# Outline of the MD02

## 1.1 Introduction

This chapter provides the outline features and operation of the MD02 including the BIOS Setup program and other system options.

The MD02 notebook offers the latest in advanced portable computing and multimedia technology that even outperforms most desktop computers. It incorporates the latest Intel Dothan Processor and fully compatibles with an entire library of PC software based on operating systems such as MS-DOS, Windows 2000 / XP. It also runs on future versions of Windows. It comes with a built-in keyboard, glide pad pointing device, sound system, PCMCIA slots, USB (Universal Serial Bus) port, IEEE 1394 port, advanced power management and more new multimedia features.

## 1.2 Feature Highlights

The MD02 includes a variety of innovative features:

| Category | Specification | Steppi ng |
|---|---|---|
| CPU | Intel Dothan 1.8 GHZ | |
| Core Logic | Intel Montara-GM+ (North Bridge) : <br>      CPU(Banias) I/F <br>     VGA Controller <br>       LVDS I/F <br>       DVOB&DVOC IF. <br>       RGB analog I/F <br>     200/266 DDR MEMORY I/F <br>    Hub-Link I/F <br><br> Intel ICH4-M (South Bridge) : <br>      Integrated Hub-Link I/F to connect with PCI Bridge <br>     Dual IDE Master/Slave Controller ,Integrated DMA Controller <br>     1.1/2.0 Universal Serial Bus Host Controller <br>     Integrated 10/100M Fast Ethernet MAC Controller <br>     Integrated Audio Controller with AC97 V2.2 Interface <br>     Advanced Power Management(ACPI) <br>    RTC <br>     Integrated PCI to LPC Bridge <br>     Integrated Audio Controller with AC97 Interface <br>     PCI Bus Interface (PCI 2.2 compliant) <br>     GPIO <br>     Advance PIC | |
| Cache Memory | L1 Cache (Pentium Processor internal): <br>     32KB code and 32KB data <br><br> L2 Cache (Pentium Processor internal): <br>     1MB Advanced Transfer Cache,8 way associativity <br>     64-byte line size | |
| System Memory | Expansion Memory:    2 SO-DIMM Slot (1.25") <br>     Size:    128/256/512MB/1G | |

| | | |
|---|---|---|
| | Type:      DDR DRAM, 3.3V<br>Data Path:      64Bit<br>Frequency :  266/200MHz<br><br>Please refer to the MD02 Key component list in detail. | |
| BIOS ROM | Flash ROM<br>1st Vendor : SST 49LF004A TSSOP Package 4Mbit LPC flash ROM<br>2nd Vendor : <TBD><br>        4Mbit, 32 pin TSSOP package<br>        PS: PLCC32 Package is just for DEBUG | |
| Super I/O | None | |
| RTC + NVRAM | Integrated in South Bridge (Intel ICH4-M)<br>        Real Time Clock with 256 byte extended CMOS.<br>        IBM AT Clock/Calendar/Alarm (14 Bytes) | |
| K/B Controller | Mitsubishi  M38857M8 LPC KBC<br>        Internal K/B, Touch Pad, External K/B or M/S<br>        Supported A20Gate,firmware version 2.14 | |
| PMU | New PMU08<br>Mitsubishi M38859FFHP<br>        Embedded Controller | TBD |
| VGA Controller | Embedded in Intel Montara-GM+<br>        High Performance and high quality 3D accelerator<br>        Integrated dual DVO bridge<br>        Integrated LVDS Interface<br>        Integrated RGB analog Interface<br>        High performance 2D accelerator<br>        Complete TV-OUT/Digital Flat Panel Solution | |
| VRAM | Share system memory, UMA (using DVMT configuration) | |
| TV out encoder | None | |
| CardBus Controller | TI PCI4510 (PCI Card Bus controller)<br>        PC/Card Bus Type II x1<br>        Build in smart card (none) | |
| Sound | AC'97 CODEC<br>Realtek ALC202<br>AC'97 Revision 2.2 Compliant | |
| Modem | Ambit MDC modem<br>        V.90, K56flex, ITU-T V.34, V.32, RJ11 Jack<br>        TIA/EIA 602, V.42<br>        ITU-T V.17, V.29, V.27ter, V.21 Ch2<br>        TIA/EIA 578 Class1 FAX<br>        Wake up on Ring | |
| On board LAN | Intel ICH4-M + BroadCom BCM 4401<br>Support LAN boot<br>Support for auto-negotiation (10BASE-T and 100BASE-TX)<br>Wake up On LAN | |
| 802.11b | Support by Intel Calexico Mini-PCI Wireless LAN Card<br>        <Design Ready Only> | |
| 1394 | TI PCI4510, support one port | |
| Cellular I/F | Support PDC/PIAFS/CdmaOne/Dupa(None) | Support by Cellular I/F |

| | | USB Cable |
|---|---|---|
| USB Intel ICH4-M | Integrated in South Bridge Intel ICH4-M) USB v.1.1 and Intel Universal HCI v.1.1 compatible USB v.2.0 and Enhance Universal HCI v.2.0 compatible Eighteen level (doublewords) data FIFO with full scatter and gather capability Root hub and four function ports Integrated physical layer transceivers with optional over-current detection status on USB inputs | |
| IDE Interface (Intel ICH4-M) | Fast IDE, 2 ports: --Integrated multithreaded I/O link mastering with read pipelined streaming --Dual independent IDE channel each with 16 DW FIFO --Native and compatibility mode --PIO mode 0,1,2,3,4, and multiword DMA mode 0,1,2 --Ultra DMA 33/66/100 | |
| Printer Interface | None | |
| Serial Interface | None | |
| External PS/2 Port (M38859) | External Keyboard or PS/2 Mouse Exclusively connected. Can use both device by using branch cable(option) | |
| Universal Serial Bus (Intel ICH4-M) | --Integrated multithreaded IO link mastering --Dual independent OHCI controllers with root hub --Support up to 6 USB ports --Support legacy devices --Over current detection equipped --Option to separately configure each port as a wake-up source | |
| Infrared | None | |
| Modem | 56K Data/Fax Modem (v.90) | |
| LAN | 10/100 Base TX LAN Lan boot support | |
| LCD Panel | 14.1" XGA 14.1" SXGA+ ; Please refer to the MD02 Key component list in detail. | |
| HDD | 2.5 inch HDD (Standard) 9.5mm Height ; Please refer to the MD02 Key component list in detail. | |
| CD-ROM (Option) | CD-ROM (9.5mm Height) ; Please refer to the MD02 Key component list in detail. | . |
| FDD(None) | USB FDD 3 mode Support ; Please refer to the MD02 Key component list in detail. | |
| DVD (Option) | DVD 9.5mm Height ,8X ; Please refer to the MD02 Key component list in detail. | |
| CD-RW,Combo | 9.5mm Height ,24X ; Please refer to the MD02 Key component list in detail. | |
| Pointing Device | Internal Touch Pad Pad SYNAPTICS : TM41P-351 Please refer to the MD02 Key component list in detail. | |
| Keyboard | Internal Keyboard 6.5mm Height, 3.0mm Stroke, 19mm Pitch | |

| | | |
|---|---|---|
| | Vendor: ALLTOP<br>PAN-international<br>; Please refer to the MD02 Key component list in detail. | |
| Speakers (audio) | Two built-in dynamic speakers<br>40 x 20mm, 1W   4Ω | |
| Microphone | Built-in non-directional Back Electric Condenser Microphone<br>Panasonic : WM62PCX | |
| Buzzer | Not support | |
| Battery | Battery Pack<br>Type: 8 cell Li-ION Battery with  EEPROM<br>Voltage:            14.4V<br>Cell: 1800mAh Prisamtic<br>Method: 4P2S<br>Capacity: 3600mAh/52Wh Panasonic<br>Vendor: SANYO/ Panasonic<br>; Please refer to the MD02 Key component list in detail. | |
| RTC Battery | Ni-MH Battery<br>Model:            3/V  15H<br>Voltage:          3.6V<br>Capacity:         15mAh<br>Vendor:           VARTA | |
| DC/DC Converter | Daughter board<br>5.0 V            Max 7.0 A<br>3.3 V            Max 4.5 A<br>1.5V            Max 2A<br>1.8V            Max1A | |
| CPU Vcore | 0.7~1.708V                    Max  25A | |
| AC Adapter | PA-1600-05 : Delta<br>Input:              AC100 – 240V, 50/60Hz<br>Output:            19V,  60W Peak 80W<br>Size:              110mm x  50mm x 29mm (Delta)<br>Vendor: Delta<br>Color : TBD<br>; Please refer to the MD02 Key component list in detail. | |
| | | |
| Size | 310MM X 266MM X 27.3 MM (H)<br>SUPPORTS KENSINGTON LOCK | |
| Weight | AROUND 2.54 KG OR 4.5 LBS WITH 14.1" LCD SYSTEM WITH HDD, FDD, CD-ROM AND ONE LI-ION BATTERY PACK | |

**Battery Handling**

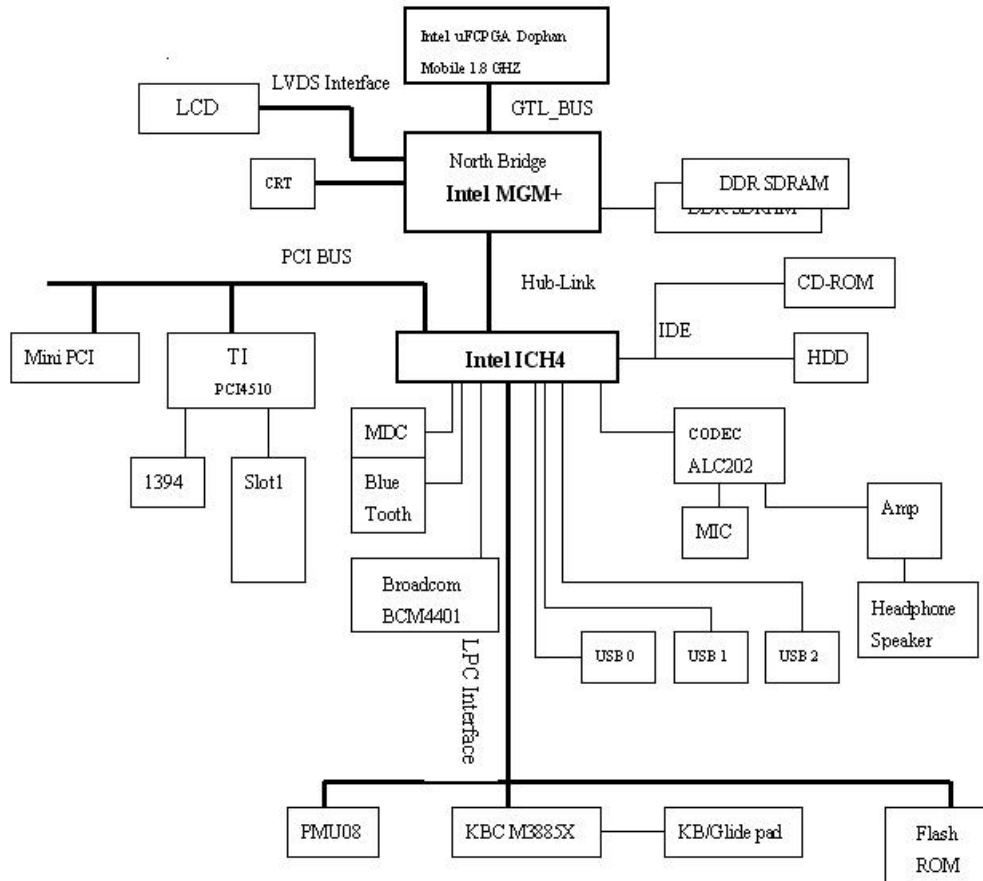| Category | Specification | | | Remark |
|---|---|---|---|---|
| Battery Charging<br><br>Max Change Current: 1.7A-1.75A± 150mA | Power On | Li-ion | 3.5 h | |
| | Power Off | Li-ion | 3.5 h | |
| Battery Life | 1st Li-ion | | 4.5 h | TBD |
| Save to RAM | 1st Li-ion | | 3 Days | TBD |
| CMOS Battery | Charge | | 24 h | System on |
| | Discharge | | 3 month | System off |
| Consumption power | Maximum | | 75W | |
| | Typical | | 25W | TBD |
| | MobileMark | | 10W | Target |

## 1.3   System Configuration



**Figure 1-1        System Configuration Diagram**

## 1.4    Quick Tour of the Notebook

Please take a moment to become familiar with the location and purpose of every control, the LED status panel, connectors and ports, which are illustrated in this section. It is recommended to first go through the User Guide of the notebook, which is shipped together with the notebook for information on how to operate its features.

### 1.4.1    The Inside of the Notebook

To open the LCD cover of the notebook, find the cover latch located at the front center of the LCD cover. Push the latch to the right to release and tilt the LCD cover up. Inside, you will see the LCD display panel, keyboard, touch pad, status LED, and power switch.
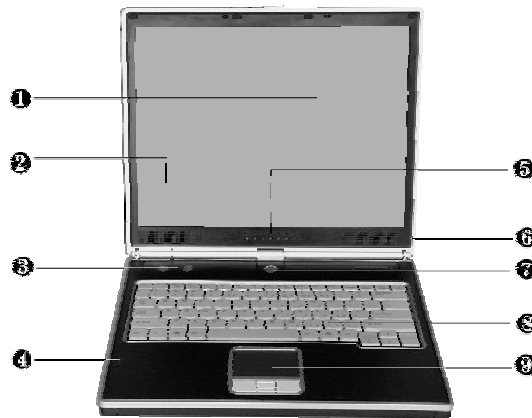
**Figure 1-2        The Inside side of the Notebook**

| Œ | Color LCD Display | • | Built-in Stereo Speakers | Ž | Easy Buttons |
|---|---|---|---|---|---|
| • | Integrated Microphone | • | Status LED Indicator | , | Built-in Stereo Speakers |
| , | Power On/Resume Button | ❽ | Keyboard | ❾ | Touchpad Pointing Device |

- Color LCD Display
  The notebook computer comes with a color LCD that you can adjust for a comfortable viewing position. The LCD can be 14.1" TFT color LVDS with 1024x768 XGA (Extended Graphics Array) or 1400x1050 SXGA+ resolution panels. The features of the Color LCD Display are summarized as follows:

  ⇓ TFT color LVDS with 14.1" 1024x768 XGA or 14.1" 1400x1050 SXGA+ resolution panels.

  ⇓ Capable of displaying 16M colors (32-bit true color) on either size panels.

  ⇓ LCD display control hot-keys allows you to adjust the brightness of the LCD.

  ⇓ Simultaneous display capability for LCD and external desktop computer monitor.

- Built-in Stereo Speakers
  Integrated left and right mini stereo speakers located at the bottom of LCD panel for sound and audio output for your multimedia presentations or listening pleasure.

- Easy Buttons
  There are two easy buttons used for accessing Internet and e-mail functions instantly and easily. Description of the easy buttons appears in the latter part of this section.

- Integrated Microphone
  Integrated mono microphone for instant voice recording and simultaneous voice conversation.

- Status LED Indicator
  Keeps you informed of your notebook computer's current power status and operating status. Description of the status icons appears in the latter part of this section.

- Power On/Resume Button
  Switches the computer power on and off, or resumes whenever it is in Suspend mode.

- Keyboard

  - ⇓ Standard QWERTY-key layout and full-sized 82/84 keys keyboard with Windows system hot-keys, embedded numeric keypad, 7 hot keys, inverted "T" cursor arrow keys, and separate page screen control keys.

  - ⇓ Wide extra space below the keyboard panel for your wrist or palm to sit-on comfortably during typing.

- Touchpad Pointing Device
  Microsoft and IBM PS/2 mouse compatible with three select buttons as one Scroll button and two Touchpad click buttons. These three buttons array below the Glide pad. The middle one is located with the Scroll button that lets you execute the scroll page function. The two click buttons located at each side support tapping selection and dragging functions. These buttons work like a standard computer mouse. Simply move your fingertip over the Glide Pad to control the position of the cursor. Use the selection buttons below the Glide Pad to select menu items.

Easy Buttons

There are three easy buttons, two use for accessing Internet and e-mail functions instantly and easily, the other one lets you define certain functions by yourself. Descriptions of the easy buttons appear in the latter part of this section.

**Figure 1-3    Easy Button**
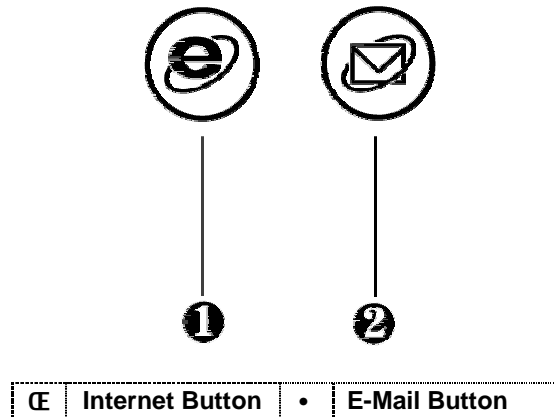
| Œ | Internet Button | • | E-Mail Button |
| --- | --- | --- | --- |

- Internet Button

  This technology is designed specifically for providing a very convenient way in connecting Internet only by pressing Internet button as shown in the graphics. For more understanding and interesting, you can refer Section 2.5 to recognize the driver installation procedures in activating Internet button.

- E-mail Button

  This is the most convenient way to access the outlook 98/2000/2002... utility just by pressing this button. You can simplify several procedures in entering into Outlook 98/2000/2002... environment.

## Status LED Indicator

Located just in front of the palmrest assembly, you will find three LEDs for the power and battery charge status. These LEDs are positioned to be visible even if the LCD cover is closed.
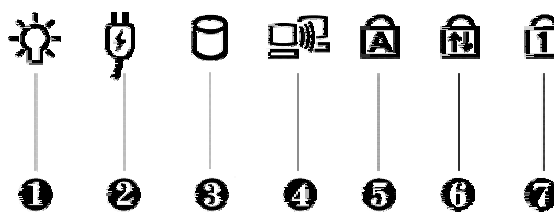
**Figure 1-4    Status LED Indicator**

| Œ | Power Indicator | • | Battery charging LED | Ž | Drive Access |
| --- | --- | --- | --- | --- | --- |
| • | Wireless LAN Access | • | Caps Lock | ' | Scroll Lock |
| ❼ | Num Lock | | | | |

- Power Indicator

  Lets you know that power to the system is turned on. This LED is positioned so that you can see the power state whether the LCD panel is opened or closed.

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- ⇓ Lights green when the system is powered on

- ⇓ Lights green blinking when the system is in Suspend to RAM.

- Battery Charging LED
  Lights to indicate battery in charging status.

  - ⇓ Lights green to indicate that the battery is in charging.

  - ⇓ Lights off to indicate the battery is fully charged or no battery installed.

- Drive Access
  When LED in green light indicates that the system is accessing either the Hard Disk or Combo drive.

- Wireless LAN access
  When LED in green light indicates that the wireless LAN module is installed. When LED in blinking green light indicates that the system is accessing or retrieving data by wireless device.

- Caps Lock
  When LED in green light indicates that the Caps Lock key on the keyboard is activated. When activated, all alphabet keys typed in will be in uppercase or capital letters.

## 1.4.2 The Front Side of the Notebook
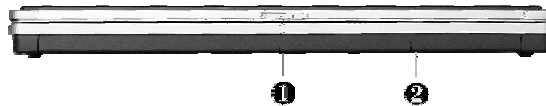


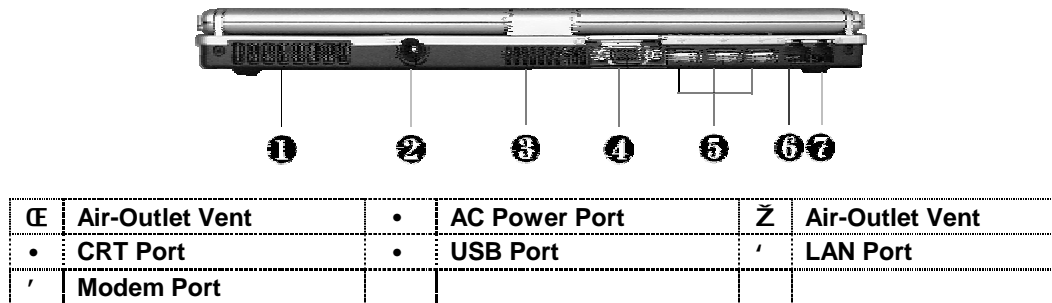| Œ | Cover Switch | • | Battery | | |
|---|---|---|---|---|---|

**Figure 1-8 The Front Side of the Notebook**

- Cover Switch
  The cover (LCD panel) is locked when it is closed. Slide the button right aside to release the latch for opening the cover of the computer.

- Battery
  The battery pack is inserted here.

## 1.4.3    The Rear Side of the Notebook

The rightt side of the notebook computer offers the features shown in the following figure.



| Œ | Air-Outlet Vent | • | AC Power Port | Ž | Air-Outlet Vent |
|---|---|---|---|---|---|
| • | CRT Port | • | USB Port | ' | LAN Port |
| ' | Modem Port | | | | |

**Figure 1-9        The Rear side of the Notebook**

- Air-Outlet Vent
  Emits the heat out of your computer and keeps it within operating temperature.

- DC Power Port
  Lets you connect the AC power adapter in supplying continuous power to your notebook and recharging the battery.

- Air Inhalant
  Inhale the air into your computer to keep it within operating temperature.

- Monitor Port
  Lets you attach an external monitor or projector for wider display. You can run the LCD display and the external monitor simultaneously or switch it to monitor only using the display hot-key.

- USB Port
  The Universal Serial Bus (USB) port allows you to connect up to 127 USB-equipped peripheral devices (for example, printers, scanners and so on) to your notebook computer.

- LAN Port
  An internal 10Base-T/100Base-TX LAN module connects your computer to other computers/networks through a local area network (LAN).

- Modem Port
  A 56K internal fax/data modem is installed. It keeps you connected to the outside world through networks.

## 1.4.4   The Left Side of the Notebook

The left side of your notebook computer provides the features shown in the following figure.
To see all the ports located on the left side, you can open the cover first.

| Œ | Microphone Jack | • | Headphone Jack | Ž | IEEE 1394 |
|---|---|---|---|---|---|
| • | PC Card Slot | | | | |

**Figure 1-10      The Left side of the Notebook**

- Microphone Jack
  Allows you to connect an external microphone for monophonic sound
  recording directly into your notebook computer.

- Headphone Jack
  Lets you plug in a stereo headphone, powered speakers, or earphone set
  with 1/8 inch phono plug for personal listening.

- IEEE 1394
  IEEE 1394 port is a high speed I/O port that can transfer high levels of data in
  real-time, such as external hard disk, Digital Video Camera.

- PC Card Slot

  ⇓   Lets you connect various PC cards such as memory card

  ⇓   Supports both 3V, 5V 32-bit CardBus and 16-bit PC cards.

## 1.4.5   The Right Side of the Notebook
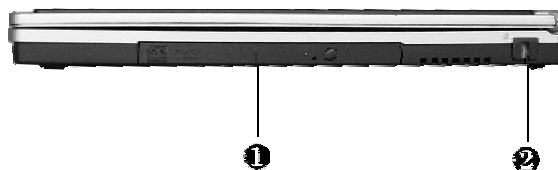
| Œ | CD-ROM, DVD-ROM, CD-RW module | • | Locking Device Keyhole | | |
|---|---|---|---|---|---|

**Figure 1-11      The Right side of the Notebook**

- CD-RW/DVD Combo Drive
  Allows you to load and start programs from a compact disc (CD) or a digital
  video disc (DVD) and play conventional audio CDs. It also can make CD by
  using CD-R or CD-RW.

# Outline of the MD02

- Locking Device Keyhole
  Lets you attach a Kensington security system or a compatible lock to secure your notebook computer.

## 1.4.6 The Under Side of the Notebook



| Œ | Battery Release Latch | • | Battery Bay | Ž | Hard Disk Compartment |

**Figure 1-12      Under Side of the Notebook**

- Battery Release Latch
  Push the latch to the left end to remove the battery pack.

- Battery Bay
  Equipped with a choice of Lithium-Ion (Li-Ion) battery pack.

- Hard Disk Compartment
  Open this cover of this compartment to replace with other Hard Disk Drive. Please refer to Chapter 7 for how to replace it.

## 1.5 Notebook Accessories and System Options

It is also important to understand the accessories that come along with the notebook and the options for fully utilizing the capabilities of the computer. This section describes briefly what these accessories and options are.

### 1.5.1 AC Adapter and Power Cord

The AC Adapter supplies external power to your computer and at the same time charges the internal battery pack. The AC adapter has an auto-switching design that can connect to any 100VAC ~ 240VAC power outlets. Connect the adapter to the AC wall outlet using the power cord. You just change the power cord if you are going to use your notebook in other countries with different connector outlets. When you connect the AC adapter, it charges the battery whether or not the notebook computer is powered on. There is an LED on the AC adapter to indicate if DC power is already available.

### 1.5.2 Battery Pack

Aside from the AC adapter, your computer can also be powered through the internal battery pack. The battery pack uses rechargeable Lithium-Ion (Li-Ion) battery cells that provide long computing hours when fully charged and power management enabled. You should always leave the battery inside your computer even when using the AC adapter as it also acts as a

back-up power supply in case power from the AC adapter is cut off. It is also very important to have the battery pack always charged to prevent battery cell degradation.

### 1.5.3    Internal Modem Module

The notebook allows you to insert a proprietary internal 56Kbps-modem card to the notebook found on the underside of the notebook. The internal modem card supports only fax and data communication and is V.90-compliant. You connect the telephone line to the RJ-11 jack found on the rear side of the notebook.

### 1.5.4    Internal Ethernet LAN Module

This notebook comes with an optional 10Base-T/100Base-TX LAN module that supports data transfer rates at 10Mbps and can be up to 100Mbps.

### 1.5.5    DVD-ROM Drive

Other than the internal CD-ROM drive, the notebook also provides optional factory built-in DVD-ROM drive. DVD-ROM drives are also backward compatible with CD-ROM, so you can also use any audio CDs, video CDs, photo CDs, and CD-R. Using a software MPEG-2/DVD program, the notebook can playback any commercial DVD movie titles.

## 1.6    System BIOS SETUP Program

Your computer is likely to have been properly setup and configured by your dealer prior to delivery. However, you may find it necessary to use the computer's BIOS (Basic Input-Output System) Setup program to change system configuration information, such as the current date and time, or your hard disk drive type. The Setup program can be accessed when you power on the system and pressing the <**F2**> function key.
The settings that you specify within the Setup program are recorded in a special area memory called the **CMOS RAM**. This memory is backed up by a battery so that is will not be erased when you turn off or reset the system. Whenever you turn on the computer, the system will read the settings stored in the CMOS RAM and compare them to the equipment check conducted during the Power On Self Test (POST). If an error occurs, an error message will be displayed on the screen, and you will then be prompted to run the Setup Program.
As the POST (Power-On Self Test) executes during the boot up process, the screen will display the following message:

Press <F2> to Enter SETUP

Press the <**F2**> key to run the BIOS Setup program. The BIOS Setup program is organized into five menus which you can select using the ß and à keys. To move from one option to another, you use the up and down arrow keys while using the <F5> and <F6>, or <+>and <-> keys to change the settings. On the right hand side of the screen are some brief help descriptions of each item you want to change.
On the BIOS Setup program, you will find the following parts on the screen:

- Item Specific Help
  The right side of the screen. This area describes each parameter and its available settings.
- Menu Bar
  The top line of the screen. Each of the five selections displays its own screen.
- Parameters
  The left side of the screen. This area lists the parameters and their current settings.
- Key Status Bar
  The bottom part of the screen. These lines display the keys available to move the cursor, select a particular function and so forth.

To exit the BIOS Setup program, simply press the <Esc> key and select from the Exit menu whether you want to Save changes and exit; Discard Changes and exit.

## 1.6.1  Using the Main Menu Setup

```
PhoenixBIOS Setup Utility
   Main        Advanced        Security       Boo     Exit

                                               Item Specific

     System Time:       [11:00 :00]           <Tab>, <Shift-
     System Date:       [05/20/2002]          or <Enter>
                                              selects
     Language:          [English (US)]        field.

     Legacy USB         [Enabled]
     Support:
  4  Internal HDD:      [20004MB]
     Internal DVD/CD-   Installed
     ROM

     Boot Display       [Both]
     Device:


     System Memory:     640 KB
     Extended Memory:   114687 KB
     CPU Type:          Celeron (TM)
     CPU Speed:         1066 MHz
     BIOS Version:      0.3C-0022-0713

 F1 Help   á â Select Item  -/+  Change    F9  Setup
                                 Values        Defaults
 Es Exit   ß à Select       Ente Select  4 Sub- F10 Save and
 c             Menu         r    Menu         Exit
```

- System Time
  Allows you to change the system time using the hour:minute:second format of the computer.
  Enter the current time for reach field and use the <Tab>, <Shift>+<Tab>, or <Enter> key to move from one field or back to another.
  You can also change the system time from your operating system.

- System Date
  Allows you to set the system date using the month/date/year format.
  Enter the current time for reach field and use the <Tab>, <Shift>+<Tab>, or <Enter> key to move from one field or back to another.
  You can also change the system time from your operating system.

- Language
  This field shows the Language version of the BIOS.

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- Legacy USB Support
  Allow you to select the Enabled or Disabled option for enabled or disabled the USB port.

- Internal HDD
  This field displays various parameters for the hard disk drive. If type [Auto] is selected, the system automatically sets these parameters. If type [User] is selected, Cylinders, Heads and Sectors can be edited.

- Internal DVD/CD-ROM
  This field is for information only as the BIOS automatically detects the CD-ROM/DVD-ROM.

- Boot Display Device
  Lets you select the display device.

- System Memory
  This field reports the amount of base (or conventional) memory found by the BIOS during Power-On Self-Test (POST).

- Extended Memory
  This field reports the amount of extended memory found by the BIOS during Power-On Self-Test (POST).

- CPU Type
  This field reports the CPU type information detected by the BIOS during Power-On Self-Test (POST).

- CPU Speed
  This field reports the CPU speed information detected by the BIOS during Power-On Self-Test (POST).

- BIOS Version
  This field is for information only as the BIOS displays the BIOS version during the Power-On Self-Test (POST).

### 1.6.2 Internal HDD Sub-Menu

```
┌──────────────────────────────────────────────────────────────────┐
│                   PhoenixBIOS Setup Utility                        │
│      Main       Advanced        Security       Boo     Exit        │
├─────────────────────────────────────────────────┬──────────────────┤
│          Internal HDD: [20004MB]                │  Item Specific   │
│                                                  │                  │
│     Type:                    [Auto]             │  User = you      │
│                                                  │  parameters of   │
│                                                  │  hard-           │
│     Multi-Sector            [16 Sectors]        │  disk drive      │
│     Transfers:                                   │  installed       │
│     LBA Mode Control:       [Enabled]           │  at the          │
│                                                  │  Connection.     │
│                                                  │  Auto =          │
│                                                  │  autotypes       │
│     32 Bit I/O:             [Disabled]          │  Hard-disk drive │
│     Transfer Mode:          [FPIO 4/DMA 2]      │  installed here. │
│     SMART Monitoring:       Enabled             │  None = no       │
│                                                  │  device is       │
│     Ultra DMA Mode:         [Mode 5]            │  installed here. │
│                                                  │                  │
│                                                  │  CD-ROM = a      │
│                                                  │  CD-             │
│                                                  │  ROM drive is    │
│                                                  │  installed here. │
├─────────────────────────────────────────────────┴──────────────────┤
│  F1 Help     á â  Select Item  -/+  Change      F9  Setup          │
│                                     Values          Defaults        │
│  Es Exit     ßà   Select        Ente Select 4 Sub- F1  Save and     │
│  c                Menu          r    Menu         0   Exit          │
└──────────────────────────────────────────────────────────────────┘
```

Use the Type field to select the drive type installed. You can select different drive types as **CD-ROM**, **User**, **Auto,** or **None** by pressing <**Space**> bar. Set this option to Auto so your computer will automatically detect the drive type during power on. Set this option to None when your computer is not installed any devices. Press <**Esc**> to return to the Main Menu.

## 1.6.3    Using the Advanced CMOS Setup

| PhoenixBIOS Setup Utility | | | | |
|---|---|---|---|---|
| Main | Advanced | Security | Boo | Exit |

|  | Item Specific Help |
|---|---|
| PS/2 Mouse:                    [Enabled] | 'Disabled' prevents any installed PS/2 mouse from functioning, but frees up IRQ12. 'Enabled' allows the operating system to determine whether to enable or disable the mouse |
| LCD Panel View            [Enabled]<br>Expansion: | |
| Silent Boot:                      [Enabled]<br>Frame Buffer Size:        [16 MB] | |
| ◢ I/O Device<br>Configuration | |

| F1 | Help | á â | Select Item | -/+ | Change Values | | F9 | Setup Defaults |
|---|---|---|---|---|---|---|---|---|
| Esc | Exit | ẞà | Select Menu | Enter | Select ◢Sub- Menu | | F10 | Save and Exit |

- PS/2 Mouse
  [Enable] allows the OS to enable or disable the PS/2 mouse when it is detected. [Disabled] prevents any installed PS/2 mouse from functioning.

- LCD Panel View Expansion
  Expands or keeps the original LCD Screen View during the booting procedure. Expands may get full screen LCD display, however, it degrades the graphic/text quality.

- Silent Boot
  Lets you specify the boot screen as Logo screen, POST screen, or Black screen by choosing Enabled, Disabled, or Black option, respectively.

- Frame Buffer Size:
  Lets you specify the sharing memory size of the Video chip from SDRAM. The Default sharing size is 16MB. You should carefully specify the value, since while the set value is too high, the memory size of your software application will be reduced.

- I/O Device Configuration
  Lets you configure input/output device such as Serial Port, Parallel Port, and Floppy disk controller.

## 1.6.4 I/O Device Configuration Sub-Menu

```
          PhoenixBIOS Setup Utility
       Main      Advanced      Security      Boo    Exit

          I/O Device Configuration          Item Specific

     Serial port A:          [Auto]          Configure serial
     Infrared port:          [Enabled]       using options:
        Mode:                [IrDA]          [Disabled]
        Base I/O address:    [2E8 IRQ3]        No
                                             configuration,

     Parallel port:          [Auto]
        Mode:                [EPP]           [Enabled]
                                               User
                                             configuration

     Floppy disk controller: [Disabled]
                                             [Auto]
                                               BIOS or OS
                                             chooses
                                              configuration

 F1  Help   á â Select     -/+  Change      F9  Setup
                Item             Values           Defaults
 Es  Exit   ß à Select    Ente  Select 4 Sub- F10 Save and
 c              Menu       r     Menu            Exit
```

- Serial port
  You can select the Enabled, Disabled, or Auto option for enabled or disabled
  the port, or automatically sensed by BIOS or OS. If you select Enable, you
  also need to set the parameter of Base I/O address and IRQ.

- Infrared port
  You can select the Enabled, Disabled, or Auto option for enabled or disabled
  the port, or automatically sensed by BIOS or OS. If you select Enable, you
  also need to set the IR mode, Base I/O and IRQ for the IR device.

- Mode
  This field is for information only as the BIOS displays the IR device type of
  this notebook.

- Parallel port
  Allows you to select the Enabled, Disabled, or Auto option for enabled or
  disabled this port, or automatically sensed by BIOS or OS. If you select
  Enable, you also need to set the parameter of Base I/O address.

- Mode
  Allows you to select a parallel mode as Uni-directional, EPP or ECP when the
  parallel port is configured.

- Floppy disk controller

# Outline of the MD02

This field is for information only as the BIOS displays the floppy disk controller of this notebook.

## 1.6.5  Security Menu Setup

```
            PhoenixBIOS Setup Utility
      Main      Advanced     Security     Boo   Exit

                                       Item Specific

     Set Supervisor Password   [Enter]   Supervisor
     Set User Password         [Enter]   controls access
                                         setup utility.
     Password on boot          [Disabled]
     Fixed disk boot sector    [Normal]
     Diskette access           [Supervisor]


  F1 Help  á â Select    -/+  Change    F9 Setup
               Item            Values        Defaults
  Es Exit  ß à Select   Enter Select ◄Sub- F1 Save and
  c            Menu            Menu       0  Exit
```

- Set Supervisor Password
  Supervisor password gives you the authority in accessing the setup utility. You also need to enter this password in system booting and resuming from suspend mode. When you press <**Enter**> in this field, the Set Supervisor Password dialog box appears. Enter a new password with up to 8 alpha-numeric characters, and then re-enter it for confirmation.

- Set User Password
  This field is only available when Supervisor Password has set. Enter the user password when boot the system or resume from suspend mode. But if the Write Protect is set in the Fixed disk boot sector field, you should enter a supervisor password to access the fixed disk when boot the system or resume from suspend mode.

- Password on Boot
  If you set this field to Enabled, your computer will always ask for the password every time you boot your computer.

- Fixed Disk Boot Sector
  If you set this field to Write Protect, the write protect boot sector on hard disk will protect against viruses. In this situation, only the supervisor can access the Boot Sector of fixed disk.

- Diskette Access
  If you set this field to Supervisor, only the supervisor can access to the diskette drives. If you set to User, both the supervisor and user can access to the diskette drives.

### 1.6.6    Using the Boot Setup

This item allows you to set the search drive sequence where the system will try to boot up first.

| PhoenixBIOS Setup Utility | | | | |
|---|---|---|---|---|
| Main | Advanced | Security | Boot | Exit |

| | Item Specific Help |
|---|---|
| Removable Devices | Use <á> or <â> to select a device, press <+> or <-> to move the device up or down <Enter> expands or collapses device. |
| +Hard Drive | |
| CD-ROM Drive | |

| | | | | | | |
|---|---|---|---|---|---|---|
| **F1** | **Help** | **á â** | **Select Item** | **-/+** | **Change Values** | **F9 Setup Defaults** |
| **Es c** | **Exit** | **ß à** | **Select Menu** | **Ent er** | **Select ↵ Sub- Menu** | **F1 0 Save and Exit** |

To select the boot device, you can use the up or down arrow key, then press <**+**> to move up the device in the list or press <**-**> to move down the device in the list. To exit from this menu, press <**Esc**>.

## 1.6.7  How to Exit the Setup Program

There are two choices to escape from the Setup program.

| PhoenixBIOS Setup Utility | | | | |
|---|---|---|---|---|
| Main | Advanced | Security | Boo | Exit |

|  | Item Specific |
|---|---|
| Exit Saving Changes | Exit System |
| Exit Discarding | and save your |
| Changes |  |
| Load Setup Defaults | changes to |
|  | CMOS. |
| Discard Changes |  |
| Save Changes |  |
| Battery Refresh |  |

| F1 Help | á â | Select Item | F5/F 6 | Change Values | F9 | Setup Defaults |
|---|---|---|---|---|---|---|
| Es c | Exit | ß à | Select Menu | Ente r | Execute Command | F10 Save and Exit |

- Exit Saving Changes
  Saves all changes to CMOS while running the BIOS setup program and exit from the system setup program.

- Exit Discarding Changes
  Allows you to discard all changes made while running the BIOS setup program and exit from the system setup program.

- Load Setup Defaults
  Lets you load the default values for all setup items.

- Discard Changes
  Reverts to previously selected settings.

- Save Changes
  Saves Setup data to CMOS.

- Battery Refresh
  Conditions the battery so that the battery can be fully charged.

## 1.6.8 How to Upgrade the BIOS

Your computer uses EPROM Flash BIOS chip that allows you to easily upgrade the BIOS program. When you update the BIOS, any customized settings you made are lost.
To upgrade the BIOS:

1. Insert the BIOS Update diskette into the diskette drive.

2. Power on the system with the diskette in the diskette drive.

3. On the DOS prompt, type the following command.

   A:\>Phlash *XXXXXX.ROM* (*BIOS filename) **or***

   A:\>*XXXXXX.BAT* (*Batch file for BIOS file)*

4. Press <Enter> to run this BIOS utility. After the system has been successfully run this program, a message similar to the following appears:

   Flash memory has been successfully programmed, press any key to restart the system. If the system does not restart, turn it off, then turn on again.

5. Press any key to restart this system.

Contact your dealer for the latest BIOS update file.