

## Preface

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Version 2.0

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### Federal Communications Commission (FCC)

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

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

## Preface

## Declaration of Conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and
- This device must accept any interference received, including interference that may cause undesired operation.

## Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

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

## About the Manual

The manual consists of the following:

### Chapter 1

#### Introducing the Motherboard

Describes features of the motherboard.

Go to  page 1

### Chapter 2

#### Installing the Motherboard

Describes installation of motherboard components.

Go to  page 7

### Chapter 3

#### Using BIOS

Provides information on using the BIOS Setup Utility.

Go to  page 23

### Chapter 4

#### Using the Motherboard Software

Describes the motherboard software

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## **Chapter 1**

### ***Introducing the Motherboard***

---

#### **Introduction**

Thank you for choosing PMI8M motherboard of great performance and with enhanced function. This motherboard carries an ITX form factor of 170 x 170 mm. PMI8M supports Socket 479 Pentium M and Celeron processors with system bus speeds up to 400MHz.

The motherboard may support 855GME/852GM Northbridges and ICH4M Southbridge. 855GME/852GM Northbridge is a single processor with a data transfer rate of 400 MHz, DDR-SDRAM at 333/266/200 MHz operation (*852GM supports 266/200 MHz DDR SDRAM*). It supports 128-Mb, 256-Mb and 512-Mb SDRAM technologies providing maximum capacity of 1GB with X16 devices and up to 2GB with high density 512-Mbit technology.

The ICH4M Southbridge on this motherboard supports one PCI slot which is PCI 2.2 compliant. It implements an EHCI compliant host controller that supports USB high-speed signaling, integrates AC'97 v2.3 compliant controller that features a 6-channel audio speaker out. It provides dual independent IDE channels support UltraDMA 100/66/33.

There is an advanced full set of I/O ports in the rear panel, including PS/2 mouse and keyboard connectors, three serial ports, VGA port, and four USB ports, two optional LAN ports, and audio jacks for microphone and line-out.

## Features

### Processor

This motherboard uses a 479-pin socket that carries the following features:

- Accommodates Intel Pentium M/Celeron processors
- Supports a system bus (FSB) of 400 MHz

### Chipset

Intel's 855GME/852GM Northbridge (NB) and ICH4M Southbridge (SB) chipsets are based on an innovative and scalable architecture with proven reliability and performance.

- |                              |   |
|------------------------------|---|
| <b>855GME/<br/>852GM(NB)</b> | <ul style="list-style-type: none"> <li>• Supports DDR-SDRAM at 333/266/200MHz Operation (<i>852GM supports DDR266/200MHz only</i>)</li> <li>• Supports Host dynamic bus inversion (DBI)</li> <li>• AGTL+bus driver technology with integrated AGTL termination resistors and low voltage operation</li> <li>• Supports Internal Graphics Features with up to 64 MB of Dynamic Video Memory allocation</li> </ul>            |
| <b>ICH4M(SB)</b>             | <ul style="list-style-type: none"> <li>• Compliant with PCI 2.2 specification at 33MHz</li> <li>• Integrated LAN controller</li> <li>• Supports AC'97 2.3 specification</li> <li>• USB host interface supporting 6 USB ports; 3 UHCI host controllers and 1 EHCI high-speed USB 2.0 Host controller</li> <li>• Supports up to two Ultra DMA100/66/33 IDE channels</li> <li>• ACPI Power Management Logic support</li> </ul> |
| <b>Memory</b>                | <ul style="list-style-type: none"> <li>• Supports DDR 333/266 DDR SDRAM DIMMs (<i>only 855GME supports</i>)</li> <li>• Supports 128-Mb, 256-Mb and 512-Mb SDRAM technologies providing maximum capacity of 1GB with X16 devices and up to 2GB with high density 512-Mbit technology</li> </ul>  |

### AC'97 Audio CODEC

- Compliant with the AC'97 v2.3 CODEC
- Supports 6-channel audio CODEC designed for PC multimedia systems
- Provides three analog line-level stereo inputs with 5-bit volume control: Line-in, CD, AUX
- Meets Microsoft WHQL/WLP 2.0 audio requirements

### Graphics

- Video Stream Decoder, which supports for standard definition DVD quality encoding at low CPU utilization
- Analog Display Support with 350 MHz integrated 24-bit RAMDAC
- High quality performance Texture Engine

## Introducing the Motherboard

## Expansion Options

The motherboard comes with the following expansion options:

- One 32-bit PCI slot
- Two IDE connectors which support four IDE devices
- One floppy disk drive interface
- One CF socket

The motherboard supports Ultra DMA bus mastering with transfer rates of 100/66 33MB/s.

## Onboard LAN (Optional)

This motherboard may support either of the following LAN chipset:

- |   |
|---|
| <ul style="list-style-type: none"><li>• Supports 100/10 Mb/s N-Way Auto negotiation operation</li><li>• Half/Full duplex capability</li><li>• Supports Wake-On-LAN(WOL) function and remote wake-up</li></ul> |
| <ul style="list-style-type: none"><li>• Integrate 10/100/1000 transceiver</li><li>• Supports PCI v2.3, 32-bit, 33/66MHz</li><li>• Supports fully with IEEE802.3, IEEE802.3u and IEEE802.3ab</li></ul>         |

## Integrated I/O

The motherboard has a full set of I/O ports and connectors:

- Two PS/2 ports for mouse and keyboard
- Three serial ports
- One VGA port
- Four USB ports
- Two LAN ports (optional)
- Audio jacks for microphone and line-out

## BIOS Firmware

This motherboard uses Award BIOS that enables users to configure many system features including the following:

- Power management
- CPU parameters
- CPU and memory timing

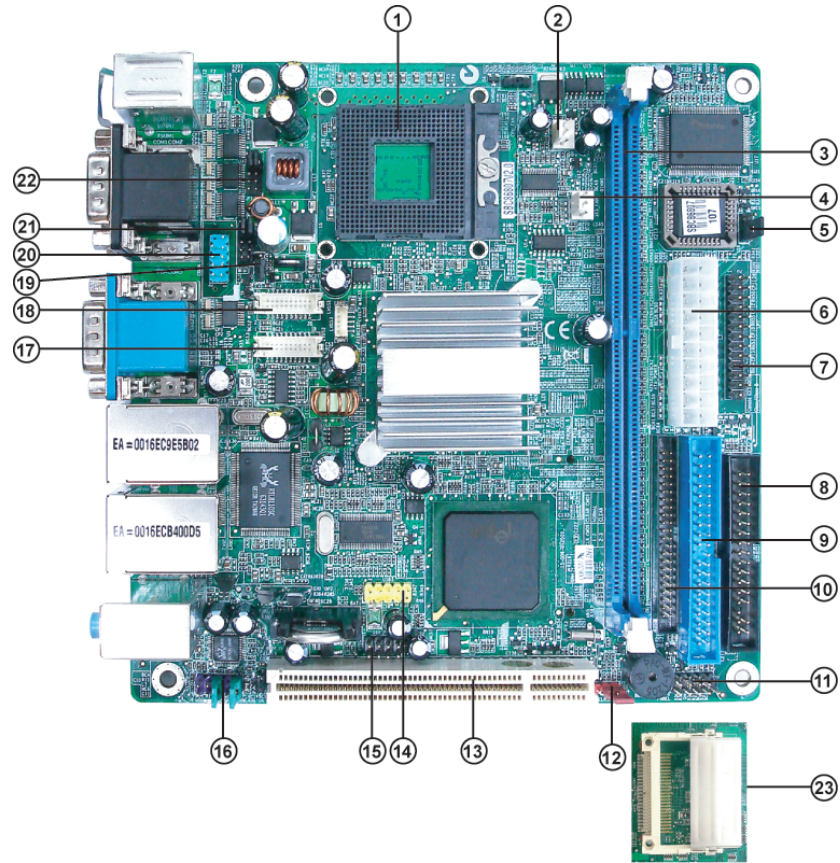
The firmware can also be used to set parameters for different processor clock speeds.



*Some hardware specifications and software items are subject to change without prior notice.*

## Introducing the Motherboard

## Motherboard Components



## Introducing the Motherboard

*Table of Motherboard Components*

<b>LABEL</b>	<b>COMPONENT</b>
1 CPU Socket	479 socket for Pentium M/Celeron CPUs
2 CPU_FAN	CPU cooling fan connector
3 DIMM1	184-pin DDR SDRAM slot
4 SYS_FAN	System cooling fan connector
5 CF_PWR	CF power voltage jumper
6 ATX_POWER	Standard 20-pin ATX power connector
7 LPT	LPT header
8 FDD	Floppy disk drive connector
9 IDE2	Secondary IDE connector
10 IDE1	Primary IDE connector
11 PANEL	Front Panel switch/LED header
12 CLR_CMOS	Clear CMOS jumper
13 PCI slot	32-bit add-on card slot
14 USB3	Front Panel USB header
15 DIO	DIO port header
16 AUDIO	Front panel Audio header
17 LVDS2	Low Voltage Differential Signaling Transmitter Interface Channel B
18 LVDS1	Low Voltage Differential Signaling Transmitter Interface Channel A
19 LVDS_PWR	Low Voltage Differential Signaling Power header
20 COM4	Serial port header
21 JP2	COM3/COM4 Ring function selector
22 JP1	COM1/COM2 Ring function selector
23 SCN1	C.F. Socket for installing C.F.(CompactFlash)card

This concludes Chapter 1. The next chapter explains how to install the motherboard.

## **Introducing the Motherboard**

***Memo***

**Introducing the Motherboard**

## **Chapter 2**

### ***Installing the Motherboard***

---

#### **Safety Precautions**

- Follow these safety precautions when installing the motherboard
- Wear a grounding strap attached to a grounded device to avoid damage from static electricity
- Discharge static electricity by touching the metal case of a safely grounded object before working on the motherboard
- Leave components in the static-proof bags they came in
- Hold all circuit boards by the edges. Do not bend circuit boards

#### **Choosing a Computer Case**

There are many types of computer cases on the market. The motherboard complies with the specifications for the ITX system case. First, some features on the motherboard are implemented by cabling connectors on the motherboard to indicators and switches on the system case. Make sure that your case supports all the features required. Secondly, this motherboard supports one or two floppy diskette drives and four enhanced IDE drives. Make sure that your case has sufficient power and space for all drives that you intend to install.

Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the motherboard.

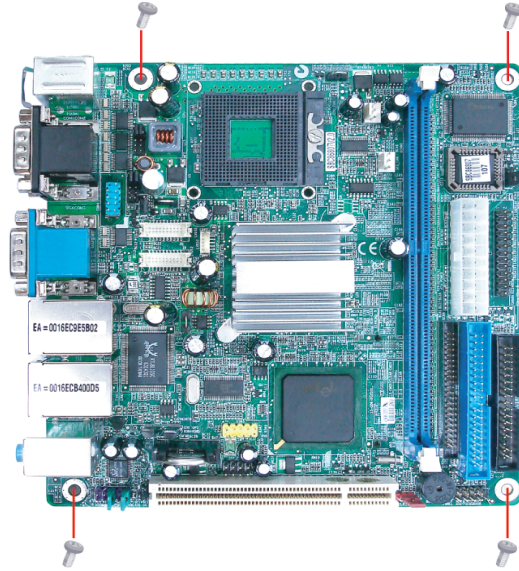
This motherboard carries an ITX form factor of 170 x 170 mm. Choose a case that accommodates this form factor.

#### **Installing the Motherboard in a Case**

Refer to the following illustration and instructions for installing the motherboard in a case.

Most system cases have mounting brackets installed in the case, which correspond the holes in the motherboard. Place the motherboard over the mounting brackets and secure the motherboard onto the mounting brackets with screws.

Ensure that your case has an I/O template that supports the I/O ports and expansion slots on your motherboard.



*Do not over-tighten the screws as this can stress the motherboard.*

## Checking Jumper Settings

This section explains how to set jumpers for correct configuration of the motherboard.

### *Setting Jumpers*

Use the motherboard jumpers to set system configuration options. Jumpers with more than one pin are numbered. When setting the jumpers, ensure that the jumper caps are placed on the correct pins.

The illustrations show a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is **SHORT**. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is **OPEN**.

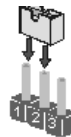


**SHORT**



**OPEN**

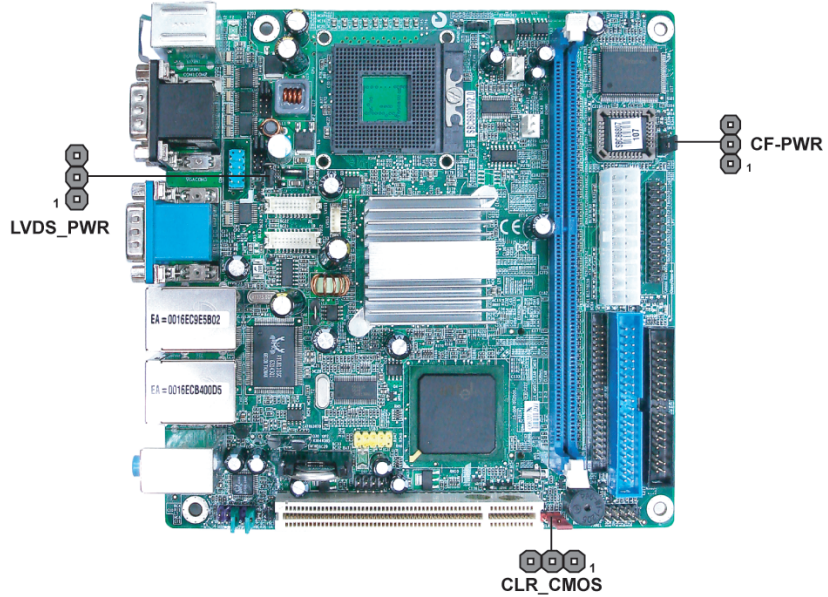
This illustration shows a 3-pin jumper. Pins 1 and 2 are **SHORT**.



## Installing the Motherboard

### Checking Jumper Settings

The following illustration shows the location of the motherboard jumpers. Pin 1 is labeled.



### Jumper Settings

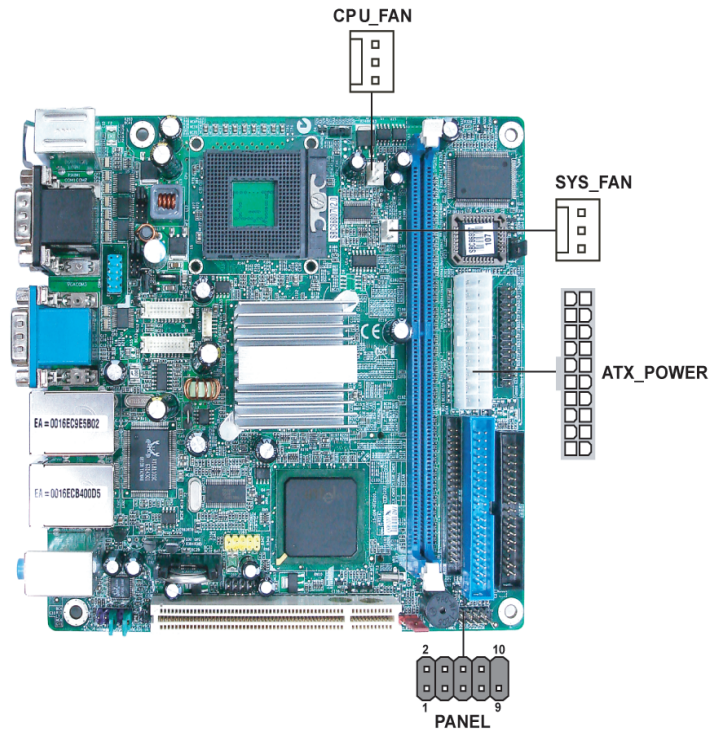
Jumper	Type	Description	Setting (default)
CLR_CMOS	3-pin	CLEAR CMOS	1-2: NORMAL 2-3: CLEAR CMOS Before clearing the CMOS, make sure to turn the system off.
LVDS_PWR	3-pin	LVDS power voltage	1-2: VCC3 2-3: VCC5
CF_PWR	3-pin	CF power voltage	1-2: VCC3 2-3: VCC5

## Installing the Motherboard

## Connecting Case Components

After you have installed the motherboard into a case, you can begin connecting the motherboard components. Refer to the following:

- 1 Connect the CPU cooling fan cable to **CPU\_FAN**.
- 2 Connect the system cooling fan connector to **SYS\_FAN**.
- 3 Connect the case switches and indicator LEDs to the **PANEL**.
- 4 Connect the standard power supply connector to **ATX\_POWER**.



### CPU\_FAN/SYS\_FAN: FAN Power Connectors

Pin	Signal Name	Function
1	GND	System Ground
2	+12V	Power +12V
3	Sense	Sensor

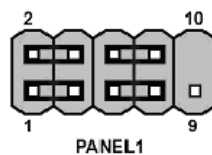
## Installing the Motherboard

### ATX\_POWER: ATX 20-pin Power Connector

Pin	Signal Name	Pin	Signal Name
1	VCC3	11	VCC3
2	VCC3	12	-12V
3	GND	13	GND
4	VCC	14	PS-ON#
5	GND	15	GND
6	VCC	16	GND
7	GND	17	GND
8	PWROK	18	-5V
9	5VSB	19	VCC
10	+12V	20	VCC

### Front Panel Header

The front panel header (PANEL) provides a standard set of switch and LED headers commonly found on ATX or micro-ATX cases. Refer to the table below for information:



Pin	Signal Name	Function	Pin	Signal Name	Function
1	HD_LED_P	Hard Disk LED+	2	FPPWR/SLP	*MSG LED+
3	HD_LED_N	Hard disk LED-	4	FP PWR/SLP	*MSG LED-
5	RST_SW_N	Reset Switch	6	PWR_SW_P	Power Switch
7	RST_SW_P	Reset Switch	8	PWR_SW_N	Power Switch
9	RSVD_DNU	Reserved	10	Key	No pin

\*MSG LED (dual color or single color)

### Hard Drive Activity LED

Connecting pins 1 and 3 to a front panel mounted LED provides visual indication that data is being read from or written to the hard drive. For the LED to function properly, an IDE drive should be connected to the onboard IDE interface. The LED will also show activity for devices connected to the SCSI (hard drive activity LED) connector.

## Installing the Motherboard

### **Power/Sleep/Message waiting LED**

Connecting pins 2 and 4 to a single or dual-color, front panel mounted LED provides power on/off, sleep, and message waiting indication.

### **Reset Switch**

Supporting the reset function requires connecting pin 5 and 7 to a momentary-contact switch that is normally open. When the switch is closed, the board resets and runs POST.

### **Power Switch**

Supporting the power on/off function requires connecting pins 6 and 8 to a momentary-contact switch that is normally open. The switch should maintain contact for at least 50 ms to signal the power supply to switch on or off. The time requirement is due to internal debounce circuitry. After receiving a power on/off signal, at least two seconds elapses before the power supply recognizes another on/off signal.

## **Installing Hardware**

### **Installing the Processor**



*Caution: When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to the motherboard or its components.*

*On most motherboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.*

*Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.*

### **Before installing the Processor**

This motherboard automatically determines the CPU clock frequency and system bus frequency for the processor. You may be able to change these settings by making changes to jumpers on the motherboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not over-clock processors or other components to run faster than their rated speed.



*Warning: Over-clocking components can adversely affect the reliability of the system and introduce errors into your system. Over-clocking can permanently damage the motherboard by generating excess heat in components that are run beyond the rated limits.*

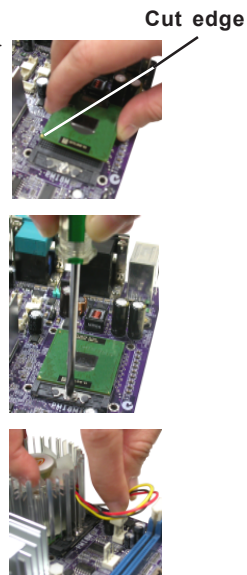
This motherboard has a Socket 479 processor socket. When choosing a processor, consider the performance requirements of the system. Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory.

## **Installing the Motherboard**

## CPU Installation Procedure

The following illustration shows CPU installation components.

- 1 Install your CPU. Use a screwdriver to make the CPU socket in tension release position.
- 2 Locate the CPU cut edge (the corner with the pin hold noticeably missing). Align and insert the CPU correctly.
- 3 Use a screwdriver to screw up the CPU socket.
- 4 Apply thermal grease on top of the CPU
- 5 Fasten the cooling fan supporting base onto the CPU socket on the motherboard.
- 6 Make sure the CPU fan is plugged to the CPU fan connector. This completes the installation.



*To achieve better airflow rates and heat dissipation, we suggest that you use a high quality fan with 6000 rpm at least. CPU fan and heatsink installation procedures may vary with the type of CPU fan/heatsink supplied. The form and size of fan/heatsink may also vary.*

## Installing Memory Modules

This motherboard accommodates one 184-pin unbuffered Double Data Rate (DDR) SDRAM (Synchronous Dynamic Random Access Memory) memory module, and supports DDR333/266/200 memory module (*only when supports 855GME*).

### DDR SDRAM memory module table

Memory module	Memory Bus
<b>DDR 333</b>	<b>166MHz</b>
<b>DDR 266</b>	<b>133MHz</b>
<b>DDR 200</b>	<b>100MHz</b>



*Do not remove any memory module from its antistatic packaging until you are ready to install it on the motherboard. Handle the modules only by their edges. Do not touch the components or metal parts. Always wear a grounding strap when you handle the modules.*

## Installing the Motherboard

## Installation Procedure

Refer to the following to install the memory modules.

- 1 This motherboard supports unbuffered DDR SDRAM only.
- 2 Push the latches on each side of the DIMM slot down.
- 3 Align the memory module with the slot. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly.
- 4 Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
- 5 Install the DIMM module into the slot and press it firmly down until it seats correctly. The slot latches are levered upwards and latch on to the edges of the DIMM.
- 6 Install any remaining DIMM modules.



## Installing a Hard Disk Drive/CD-ROM

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

### About IDE Devices

Your motherboard has a primary and secondary IDE channel interface (IDE1 and IDE2). An IDE ribbon cable supporting two IDE devices is bundled with the motherboard.



*You must orient the cable connector so that the pin1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.*

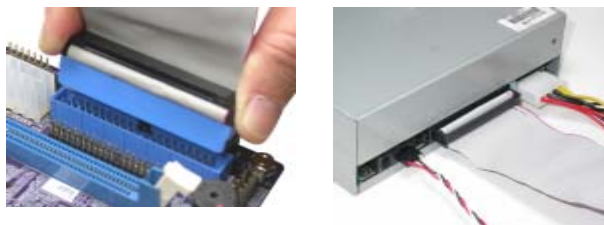
### IDE1: Primary IDE Connector

The first hard drive should always be connected to IDE1.



## IDE2: Secondary IDE Connector

The second drive on this controller must be set to slave mode. The configuration is the same as IDE1.



IDE devices enclose jumpers or switches used to set the IDE device as MASTER or SLAVE. Refer to the IDE device user's manual. Installing two IDE devices on one cable, ensure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

## About UltraDMA

This motherboard supports UltraDMA 100/66/33. UDMA is a technology that accelerates the performance of devices in the IDE channel. To maximize performance, install IDE devices that support UDMA and use 80-pin IDE cables that support UDMA 100/66/33.

## Installing a Floppy Diskette Drive

The motherboard has a floppy diskette drive (FDD) interface and ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive.



*You must orient the cable connector so that the pin 1 (color) edge of the cable corresponds to the pin 1 of the I/O port connector.*

## FDD: Floppy Disk Connector

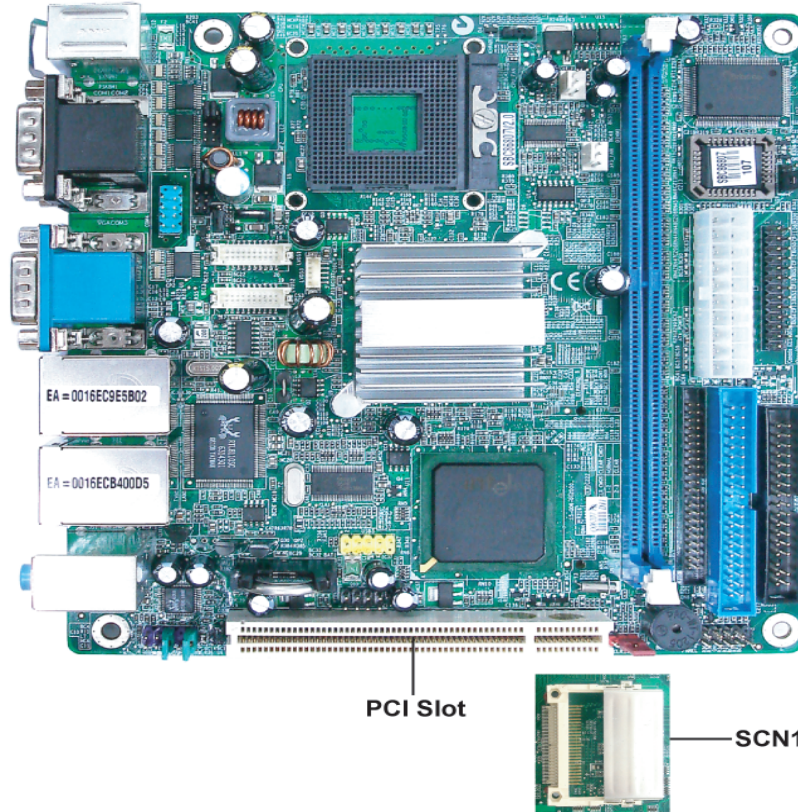
This connector supports the provided floppy drive ribbon cable. After connecting the single end to the onboard floppy connector, connect the remaining plugs on the other end to the floppy drives correspondingly.



## Installing the Motherboard

### Installing Add-on Cards

The slots on this motherboard are designed to hold expansion cards and connect them to the system bus. Expansion slots are a means of adding or enhancing the motherboard's features and capabilities. With these efficient facilities, you can increase the motherboard's capabilities by adding hardware that performs tasks that are not part of the basic system.



**PCI Slot** This motherboard is equipped with one PCI slot. PCI stands for Peripheral Component Interconnect and is a bus standard for expansion cards, which for the most part, is a supplement of the older ISA bus standard. The PCI slot on this board is PCI v2.2 compliant.

**SCN1** This socket is used for installing C.F (CompactFlash) card.

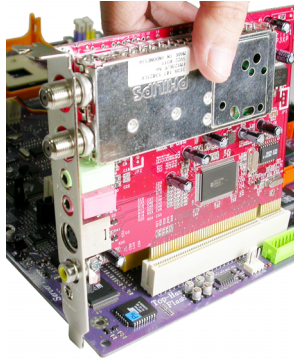


*Before installing an add-on card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.*

## Installing the Motherboard

Follow these instructions to install an add-on card:

- 1 Remove a blanking plate from the system case corresponding to the slot you are going to use.
- 2 Install the edge connector of the add-on card into the expansion slot. Ensure that the edge connector is correctly seated in the slot.
- 3 Secure the metal bracket of the card to the system case with a screw.

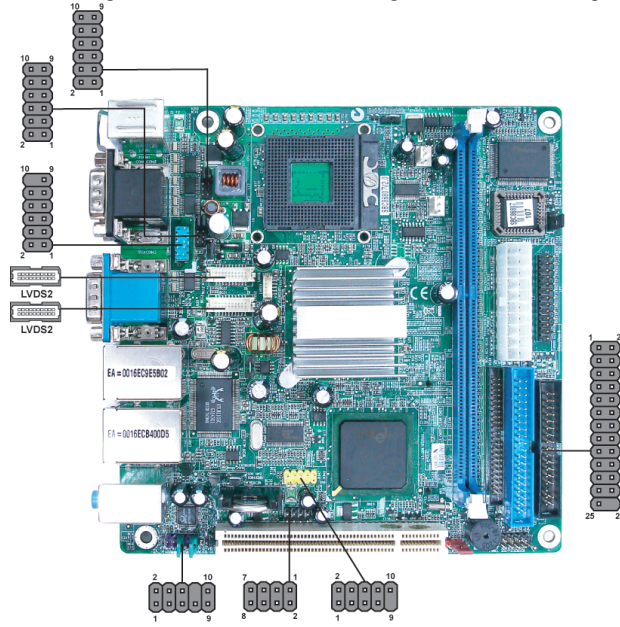


*For some add-on cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-on card.*

## Installing the Motherboard

### Connecting Optional Devices

Refer to the following for information on connecting the motherboard's optional devices:



#### DIO: DIO port header

Pin	Signal Name	Pin	Signal Name
1	GPIO 32	2	GPIO 36
3	GPIO 33	4	GPIO 37
5	GPIO 34	6	GPIO 38
7	GND	8	GND

#### AUDIO: Front Panel Audio header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

Pin	Signal Name	Function
1	AUD_MIC	Front Panel Microphone input signal
2	AUD_GND	Ground used by Analog Audio Circuits
3	MIC_BIAS	Microphone Power
4	AUD_VCC	Filtered +5V used by Analog Audio Circuits
5	AUD_F_R	Right Channel audio signal to Front Panel
6	AUD_RET_R	Right Channel Audio signal to Return from Front Panel
7	REVD	Reserved
8	Key	No Pin
9	AUD_F_L	Left Channel Audio signal to Front Panel
10	AUD_RET_L	Left Channel Audio signal to Return from Front Panel

## Installing the Motherboard

### USB3: Front Panel USB header

The motherboard has four USB ports installed on the rear edge I/O port array. Additionally, some computer cases have USB ports at the front of the case. If you have this kind of case, use auxiliary USB connector to connect the front-mounted ports to the motherboard.

Pin	Signal Name	Function
1	VCC	Power
2	VCC	Power
3	USBP2-N	Negative data signal of
4	USBP3-N	Positive data signal of
5	USBP2-P	Positive data signal of
6	USBP3-P	Negative data signal of
7	GND	System
8	GND	System
9	Key	No pin
10	OC#	Over current detection of



*Please make sure that the USB cable has the same pin assignment as indicated above. A different pin assignment may cause damage or system hang-up.*

### LVDS1~LVDS2: Low Voltage Differential Signaling Transmitter Interface Channel A~B

Pin	Signal Name	Pin	Signal Name
1	VCC	2	VCC
3	VCC	4	VCC
5	Data: YAM0	6	Data: YAM3
7	Data: YAP0	8	Data: YAP3
9	GND	10	GND
11	Data: YAM1	12	Clock: CLKAM
13	Data: YAP1	14	Clock: CLKAP
15	GND	16	GND
17	Data: YAM2	18	GND
19	Data: YAP2	20	GND

### JP1~JP2: COM1~4 Ring function selectors

Pin	Signal Name	Pin	Signal Name
1	VCC5	2	VCC5
3	XNRI1	4	XNRI2
5	VCC12	6	VCC12
7	XNRI1	8	XNRI2
9	NRI1	10	NRI2

## Installing the Motherboard

**LPT: LPT header**

Pin	Signal Name	Function	Pin	Signal Name	Function
1	STB#	Strobe	2	D0	Data 0
3	D1	Data 1	4	D2	Data 2
5	D3	Data 3	6	D4	Data 4
7	D5	Data 5	8	D6	Data 6
9	D7	Data 7	10	ACK#	Acknowledge
11	BUSY	Busy	12	PE	Paper End
13	SLCT	Select	14	AFD#	Auto Feed
15	ERR#	Error	16	INIT#	Initialize
17	SLIN#	Select In	18	GND	Chassis Ground
19	GND	Chassis Ground	20	GND	Chassis Ground
21	GND	Chassis Ground	22	GND	Chassis Ground
23	GND	Chassis Ground	24	GND	Chassis Ground
25	GND	Chassis Ground	26	NC	No pin

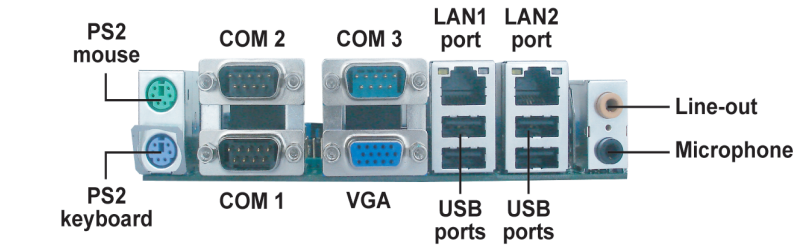
**COM4: Onboard serial port header**

Connect a serial port extension bracket to this header to add a second serial port to your system.

Pin	Signal Name	Pin	Signal Name
1	DCDB	2	RxD
3	TxD	4	DTRB
5	Ground	6	DSRB
7	RTSB	8	CTSB
9	RI	10	KEY

## Connecting I/O Devices

The backplane of the motherboard has the following I/O ports:



- PS2 Mouse** Use the upper PS/2 port to connect a PS/2 pointing device.
- PS2 Keyboard** Use the lower PS/2 port to connect a PS/2 keyboard.
- Serial Port (COM1~COM3)** Use the COM ports to connect serial devices such as mice or fax/modems.
- VGA Port** Connect your monitor to the VGA port.
- LAN Port (optional)** Connect an RJ-45 jack to the LAN port to connect your computer to the Network.
- USB Ports** Use the USB ports to connect USB devices.
- Audio Ports** Use the two audio ports to connect audio devices. The first jack (the orange one) is for stereo line-out signal. The second jack is for microphone.

This concludes Chapter 2. The next chapter covers the BIOS.

## Installing the Motherboard

***Memo***

**Installing the Motherboard**

## Chapter 3

### *Using BIOS*

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#### **About the Setup Utility**

The computer uses the latest Award BIOS with support for Windows Plug and Play. The CMOS chip on the motherboard contains the ROM setup instructions for configuring the motherboard BIOS.

The BIOS (Basic Input and Output System) Setup Utility displays the system's configuration status and provides you with options to set system parameters. The parameters are stored in battery-backed-up CMOS RAM that saves this information when the power is turned off. When the system is turned back on, the system is configured with the values you stored in CMOS.

The BIOS Setup Utility enables you to configure:

- Hard drives, diskette drives and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power Management features

The settings made in the Setup Utility affect how the computer performs. Before using the Setup Utility, ensure that you understand the Setup Utility options.

This chapter provides explanations for Setup Utility options.

#### ***The Standard Configuration***

A standard configuration has already been set in the Setup Utility. However, we recommend that you read this chapter in case you need to make any changes in the future.

This Setup Utility should be used:

- when changing the system configuration
- when a configuration error is detected and you are prompted to make changes to the Setup Utility
- when trying to resolve IRQ conflicts
- when making changes to the Power Management configuration
- when changing the password or making other changes to the Security Setup

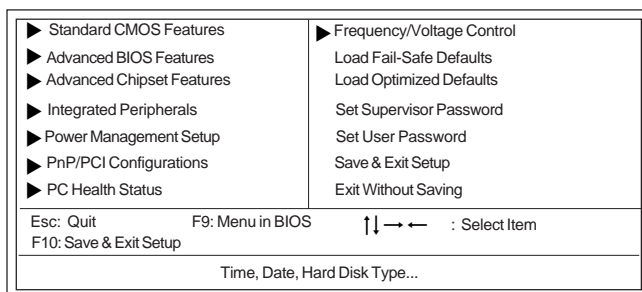
#### ***Entering the Setup Utility***

When you power on the system, BIOS enters the Power-On Self Test (POST) routines. POST is a series of built-in diagnostics performed by the BIOS. After the POST routines are completed, the following message appears:

**Press DEL to enter SETUP**

Pressing the delete key accesses the BIOS Setup Utility:

Phoenix-AwardBIOS CMOS Setup Utility:

***BIOS Navigation Keys***

The BIOS navigation keys are listed below:

KEY	FUNCTION
<b>Key</b>	Function
<b>Esc</b>	Exits the current menu
<b>←↑↓→</b>	Scrolls through the items on a menu
<b>+/-/PU/PD</b>	Modifies the selected field's values
<b>F10</b>	Saves the current configuration and exits setup
<b>F1</b>	Displays a screen that describes all key functions
<b>F5</b>	Loads previously saved values to CMOS
<b>F6</b>	Loads a minimum configuration for troubleshooting
<b>F7</b>	Loads an optimum set of values for peak performance

## *Updating the BIOS*

You can download and install updated BIOS for this motherboard from the manufacturer's Web site. New BIOS provides support for new peripherals, improvements in performance, or fixes for known bugs. Install new BIOS as follows:

- 1 If your motherboard has a BIOS protection jumper, change the setting to allow BIOS flashing.
- 2 If your motherboard has an item called Firmware Write Protect in Advanced BIOS features, disable it. (Firmware Write Protect prevents BIOS from being overwritten.)
- 3 Create a bootable system disk. (Refer to Windows online help for information on creating a bootable system disk.)
- 4 Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to the system diskette you created in Step 3.
- 5 Turn off your computer and insert the system diskette in your computer's diskette drive. (You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.)
- 6 At the A:\ prompt, type the Flash Utility program name and press <Enter>.
- 7 Type the filename of the new BIOS in the "File Name to Program" text box. Follow the onscreen directions to update the motherboard BIOS.
- 8 When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your motherboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

## **Using BIOS**

When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility displays a list of the options that are available. A highlight indicates which option is currently selected. Use the cursor arrow keys to move the highlight to other options. When an option is highlighted, execute the option by pressing <Enter>.

Some options lead to pop-up dialog boxes that prompt you to verify that you wish to execute that option. Other options lead to dialog boxes that prompt you for information.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

In this manual, default values are enclosed in parenthesis. Submenu items are denoted by a triangle ►.

## Standard CMOS Features

This option displays basic information about your system.

Phoenix-AwardBIOS CMOS Setup Utility  
Standard CMOS Features

Date (mm:dd:yy)	Tue, July 11 2001	Item Help
Time (hh:mm:ss)	12 : 8 : 59	
▶ IDE Primary Master	[None]	Menu Level ▶ Change the day, month, year and century.
▶ IDE Primary Slave	[None]	
▶ IDE Secondary Master	[None]	
▶ IDE Secondary Slave	[None]	
Drive A	[1.44M, 3.5 in.]	
Floppy 3 Mode Support	[Disabled]	
Video	[EGA/VGA]	
Halt On	[All Errors]	
Base Memory	640K	
Extended Memory	31744K	
Total Memory	32768K	

↑↓ → ← : Move    Enter: Select    +/-/PU/PD:Value    F10:Save    ESC:Exit    F1: General Help  
F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults

### Date and Time

The Date and Time items show the current date and time on the computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

### ▶ IDE Devices (None)

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel.

Press <Enter> to display the IDE submenu:

Phoenix-AwardBIOS CMOS Setup Utility  
IDE Primary Master

IDE HDD Auto-Detection	[Press Enter]	Item Help
IDE Primary Master	[Auto]	
Access Mode	[Auto]	Menu Level ▶▶ To auto-detect the HDD's size, head...on this chan- nel
Capacity	0 MB	
Cylinder	0	
Head	0	
Precomp	0	
Landing Zone	0	
Sector	0	

↑↓ → ← : Move    Enter: Select    +/-/PU/PD:Value    F10:Save    ESC:Exit    F1: General Help  
F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults

### IDE HDD Auto-Detection

Press <Enter> while this item is highlighted to prompt the Setup Utility to automatically detect and configure an IDE device on the IDE channel.



*If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.*

### **IDE Primary/Secondary Master/Slave (Auto)**

Leave this item at Auto to enable the system to automatically detect and configure IDE devices on the channel. If it fails to find a device, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items described below.

Refer to your drive's documentation or look on the drive casing if you need to obtain this information. If no device is installed, change the value to None.



*Before attempting to configure a hard disk drive, ensure that you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.*

### **Access Mode (Auto)**

This item defines ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to return to the Standard CMOS Features page.

### **Drive A (1.44M, 3.5 in.)**

This item defines the characteristics of any diskette drive attached to the system.

### **Floppy 3 Mode Support (Disabled)**

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

### **Video (EGA/VGA)**

This item defines the video mode of the system. This motherboard has a built-in VGA graphics system; you must leave this item at the default value.

### **Halt On (All Errors)**

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

### **Base Memory, Extended Memory, and Total Memory**

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

## Advanced BIOS Features

This option defines advanced information about your system.

Phoenix-AwardBIOS CMOS Setup Utility  
Advanced BIOS Features

<ul style="list-style-type: none"> <li>▶ CPU Feature <span style="float: right;">[Press Enter]</span></li> <li>CPU L1 &amp; L2 Cache <span style="float: right;">[Enabled]</span></li> <li>CPU Hyper-Threading <span style="float: right;">[Enabled]</span></li> <li>Quick Power On Self Test <span style="float: right;">[Enabled]</span></li> <li>First Boot Device <span style="float: right;">[Floppy]</span></li> <li>Second Boot Device <span style="float: right;">[HDD-0]</span></li> <li>Third Boot Device <span style="float: right;">[CDROM]</span></li> <li>Boot Other Device <span style="float: right;">[Enabled]</span></li> <li>Boot Up Floppy Seek <span style="float: right;">[Disabled]</span></li> <li>Boot Up NumLock Status <span style="float: right;">[On]</span></li> <li>Gate A20 Option <span style="float: right;">[Fast]</span></li> <li>ATA 66/100 cable Msg <span style="float: right;">[Enabled]</span></li> <li>Typematic Rate Setting <span style="float: right;">[Disabled]</span></li> <li>X Typematic Rate (Chars/Sec) <span style="float: right;">6</span></li> <li>X Typematic Delay (Msec) <span style="float: right;">250</span></li> <li>Security Option <span style="float: right;">[Setup]</span></li> <li>APIC Mode <span style="float: right;">[Enabled]</span></li> <li>MPS Version Control For OS <span style="float: right;">[1.4]</span></li> </ul>		<p>Item Help</p> <hr/> <p>Menu Level ▶</p>
---	--	--

↑↓←→ : Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help  
 F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults

### ▶ CPU Feature (Press Enter)

Scroll to this item and press <Enter> to view the following screen, and the following items are available when the motherboard doesn't support Prescott CPU; however, when the motherboard supports Prescott CPU, the items of TM2 Bus Ratio, TM2 VID and Limit CPUID MaxVal will be available.

Phoenix-AwardBIOS CMOS Setup Utility  
CPU Feature

<p>Thermal Management <span style="float: right;">[Thermal Monitor 1]</span></p>		<p>Item Help</p> <hr/> <p>Menu Level ▶▶</p>
--	--	---

↑↓←→ : Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help  
 F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized

### Thermal Management (Thermal Monitor 1)

This item displays CPU's temperature and enables you to set a safe temperature to Protect CPU.

Press <Esc> to return to the Advanced BIOS Features screen.

**CPU L1 & L2 Cache (Enabled)**

All processors that can be installed in this motherboard use internal level 1 (L1) and external level 2 (L2) cache memory to improve performance. Leave this item at the default value for better performance.

**CPU Hyper-Threading (Enabled)**

This item is only available when the chipset supports Hyper-Threading and you are using a Hyper-Threading CPU.

**Quick Power On Self Test (Enabled)**

Enable this item to shorten the power on self testing (POST) and have your system start up faster. You might like to enable this item after you are confident that your system hardware is operating smoothly.

**First/Second/Third Boot Device (Floppy/HDD-0/CDROM)**

Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time.

**Boot Other Device (Enabled)**

When enabled, the system searches all other possible locations for an operating system if it fails to find one in the devices specified under the First, Second, and Third boot devices.

**Boot Up Floppy Seek (Disabled)**

If this item is enabled, it checks the size of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity.

**Boot Up NumLock Status (On)**

This item defines if the keyboard Num Lock key is active when your system is started.

**Gate A20 Option (Fast)**

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

**ATA 66/100 cable Msg (Enabled)**

This item enables or disables the display of the ATA 66/100 Cable MSG.

**Typematic Rate Setting (Disabled)**

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

- **Typematic Rate (Chars/Sec):** Use this item to define how many characters per second are generated by a held-down key.
- **Typematic Delay (Msec):** Use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

**Security Option (Setup)**

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

**APIC Mode (Enabled)**

This option enables or disables APIC (Advanced Programmable Interrupt Controller) functionality. The APIC is an Intel chip that provides symmetric multi-processing (SMP) for its Pentium systems.

### MPS Version Control For OS (1.4)

The BIOS supports versions 1.1 and 1.4 of the Intel multiprocessor specification. Select the version supported by the operation system running on the computer.

### OS Select For DRAM > 64 MB (Non-OS2)

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default.

### Report No FDD For WIN 95 (No)

Set this item to the default if you are running a system with no floppy drive and using Windows 95; this ensures compatibility with the Windows 95 logo certification.

### Small Logo (EPA) Show (Disabled)

Enables or disables the display of the EPA logo during boot.

## Advanced Chipset Features

These items define critical timing parameters of the motherboard. You should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

Phoenix-AwardBIOS CMOS Setup Utility Advanced Chipset Features		
DRAM Timing Selectable	[By SPD]	Item Help
X CAS Latency Time	[2.5]	Menu Level ▶
X Active to Precharge Delay	[7]	
X DRAM RAS# to CAS# Delay	[3]	
X DRAM RAS# Precharge	[3]	
DRAM Data Integrity Mode	[Non-ECC]	
Memory Frequency For	[Auto]	
System BIOS Cacheable	[Disabled]	
Video BIOS Cacheable	[Disabled]	
Delayed Transaction	[Enabled]	
Delay Prior to Thermal	[16 Min]	
AGP Aperature Size (MB)	[128]	
On-Chip VGA	[Enabled]	
On-chip Frame Buffer Size	[8M]	
Boot Display	[VBIOS Default]	
Panel Number	[1]	

↑ ← → : Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults

### DRAM Timing Selectable (By SPD)

The value in this field depends on performance parameters of the installed memory chips (DRAM). Do not change the value from the factory setting unless you install new memory that has a different performance rating than the original DRAMs.

- **CAS Latency Time (2.5):** This item controls the timing delay (in clock cycles) before the DRAM starts a read command after receiving it.
- **Active to Precharge Delay (7):** This precharge time is the number of cycles it takes for DRAM to accumulate its charge before refresh.
- **DRAM RAS# to CAS# Delay (3):** This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Disabled gives faster performance; and Enabled gives more stable performance.

- **DRAM RAS# Precharge (3):** Select the number of CPU clocks allocated for the Row Address Strobe (RAS#) signal to accumulate its charge before the DRAM is refreshed. If insufficient time is allowed, refresh may be incomplete and data lost.

**DRAM Data Integrity Mode (Non-ECC)**

This item is used to configure your RAM's data integrity mode.

**Memory Frequency For (Auto)**

This item sets the main memory frequency. When you used an external graphics card, you can adjust this to enable the best performance for your system.

**System BIOS Cacheable (Disabled)**

This item allows the system to be cached in memory for faster execution. Enable this item for better performance.

**Video BIOS Cacheable (Disabled)**

When this is enabled, the Video RAM will be cached resulting to better performance. However, if any program was written to this memory area, this may result to system error.

**Delayed Transaction (Enabled)**

The chipset has an embedded 32-bit posted write buffer to support delayed transaction cycles. Enable this item to support compliance with PCI specification version 2.1.

**Delay Prior to Thermal (16 Min)**

Enables you to set the delay time before the CPU enters auto thermal mode.

**AGP Aperture Size (MB) (128)**

This item defines the size of the aperture if you use an AGP graphics adapter. The AGP aperture refers to a section of the PCI memory address range used for graphics memory. We recommend that you leave this item at the default value.

**On-Chip VGA (Enabled)**

Enables and disables the built-in on-chip VGA.

**On-Chip Frame Buffer Size (8M)**

This item allows you to set the VGA frame buffer size.

**Boot Display (VBIOS Default)**

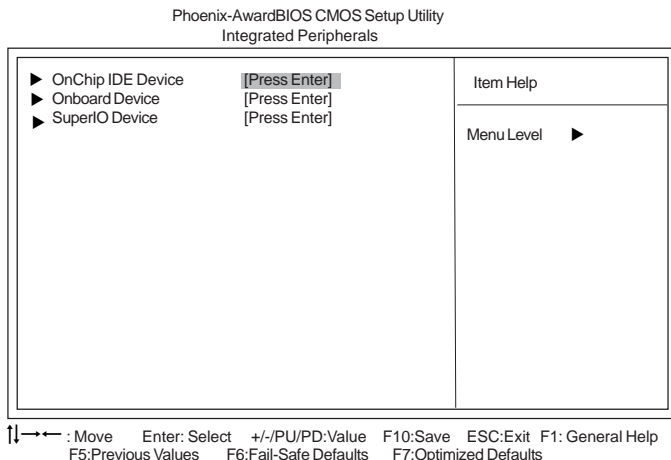
This item is for Intel define ADD card only.

**Panel Number (1)**

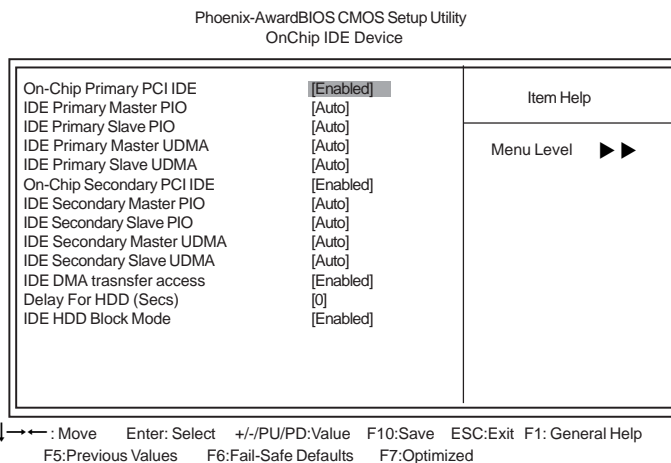
This item is used to select the number to support LVDS panel.

## Integrated Peripherals

These options display items that define the operation of peripheral components on the system's input/output ports.



### ▶ OnChip IDE Device (Press Enter)



### **On-Chip Primary/Secondary PCI IDE (Enabled)**

Use these items to enable or disable the PCI IDE channels that are integrated on the motherboard.

### **IDE Primary/Secondary Master/Slave PIO (Auto)**

Each IDE channel supports a master device and a slave device. These four items let you assign the kind of PIO (Programmed Input/Output) was used by the IDE devices. Choose Auto to let the system auto detect which PIO mode is best, or select a PIO mode from 0-4.

### **IDE Primary/Secondary Master/Slave UDMA (Auto)**

Each IDE channel supports a master device and a slave device. This motherboard supports

UltraDMA technology, which provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

### **IDE DMA transfer access (Enabled)**

This item allows you to enable the transfer access of the IDE DMA.

### **Delay For HDD (Secs) (0)**

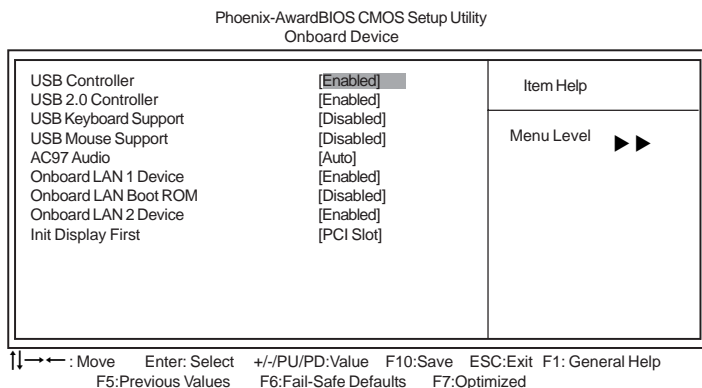
Users may set a delay from 1 to 15 seconds in the cold boot process. Some hard disk drives need extra time to spin up in order to identify correctly. If the system does not start after the memory test, try to add times in this field.

### **IDE HDD Block Mode (Enabled)**

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and improves the speed of access to IDE devices.

Press <Esc> to return to the Integrated Peripherals page.

## **► Onboard Device (Press Enter)**



### **USB Controller (Enabled)**

Enable this item if you plan to use the Universal Serial Bus ports on this motherboard.

### **USB 2.0 Controller (Enabled)**

Enable this item if want to use the USB 2.0.

### **USB Keyboard Support (Disabled)**

Enable this item if you plan to use a keyboard connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

### **USB Mouse Support (Disabled)**

Enable this item if you plan to use a mouse connected through the USB port in a legacy operating system (such as DOS) that does not support Plug and Play.

### **AC97 AUDIO (Auto)**

Enables or disables the onboard audio chip. Disable this item if you are going to install a PCI audio add-on card.

**Onboard LAN 1 Device (Enabled)**

This option allows you to enable or disable the onboard LAN function.

**Onboard LAN Boot ROM (Disabled)**

Use this item to enable and disable the booting from the onboard LAN or a network add-in card with a remote boot ROM installed.

**Onboard LAN 2 Device (Enabled)**

This option allows you to enable or disable the onboard LAN function.

**Init Display First (PCI Slot)**

Use this item to specify whether your graphics adapter is installed in one of the PCI slots or is integrated on the motherboard.

Press <Esc> to return to the Integrated Peripherals page.

**▶SuperIO Device (Press Enter)**

Phoenix-AwardBIOS CMOS Setup Utility  
SuperIO Device

POWER ON Function	<b>[BUTTON ONLY]</b>	Item Help
Hot Key Power ON	[Ctrl-F 1]	
Onboard FDC Controller	[Enabled]	
Onboard Serial Port 1	[3F8/IRQ4]	
Onboard Serial Port 2	[2F8/IRQ3]	
Onboard Serial Port 3	[3E8]	
Serial Port 3 Use IRQ	[IRQ10]	
Onboard Serial Port 4	[2E8]	
Serial Port 4 Use IRQ	[IRQ11]	
Onboard Parallel Port	[378/IRQ7]	
Parallel Port Mode	[ECP]	
EPP Mode Select	[EPP1..7]	
ECP Mode Use DMA	[3]	
Power On After Power Fail	[Off]	
		Menu Level ▶▶

↑↓←→: Move Enter: Select +/-/PU/PD:Value F10:Save ESC:Exit F1: General Help  
F5:Previous Values F6:Fail-Safe Defaults F7:Optimized

**POWER ON Function (BUTTON ONLY)**

This feature allows you to set the method by which your system can be turned on.

**Hot Key Power On (Ctrl-F1)**

When the POWER ON Function is set to Hot Key, use this item to set the hot key combination that turns on the system.

**Onboard FDC Controller (Enabled)**

This option enables the onboard floppy disk drive controller.

**Onboard Serial Port1~3 (3F8/IRQ4, 2F8/IRQ3)**

These options are used to assign the I/O address and interrupt request (IRQ) for onboard serial port1~2.

**Onboard Serial Port3 (3E8)**

These options are used to assign the I/O address and interrupt request (IRQ) for onboard serial port3.

**Serial Port 3 Use IRQ (IRQ10)**

This item is used to select an IRQ for the onboard serial port 3.

**Onboard Serial Port4(2E8)**

This option is used to assign the I/O address and interrupt request (IRQ) for onboard serial port4.

**Serial Port 4 Use IRQ (IRQ11)**

This item is used to select an IRQ for the onboard serial port 4.

**Onboard Parallel Port (378/IRQ7)**

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard parallel port.

**Parallel Port Mode (ECP)**

Enables you to set the data transfer protocol for your parallel port. There are four options: SPP (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port), and ECP+EPP.

SPP allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP- and ECP-aware peripherals.

**EPP Mode Select (EPP1.7)**

The onboard parallel port is EPP spec. compliant, after you choose the onboard parallel port with EPP function. Set the EPP version to 1.7 spec or 1.9 spec.

**ECP Mode Use DMA (3)**

When the onboard parallel port is set to ECP mode, the parallel port can use DMA3 or DMA1.

**Power On After Power Fail (Off)**

This item enables your computer to automatically restart or return to its last operating status after power returns from a power failure.

Press <Esc> to return to the Integrated Peripherals page.

## Power Management Setup

This option lets you control system power management. The system has various power-saving modes including powering down the hard disk, turning off the video, suspending to RAM, and software power down that allows the system to be automatically resumed by certain events.

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero.

If the system is suspended or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock

Phoenix-AwardBIOS CMOS Setup Utility  
Power Management Setup

ACPI Suspend Type	[S3 (STR)]	Item Help
x Run VGABIOS if S3 Resume	[Auto]	
Video Off Method	[DPMS]	
Video Off In Suspend	[Yes]	Menu Level ▶
Suspend Type	[Stop Grant]	
Modem Use IRQ	[3]	
Suspend Mode	[Disabled]	
HDD Power Down	[Disabled]	
Soft-Off by PWR-BTTN	[Instant-Off]	
Wake-Up by PCI card	[Enabled]	
Power On by Ring	[Disabled]	
Wake Up On LAN	[Disabled]	
Resume by Alarm	[Disabled]	
x Date (of Month) Alarm	0	
x Time (hh:mm:ss) Alarm	0 0 0	
** Reload Global Timer Events **		
Primary IDE 0	[Disabled]	
Primary IDE 1	[Disabled]	

↓←→ : Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help  
F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults

### ACPI Suspend Type (S3(STR))

Use this item to define how your system suspends. In the default, S1 (POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is suspend to RAM, i.e., the system shuts down with the exception of a refresh current to the system memory.

- **Run VGABIOS if S3 Resume (Auto):** Use this item to initialize the VGA BIOS from S3 (Suspend to RAM) sleep state.

### Video Off Method (DPMS)

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

### Video Off In Suspend (Yes)

This option defines if the video is powered down when the system is put into suspend mode.

### Suspend Type (Stop Grant)

If this item is set to the default Stop Grant, the CPU will go into Idle Mode during power saving mode.

### **MODEM Use IRQ (3)**

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem. You might have to connect the fax/modem to the motherboard Wake On Modem connector for this feature to work.

### **Suspend Mode (Disabled)**

The CPU clock will be stopped and the video signal will be suspended if no Power Management events occur for a specified length of time. Full power function will return when a Power Management event is detected. Options are from 1 Min to 1 Hour and Disabled.

### **HDD Power Down (Disabled)**

The IDE hard drive will spin down if it is not accessed within a specified length of time. Options are from 1 Min to 15 Min and Disable.

### **Soft-Off by PWR-BTTN (Instant-Off)**

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. then you have to hold the power button down for four seconds to cause a software power down.

### **Wake-Up by PCI Card (Enabled)**

When this item is enabled, the system power will be turned on if there is any PCI card activity.

### **Power On by Ring (Disabled)**

If this item is enabled, it allows the system to resume from a software power down or a power-saving mode whenever there is an incoming call to an installed fax/modem. You have to connect the fax/modem to the motherboard

### **Wake Up On LAN (Disabled)**

When set to Enabled, the system power will be turned on if the LAN port receives an incoming signal. You have to connect fax/modem to the motherboard Wake On LAN connector for this feature to work.

### **Resume by Alarm (Disabled)**

When set to Enabled, additional fields become available and you can set the date (day of the month), hour, minute and second to turn on your system. When set to 0 (zero) for the day of the month, the alarm will power on your system every day at the specified time.

- **Date (of Month) Alarm (0):** Date (on Month) Alarm lets you select a day from 1 to 31.
- **Time (hh:mm:ss) Alarm (0:0:0):** Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

### **\*\* Reload Global Timer Events \*\***

Global Timer (power management) events are I/O events whose occurrence can prevent the system from entering a power saving mode or can awaken the system from such a mode. In effect, the system remains alert for anything that occurs to a device that is configured as Enabled, even when the system is in a power-down mode.

### Primary/Secondary IDE 1/0 (Disabled)

When these items are enabled, the system will restart the power-saving timeout counters when any activity is detected on any of the drives or devices on the primary or secondary IDE channels.

### FDD, COM, LPT Port (Disabled)

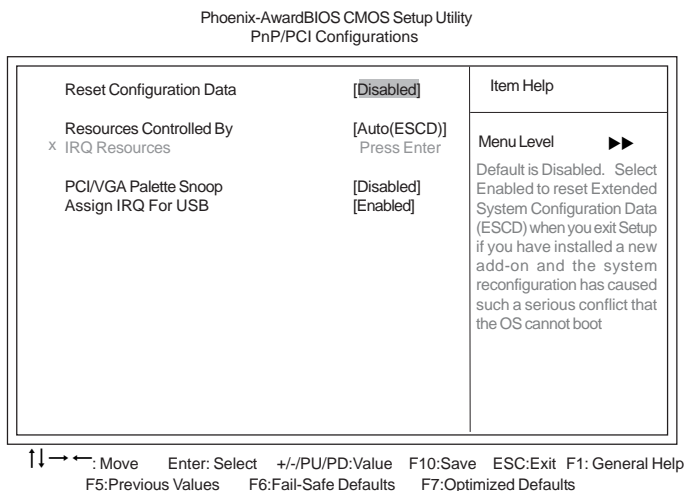
When this item is enabled, the system will restart the power-saving timeout counters when any activity is detected on the floppy disk drive, serial ports, or the parallel port.

### PCI PIRQ[A-D]# (Disabled)

When this item is enabled, any activity from one of the listed devices wakes up the system.

## PNP/PCI Configurations

This section describes configuring the PCI bus system. PCI (Peripheral Component Interconnect) is a system, which allows I/O devices to operate at speeds nearing CPU's when they communicate with own special components. All the options describes in this section are important and technical and it is strongly recommended that only experienced users should make any changes to the default settings.



### Reset Configuration Data (Disabled)

When you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS Setup is cleared from memory.

### Resources Controlled By (Auto(ESCD))

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to Plug and Play devices as they are required. If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources submenu.

- **IRQ Resources:** In the IRQ Resources submenu, if you assign an IRQ to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources submenu. In the Memory Resources submenu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA

expansion card. Use the section item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources submenu.

### PCI/VGA Palette Snoop (Disabled)

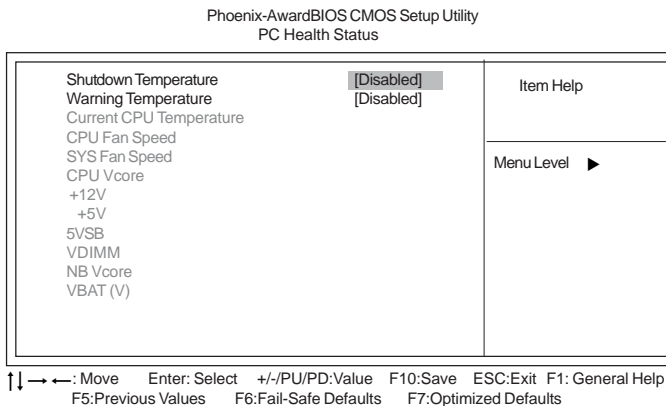
This item is designed to overcome problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

### Assign IRQ For USB (Enabled)

“Enable” or “Disable” this item when users are to assign IRQ for the USB interface onboard.

### PC Health Status

On motherboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.



### Shutdown Temperature (Disabled)

Enables you to set the maximum temperature the system can reach before powering down.

### Warning Temperature (Disabled)

Use this item to set the warning temperature level for the processor.

### System Component Characteristics

These items allow end users and technicians to monitor data provided by the BIOS on this motherboard. You cannot make changes to these fields.

- Current CPU Temperature
- CPU Fan Speed
- SYS Fan Speed
- CPU Vcore
- +12V
- +5V
- 5VSB
- VDIMM
- NB Vcore
- VBAT (V)

## Frequency/Voltage Control

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

Phoenix-AwardBIOS CMOS Setup Utility  
Frequency/Voltage Control

Auto Detect PCI Clk      [Enabled] Spread Spectrum        [Enabled] CPU Clock                [100MHz]	Item Help <hr/> Menu Level    ▶
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↑ ↓ → ← : Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help  
 F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults

### Auto Detect PCI Clk (Enabled)

When this item is enabled, BIOS will disable the clock signal of free PCI slots.

### Spread Spectrum (Enabled)

If you enable spread spectrum, it can significantly reduce the EMI (Electro-Magnetic Interference) generated by the system.

### CPU Clock (100MHz)

Use the CPU Host Clock to set the frontside bus frequency for the installed processor (usually 200 MHz, 133 MHz, or 100 MHz).

### ***Load Fail-Safe Defaults Option***

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility:

Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

### ***Load Optimized Defaults Option***

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.



*Users please remain the factory BIOS default setting of “Load optimized Defaults” when install Operation System onto your system.*

### ***Set Supervisor/User Password***

When this function is selected, the following message appears at the center of the screen to assist you in creating a password.

#### **ENTER PASSWORD**

Type the password, up to eight characters, and press <Enter>. The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press <Enter>. You may also press <Esc> to abort the selection.

To disable password, just press <Enter> when you are prompted to enter password. A message will confirm the password being disabled. Once the password is disabled, the system will boot and you can enter BIOS Setup freely.

#### **PASSWORD DISABLED**

If you have selected “System” in “Security Option” of “BIOS Features Setup” menu, you will be prompted for the password every time the system reboots or any time you try to enter BIOS Setup.

If you have selected “Setup” at “Security Option” from “BIOS Features Setup” menu, you will be prompted for the password only when you enter BIOS Setup.

Supervisor Password has higher priority than User Password. You can use Supervisor Password when booting the system or entering BIOS Setup to modify all settings. Also you can use User Password when booting the system or entering BIOS Setup but can not modify any setting if Supervisor Password is enabled.

### ***Save & Exit Setup Option***

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

### ***Exit Without Saving***

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.



*If you have made settings that you do not want to save, use the “Exit Without Saving” item and press <Y> to discard any changes you have made.*

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the motherboard.

## Chapter 4

### *Using the Motherboard Software*

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#### About the Software CD-ROM

The support software CD-ROM that is included in the motherboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your motherboard version. More information on some programs is available in a README file, located in the same directory as the software.



*Never try to install all software from folder that is not specified for use with your motherboard.*

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

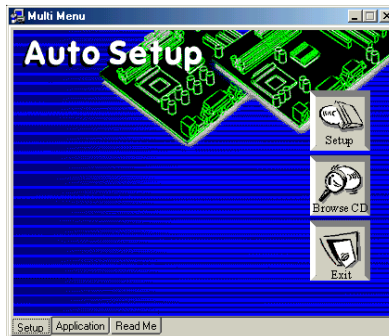
#### Auto-installing under Windows 98/ME/2000/XP

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your motherboard.



*If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer). Refer to the Utility Folder Installation Notes later in this chapter.*

The support software CD-ROM disc loads automatically under Windows 98/ME/2000/XP. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen. The screen has three buttons on it, Setup, Browse CD and Exit.



*If the opening screen does not appear; double-click the file "setup.exe" in the root directory.*

## Setup Tab

<b>Setup</b>	Click the <b>Setup</b> button to run the software installation program. Select from the menu which software you want to install.
<b>Browse CD</b>	<p>The <b>Browse CD</b> button is the standard Windows command that allows you to open Windows Explorer and show the contents of the support CD.</p> <p>Before installing the software from Windows Explorer, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly.</p> <p>Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using.</p> <p>In install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.</p>
<b>Exit</b>	The <b>EXIT</b> button closes the Auto Setup window.

## Application Tab

Lists the software utilities that are available on the CD.

## Read Me Tab

Displays the path for all software and drivers available on the CD.

## Running Setup

Follow these instructions to install device drivers and software for the motherboard:

1. **Click Setup. The installation program begins:**

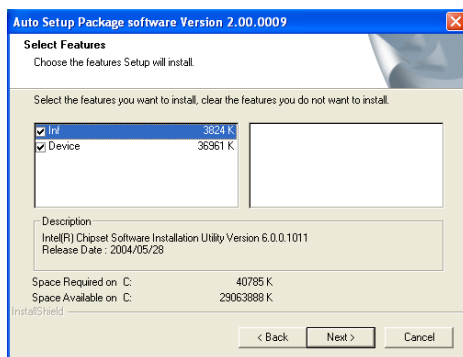


The following screens are examples only. The screens and driver lists will be different according to the motherboard you are installing.

The motherboard identification is located in the upper left-hand corner.

## Using the Motherboard Software

2. Click **Next**. The following screen appears:



3. Check the box next to the items you want to install. The default options are recommended.
4. Click **Next** run the Installation Wizard. An item installation screen appears:



5. Follow the instructions on the screen to install the items.

Drivers and software are automatically installed in sequence. Follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete the installation.

## Manual Installation

Insert the CD in the CD-ROM drive and locate the PATH.DOC file in the root directory. This file contains the information needed to locate the drivers for your motherboard.

Look for the chipset and motherboard model; then browse to the directory and path to begin installing the drivers. Most drivers have a setup program (SETUP.EXE) that automatically detects your operating system before installation. Other drivers have the setup program located in the operating system subfolder.

If the driver you want to install does not have a setup program, browse to the operating system subfolder and locate the readme text file (README.TXT or README.DOC) for information on installing the driver or software for your operating system.

## Utility Software Reference

All the utility software available from this page is Windows compliant. They are provided only for the convenience of the customer. The following software is furnished under license and may only be used or copied in accordance with the terms of the license.



*These software(s) are subject to change at anytime without prior notice.  
Please refer to the support CD for available software.*

This concludes Chapter 4.