

## Outline of the MB02

### 1.1 Introduction

This chapter provides the outline features and operation of the MB02 including the BIOS Setup program and other system options.

The MB02 notebook offers the latest in advanced portable computing and multimedia technology that even outperforms most desktop computers. It incorporates the latest Intel Pentium-IV PGA Processor or Intel Celeron PGA 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 MB02 includes a variety of innovative features:

Category	Specification	Stepping
CPU	Intel Pentium – M Processor : Banias 1.3/1.4/1.5/1.6/1.7 GHZ	
Core Logic	Intel Montara-GM (North Bridge) : CPU(Banias) I/F VGA Controller LVDS I/F DVOB&DVOC IF. RGB analog I/F 200/266 DDR MEMORY I/F Hub-Link I/F  Intel ICH4-M (South Bridge) : Integrated Hub-Link I/F to connect with PCI Bridge Dual IDE Master/Slave Controller ,Integrated DMA Controller 1.1/2.0 Universal Serial Bus Host Controller Integrated 10/100M Fast Ethernet MAC Controller Integrated Audio Controller with AC97 V2.2 Interface Advanced Power Management(ACPI) RTC Integrated PCI to LPC Bridge Integrated Audio Controller with AC97 Interface PCI Bus Interface (PCI 2.2 compliant) GPIO Advance PIC	

## Outline of the MB02

Cache Memory	<p>L1 Cache (Pentium Processor internal): 12KB code and 8KB data 8-way cache associativity provides</p> <p>L2 Cache (Pentium Processor internal): 256KB Advanced Transfer Cache, 8 way associativity 8-way set associative, 32-byte line size, 1 line per sector</p>	
System Memory	<p>Expansion Memory: 2 SO-DIMM Slot (1.25")</p> <p>Size: 128/256/512MB/1G</p> <p>Type: DDR DRAM, 3.3V</p> <p>Data Path: 64Bit</p> <p>Frequency : 266/200MHz</p> <p>Please refer to the MB02 Key component list in detail.</p>	
BIOS ROM	<p>Flash ROM</p> <p>1<sup>st</sup> Vendor : SST 49LF004A TSSOP Package 4Mbit LPC flash ROM</p> <p>2<sup>nd</sup> Vendor : &lt;TBD&gt;</p> <p>4Mbit, 32 pin TSSOP package</p> <p>PS: PLCC32 Package is just for DEBUG</p>	
Super I/O	None	
RTC + NVRAM	<p>Integrated in South Bridge (Intel ICH4-M)</p> <p>Real Time Clock with 256 byte extended CMOS.</p> <p>IBM AT Clock/Calendar/Alarm (14 Bytes)</p>	
K/B Controller	<p>Mitsubishi M38859 LPC KBC</p> <p>Internal K/B, Touch Pad, External K/B or M/S</p> <p>Supported A20Gate, firmware version 2.14</p>	
PMU	<p>New PMU08</p> <p>Mitsubishi M38859FFHP</p> <p>Embedded Controller</p>	TBD
VGA Controller	<p>Embedded in Intel Montara-GM</p> <p>High Performance and high quality 3D accelerator</p> <p>Integrated dual DVO bridge</p> <p>Integrated LVDS Interface</p> <p>Integrated RGB analog Interface</p> <p>High performance 2D accelerator</p> <p>Complete TV-OUT/Digital Flat Panel Solution</p>	
VRAM	Share system memory, UMA (using DVMT configuration)	
TV out encoder	None	
CardBus Controller	<p>RICOH R5C551 (PCI Card Bus controller)</p> <p>PC/Card Bus Type II x1</p> <p>Build in smart card (none)</p>	
Sound	<p>AC'97 CODEC</p> <p>Realtek ALC202</p> <p>AC'97 Revision 2.2 Compliant</p>	

## Outline of the MB02

Modem	Askey / Actiontec MDC modem V.90, K56flex, ITU-T V.34, V.32, RJ11 Jack TIA/EIA 602, V.42 ITU-T V.17, V.29, V.27ter, V.21 Ch2 TIA/EIA 578 Class1 FAX Wake up on Ring	
On board LAN	Intel ICH4-M + Intel 82562EZ Support LAN boot Support for auto-negotiation (10BASE-T and 100BASE-TX) Wake up On LAN	
3com Combo		
802.11b	Support by Intel Callexico Mini-PCI Wireless LAN Card <Design Ready Only>	
1394	RICOH R5C551, 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 and WFM 2.0	

## Outline of the MB02

LCD Panel	14.1" XGA ; Please refer to the MB02 Key component list in detail.	
HDD	2.5 inch HDD (Standard) 9.5mm Height ; Please refer to the MB02 Key component list in detail.	
CD-ROM (Option)	CD-ROM (9.5mm Height) ; Please refer to the MB02 Key component list in detail.	
FDD(None)	USB FDD 3 mode Support ; Please refer to the MB02 Key component list in detail.	
DVD (Option)	DVD 9.5mm Height ,8X ; Please refer to the MB02 Key component list in detail.	
CD-RW,Combo	9.5mm Height ,24X ; Please refer to the MB02 Key component list in detail.	
Pointing Device	Internal Touch Pad  Pad        SYNAPTICS : TM41P-351 Please refer to the MB02 Key component list in detail.	
Keyboard	Internal Keyboard 6.5mm Height, 3.0mm Stroke, 19mm Pitch  Vendor: ALLTOP PAN-international ; Please refer to the MB02 Key component list in detail.	
Speakers (audio)	Two built-in dynamic speakers 40 x 20mm, 1W 4Ω	
Microphone	Built-in non-directional Back Electric Condenser Microphone Panasonic : WM62PCX	
Buzzer	Not support	
Battery	Battery Pack Type: 8 cell Li-ION Battery with EEPROM Voltage: 14.4V Cell: 1800mAh Prismatic Method: 4P2S Capacity: 3600mAh/52Wh Panasonic Vendor: SANYO/ Panasonic ; Please refer to the MB02 Key component list in detail.	
RTC Battery	Ni-MH Battery Model: 3/V 15H Voltage: 3.6V Capacity: 15mAh Vendor: VARTA	
DC/DC Converter	Daughter board 5.0 V        Max 7.0 A 3.3 V        Max 4.5 A 1.5V        Max 2A 1.8V        Max1A	

## Outline of the MB02

CPU Vcore	1.3V	Max 32A	
AC Adapter	PA-1600-05 : Liteon Input: AC100 – 240V, 50/60Hz Output: 19V, 60W Peak 80W Size: 110mm x 50mm x 29mm (Liteon) Vendor: Liteon Color : TBD ; Please refer to the MB02 Key component list in detail.		
Size	310MM X 266MM X 27.3 MM (H) 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	Power On	Li-ion	3.5 h	
Max Charge Current: 1.7A-1.75A±150mA	Power Off	Li-ion	3.5 h	
Battery Life	1 <sup>st</sup> Li-ion		4.5 h	TBD
Save to RAM	1 <sup>st</sup> 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

# Outline of the MB02

## 1.3 System Configuration

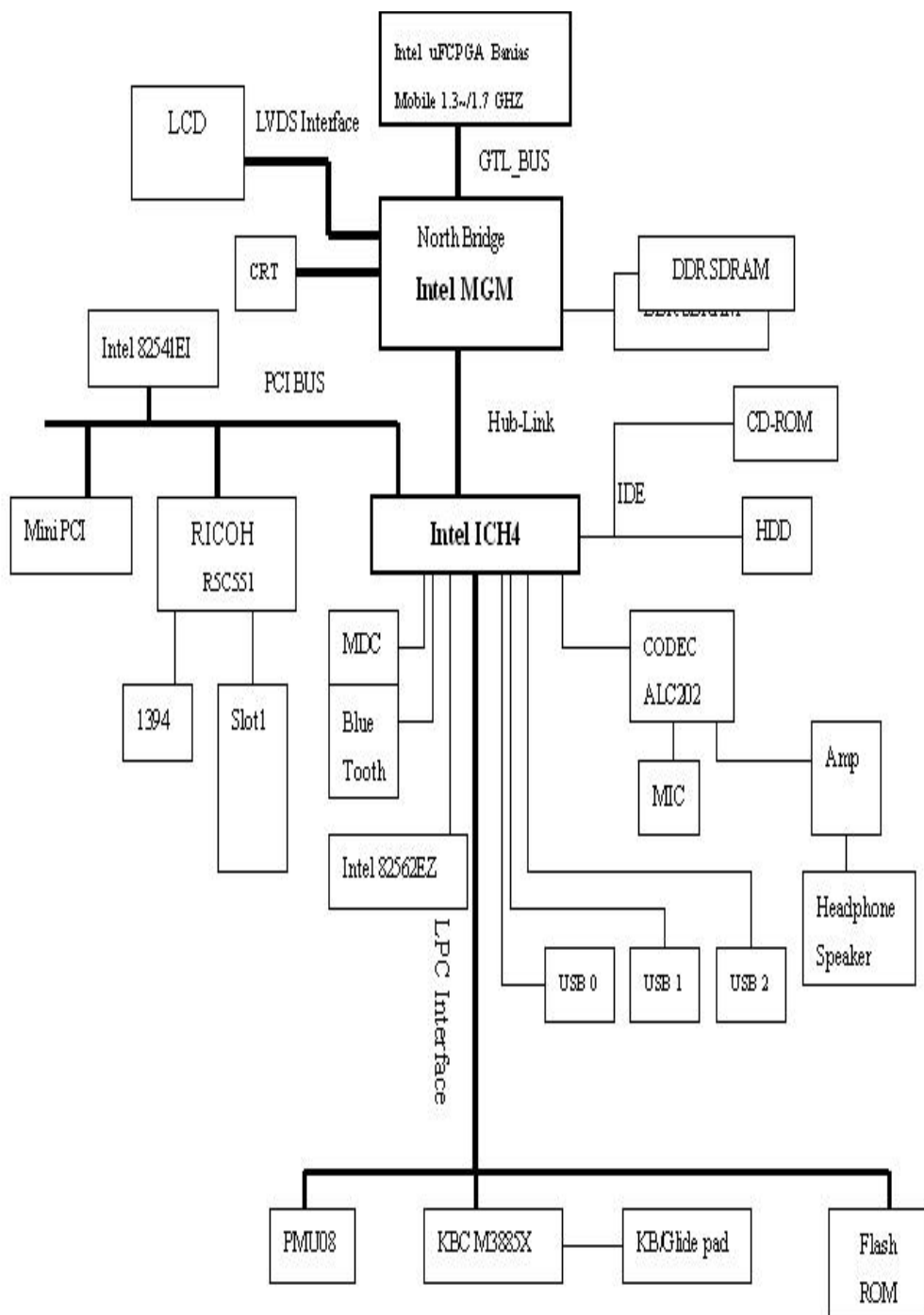


Figure 1-1 System Configuration Diagram

# Outline of the MB02

## 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

Ⓔ	Color LCD Display	•	Built-in Stereo Speakers	Ⓓ	Easy Buttons
•	Integrated Microphone	•	Status LED Indicator	'	Built-in Stereo Speakers
,	Power On/Resume Button	⑧	Keyboard	⑨	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.

# Outline of the MB02

---

- **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.

## Outline of the MB02

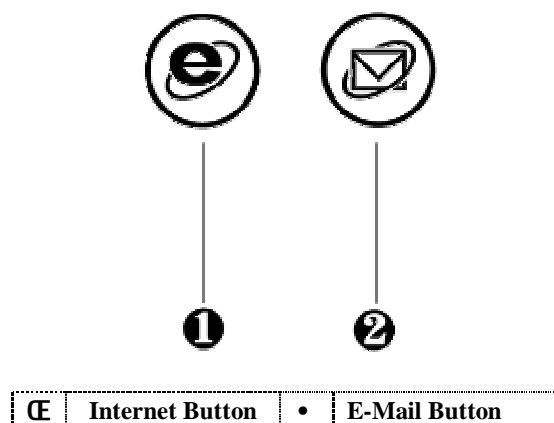


Figure 1-3 Easy Button

- 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.

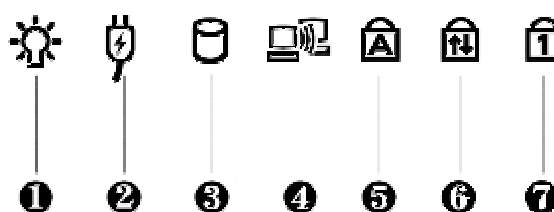


Figure 1-4 Status LED Indicator

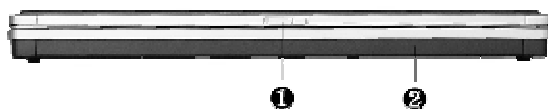
1	Power Indicator	•	Battery charging LED	Ž	Drive Access
•	Wireless LAN Access	•	Caps Lock	'	Scroll Lock
7	Num Lock				

- 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.

# Outline of the MB02

- ⇓ 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



⌂	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 right side of the notebook computer offers the features shown in the following figure.



# Outline of the MB02

⌂	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.



⌂	Microphone Jack	•	Headphone Jack	Ž	IEEE 1394
•	PC Card Slot				

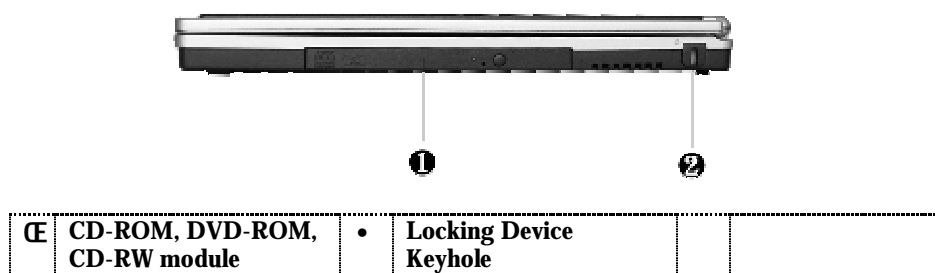
**Figure 1-10 The Left side of the Notebook**

## Outline of the MB02

---

- **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.

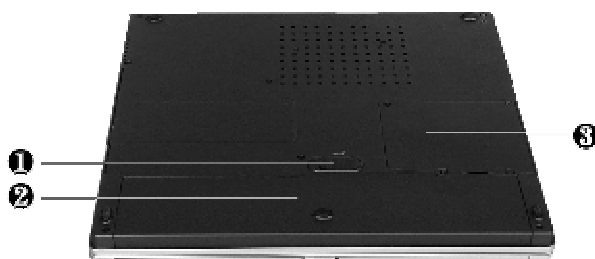
### 1.4.5 The Right Side of the Notebook



**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.
- **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



# Outline of the MB02

---



**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.

# Outline of the MB02

---

## 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 it 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 **↩** and **→** 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.

# Outline of the MB02

## 1.6.1 Using the Main Menu Setup

PhoenixBIOS Setup Utility				
Main	Advanced	Security	Boot	Exit
System Time: [12 :00 :00]		Item Specific Help		
System Date: [05/20/2002]		<Tab>, <Shift-Tab>, or <Enter> selects field.		
Language: [English (US)]				
Legacy USB Support: [Enabled]				
4	Internal HDD: [20004MB]			
	Internal DVD/CD-ROM Installed			
Boot Display Device: [Both]				
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 Values	F9 Setup Defaults	
Esc Exit	ß à Select Menu	Enter Select 4 Sub-Menu	F10 Save and Exit	

- **System Time**  
Allows you to change the system time using the hour:minute:second format of the computer.  
Enter the current time for each 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 each 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.
- **Legacy USB Support**  
Allow you to select the Enabled or Disabled option for enabled or disabled the USB port.

## Outline of the MB02

---

- **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).

# Outline of the MB02

## 1.6.2 Internal HDD Sub-Menu

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Boot	Exit	
Internal HDD: [20004MB]					Item Specific Help
Type:	[Auto]	User = you enter parameters of hard-disk drive installed at the Connection. Auto = autotypes Hard-disk drive installed here. None = no device is installed here.  CD-ROM = a CD-ROM drive is installed here.			
Multi-Sector Transfers:	[16 Sectors]				
LBA Mode Control:	[Enabled]				
32 Bit I/O:	[Disabled]				
Transfer Mode:	[FPIO 4/DMA 2]				
SMART Monitoring:	Enabled				
Ultra DMA Mode:	[Mode 5]				
F1 Help	← → Select Item	-/+ Change Values	F9 Setup Defaults		
Esc Exit	↵ Select Menu	Enter Select 4 Sub-Menu	F10 Save and 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	Boot	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 Expansion: [Enabled]						
Silent Boot: [Enabled]						
Frame Buffer Size: [16 MB]						
4 I/O Device Configuration						
F1 Help		← → Select Item	-/+ Change Values	F9 Setup Defaults		
Esc Exit		↵ Select Menu	Enter Select 4 Sub-Menu	F10 Save and Exit		

## Outline of the MB02

- **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.

### I/O Device Configuration Sub-Menu

PhoenixBIOS Setup Utility						
Main		Advanced		Security	Boot	Exit
I/O Device Configuration					Item Specific Help	
Serial port A:		[Auto]		Configure serial port A using options: [Disabled] No configuration, [Enabled] User configuration [Auto] BIOS or OS chooses configuration		
Infrared port:		[Enabled]				
Mode:		[IrDA]				
Base I/O address:		[2E8 IRQ3]				
Parallel port:		[Auto]				
Mode:		[EPP]				
Floppy disk controller:		[Disabled]				
F1 Help	↩ ↪	Select Item	-/+	Change Values	F9 Setup Defaults	
Esc Exit	↵ ↻	Select Menu	Enter	Select 4 Sub-Menu	F10 Save and 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.

## Outline of the MB02

---

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

# Outline of the MB02

## 1.6.4 Security Menu Setup

PhoenixBIOS Setup Utility						
Main		Advanced		Security	Boot	Exit
					Item Specific Help	
Set Supervisor Password				[Enter]	Supervisor Password controls access to the setup utility.	
Set User Password				[Enter]		
Password on boot				[Disabled]		
Fixed disk boot sector				[Normal]		
Diskette access				[Supervisor]		
F1	Help	á à	Select Item	-/+	Change Values	F9 Setup Defaults
Esc	Exit	â ã	Select Menu	Enter	Select 4 Sub-Menu	F10 Save and 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.

# Outline of the MB02

## 1.6.5 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	
Removable Devices +Hard Drive CD-ROM Drive				Item Specific Help	
				Use <ā> or <ā> to select a device, then press <+> or <-> to move the device up or down <Enter> expands or collapses device.	
F1 Help	ā ā Select Item	-/+ Change Values	F9 Setup Defaults		
Esc Exit	ā ā Select Menu	Enter Select 4 Sub-Menu	F10 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>.

## 1.6.6 How to Exit the Setup Program

There are two choices to escape from the Setup program.

PhoenixBIOS Setup Utility					
Main	Advanced	Security	Boot	Exit	
Exit Saving Changes Exit Discarding Changes Load Setup Defaults Discard Changes Save Changes Battery Refresh				Item Specific Help	
				Exit System Setup and save your changes to CMOS.	
F1 Help	ā ā Select Item	F5/F6 Change Values	F9 Setup Defaults		
Esc Exit	ā ā Select Menu	Enter 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.

## Outline of the MB02

---

- **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.

### 1.6.7 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.