.

## MB

Mega Byte (1 million bytes).

## MMO

Mobile Module, a CPU module made by Intel. On this module you find the CPU, 2<sup>nd</sup> level cache, 430TX or 440BX NorthBridge and voltage regulator plus some other components. Your notebook is compatible to all MMO with MMC-1 connector (280-pin).

## MMX

Multi Media eXtensions, this consists of 57 new instructions in CPU. MMX speeds up multimedia programs specially written for capable CPU's. MMX was invented by Intel.

## Mouse

A pointing device to move your cursor under certain software, Windows 95.

## OS

Operating System, there are many different, like: MS-DOS, Windows 95, Windows NT, OS/2, UNIX, etc...

## PARTITION

A logical unit created on the HDD, which is seen to the OS as a separate drive.

## PCI

Peripheral Connect Interface, this is the successor of ISA bus provides a much faster speed than ISA. The speed on the bus is 33Mhz.

## PCMCIA

Personal Computer Memory Card International Association, card in credit card size that can contain; memory, Fax/modem, SCSI adapter, LAN adapter, Video capture, etc...

## PIXEL

Image elements (small points), that compose a screen image.

## POST

Power-On-Self-Test, every-time you power on the notebook doing many different tests.

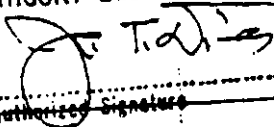
## RAM

Random Access Memory

**DOCUMENT:**

TRADE NAME:

THE FOLLOWING MANUFACTURER/IMPORTER IS RESPONSIBLE FOR THIS  
DECLARATION: \_\_\_\_\_ Responsible for making this declaration

| THE FOLLOWING MANUFACTURER'S<br>DECLARATION: |                                                                                                                      | Person Responsible for making this declaration |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------|------------------------------------------------|
| Item                                         |                                                                                                                      |                                                |
| Majors                                       | Manufacturer in Taiwan                                                                                               |                                                |
| Company Name                                 | Chicony Electronics Co., Ltd                                                                                         |                                                |
| Company Address                              | 25, Wu-Gong 6th Rd.<br>WU-Ku Industrial Park<br>Taipei Hsien, Taiwan R.O.C.                                          |                                                |
| Company Tel                                  | Tel: 886.2.298-8120                                                                                                  |                                                |
| Company Fax                                  | Fax: 886.2.298-8483                                                                                                  |                                                |
| Name & Title                                 | K.T. Nien<br>Director                                                                                                |                                                |
| Legal Signature                              | CHICONY ELECTRONICS CO., LTD.<br> |                                                |
| Place & Date                                 | Taipei April, 1998                                                                                                   |                                                |

# FEDERAL COMMUNICATIONS COMMISSION DECLARATION OF CONFORMITY (DoC)

FOR THE FOLLOWING EQUIPMENT:

PRODUCT NAME: Port Replicator

MODEL NO.: PR979

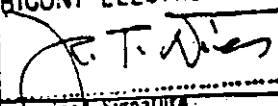
TRADE NAME: \_\_\_\_\_

IS HEREWITH CONFIRMED AND FOUND TO COMPLY WITH THE REQUIREMENTS OF CFR 47/PART 15 REGULATION. THE RESULTS OF ELECTROMAGNETIC EMISSION EVALUATION ARE SHOWN IN THE REPORT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
- (2) THIS DEVICE MUST ACCEPT ANY INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.

THE FOLLOWING MANUFACTURER/IMPORTER IS RESPONSIBLE FOR THIS DECLARATION:

| Item            | Person Responsible for making this declaration                                                                       |  |
|-----------------|----------------------------------------------------------------------------------------------------------------------|--|
| Majors          | Manufacturer in Taiwan                                                                                               |  |
| Company Name    | Chicony Electronics Co., Ltd                                                                                         |  |
| Company Address | 25, Wu-Gong 6th Rd.<br>WU-Ku industrial Park<br>Taipei Hsien, Taiwan R.O.C.                                          |  |
| Company Tel     | Tel: 886.2.298-8120                                                                                                  |  |
| Company Fax     | Fax: 886.2.298-8483                                                                                                  |  |
| Name & Title    | K.T. Nien<br>Director                                                                                                |  |
| Legal Signature | CHICONY ELECTRONICS CO., LTD.<br> |  |
| Place & Date    | Taipei April, 1998                                                                                                   |  |

# FEDERAL COMMUNICATIONS COMMISSION DECLARATION OF CONFORMITY (DoC)

FOR THE FOLLOWING EQUIPMENT:

PRODUCT NAME: Add-on Fax Modem 56K

MODEL NO.: FM979

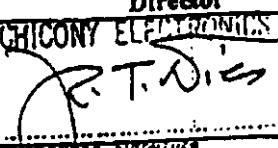
TRADE NAME: \_\_\_\_\_

IS HEREWITH CONFIRMED AND FOUND TO COMPLY WITH THE REQUIREMENTS OF CFR 47 PART 15 REGULATION. THE RESULTS OF ELECTROMAGNETIC EMISSION EVALUATION ARE SHOWN IN THE REPORT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

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THE FOLLOWING MANUFACTURER/IMPORTER IS RESPONSIBLE FOR THIS DECLARATION:

| Item                       | Person Responsible for making this declaration                                                                       |  |
|----------------------------|----------------------------------------------------------------------------------------------------------------------|--|
|                            | Manufacturer in Taiwan                                                                                               |  |
| Majors                     |                                                                                                                      |  |
| Company Name               | Chicony Electronics Co., Ltd                                                                                         |  |
| Company Address            | 25, Wu-Gong 6th Rd.<br>WU-Ku industrial Park<br>Taipei Hsien, Taiwan R.O.C.                                          |  |
| Company Tel<br>Company Fax | Tel: 886.2.298-8120<br>Fax: 886.2.298-8483                                                                           |  |
| Name & Title               | K.T. Nien<br>Director                                                                                                |  |
| Legal Signature            | CHICONY ELECTRONICS CO., LTD.<br> |  |
| Place & Date               | <small>Authorized Signature</small><br>Taipei Apr, 1998                                                              |  |

# FEDERAL COMMUNICATIONS COMMISSION DECLARATION OF FCC Class A Verification

FOR THE FOLLOWING EQUIPMENT:

PRODUCT NAME: Docking Station

MODEL NO.: DS979

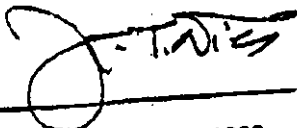
TRADE NAME: \_\_\_\_\_

IS HEREWITH CONFIRMED AND FOUND TO COMPLY WITH THE FCC CLASS A REQUIREMENTS OF CFR 47 PART 15 REGULATION. THE RESULTS OF ELECTROMAGNETIC EMISSION EVALUATION ARE SHOWN IN THE REPORT.

THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:

- (1) THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND
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THE FOLLOWING MANUFACTURER/IMPORTER IS RESPONSIBLE FOR THIS DECLARATION:

| Item            | Person Responsible for making this declaration                                      |  |
|-----------------|-------------------------------------------------------------------------------------|--|
|                 | Manufacturer in Taiwan                                                              |  |
| Majors          |                                                                                     |  |
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| Company Tel     | Tel: 886-2-298-8120                                                                 |  |
| Company Fax     | Fax: 886-2-298-8483                                                                 |  |
| Name & Title    | K.T. Nian<br>Director                                                               |  |
| Legal Signature |  |  |
| Place & Date    | Taipei May, 1998                                                                    |  |

## MP-979 Frequently Asked Question

Q. How will I identify the system BIOS version?

A. The system bios version appears on the upper left corner of the POST (Power-ON self Test) screen.

**System Bios v x.xx Date xx-xx-xx**

Q. What is USB ?

A. USB stands for Universal Serial Bus. USB is a new 4-pin Serial peripheral bus that is capable of cascading low/medium speed peripherals (less than 10Mbit/s) such as keyboard, mouse, joystick, scanner, printer and Modem/ISDN.

Q. What is the most suitable setup in the BIOS setup when installing Windows 95 ?

A. When installing Windows 95 OSR2 B, we recommend you to go to BIOS setup and load the Default value and go to Power Management and select disable for Power Management. Then you may start installing Windows 95 OSR2 B. And after the installation of Window 95 OSR2 B, go to BIOS Setup and select "YES" on "Plug and Play OS".

Q. What type of memory module can I install on MP-979 ?

A. You can install the following type of memory module :

144-pin EDO, 3.3 volts RAM modules  
and /or

144-pin SDRAM, 3.3 volts RAM modules

Note:

- You are not allowed to install SDRAM memory card on the right (3<sup>rd</sup>) slots if the left (1<sup>st</sup>) or middle (2<sup>nd</sup>) slot have a 32MB or 64MB SDRAM memory card installed.
- The left (1<sup>st</sup>) & right (3<sup>rd</sup>) slots should have the same memory type. (i.e if left slot is an EDO RAM, the right slot should also be an EDO RAM).

February 20, 1998

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- Q. Why am I getting “? *PCI Bridge*” under “Other devices” on “System Properties” after installing Windows 95 ?
- A. MP-979 uses a new Intel 430TX chipset and the chipset is new to Windows 95, so it is normal to see the following devices installed after fresh installation of Windows 95 OSR2 B :

**- Other Devices**

**? PCI Bridge**

**? PCI Bridge**

**? PCI Universal Serial Devices**

Please run the batch file in the CD utility D:\Win95\English\other and execute SETUP.EXE and it will automatically install the driver for Intel 430TX.

And for PCI Universal Serial Devices, You must obtain USBSUPP.EXE from Microsoft or your OEM system provider for installing Microsoft USB supplement.

- Q. What type of CPU can MP-979 support ?
- A. MP-979 can support the following CPU :

MMO P55C-150 w/ 256K cache - use 3.3v

MMO P-55C-166 w/ 256K cache – use 3.3v

- Q. Can I disable the internal Touchpad ?

- A. Yes, you can disable the internal touchpad by going to BIOS setup and go to ADVANCED, select “DISABLE” on PS/2 mouse.

- Q. How many video RAM is used by MP-979?

- A. MP-979 has 4Mb video RAM.

- Q. What is the function of LCD cover switch?

- A. The function of the LCD cover switch is to serve as a protection of LCD, the LCD cover will turn off the LCD when the display panel is closed or pressed.

- Q. What should I do if I forgot my password?