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# *Introduction*

# *1*

The MS-6385 Micro ATX mainboard supports the new Intel® Pentium™ 4 processor based on Intel® 82850 chipset. It's an high end motherboard for the users who want to optimize the performance from the new Intel® Pentium™ 4 processor

The Intel® Tehama chipset supports 64B cache line size and a 32-bit host addressing, allowing the processor to access the entire 4GB of the chipset's memory address space. It also provides 4x AGP data transfers and 2x/4x AGP Fast Writes capability including a 3.2GBs memory bus bandwidth and 3.2GBs system bus bandwidth.

The Intel® Tehama chipset features a dual channel Direct RDRAM memory operating in lock-step using RSL technology. It is a highly-flexible chipset which is designed to extend the basic graphics/multimedia PC platform up to the mainstream performance desktop platform.

The Intel® 82801BA (ICH2) chipset is a highly integrated multifunctional I/O Controller Hub that provides the interface to the PCI Bus and integrates many of the functions needed in today's PC platforms. It communicates with the host controller over a dedicated hub interface and provides added flexibility in designing cost-effective system solutions.

Chapter 1 contains the following topics:

Mainboard Specification	1-2
Mainboard Layout	1-4
Key Features	1-5
MSI Special Features	1-6

## *Chapter 1*

# **Mainboard Specification**

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### **CPU**

- Support Intel® Pentium™ 4 processor.
- Support 1.7GHz or faster.

### **Chipset**

- Intel® 850 chipset.
  - Up to 2GB maximum memory (Rambus)
  - AGP interface with 4x SBA/Data Transfer
- Intel® ICH2 chipset.
  - AC'97 Controller Integrated
  - 2 Full IDE channels, up to ATA100
  - Low pin count interface for SIO
  - Support up to 4 USB ports
  - Support one CNR slot

### **MainMemory**

- Four 184-pin gold-lead RIMM sockets
- Support a maximum memory size of 2GB

### **Slots**

- One AGP (Accelerated Graphics Port) slot
  - support 2x/4x mode.
- Three 32-bit/33MHz Master PCI Bus slots
- Support 3.3v/5v PCI bus Interface
- One CNR slot

### **On-BoardIDE**

- An IDE controller on the Intel® ICH2 Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 100 operation modes.
- Can connect up to four IDE devices

### **Audio**

- ICH2 chip integrated
- AC'97 Compliant

**Super I/O Controller**

- Winbond W83627HF-AW I/O controller
- 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2. 88 Mbytes.
- 2 serial ports (COM A & COM B)
- 1 parallel port supports SPP/EPP/ECP mode

**Network (Optional)**

- Intel® 82562 ET/EM Platform LAN connect for 10 Base-T and 100 Base-T

**BIOS**

- The mainboard BIOS provides “Plug & Play” BIOS which detects the peripheral devices and expansion cards of the board automatically.
- IDE drive auto configure, Advanced Power Management (APM) 1.2, ACPI 1.0, DMI 2.0, support ECC/Parity, support LS120

**Dimension**

- Micro-ATX Form Factor : 9.6 inches (L) x 9.6 inches(W) PCB

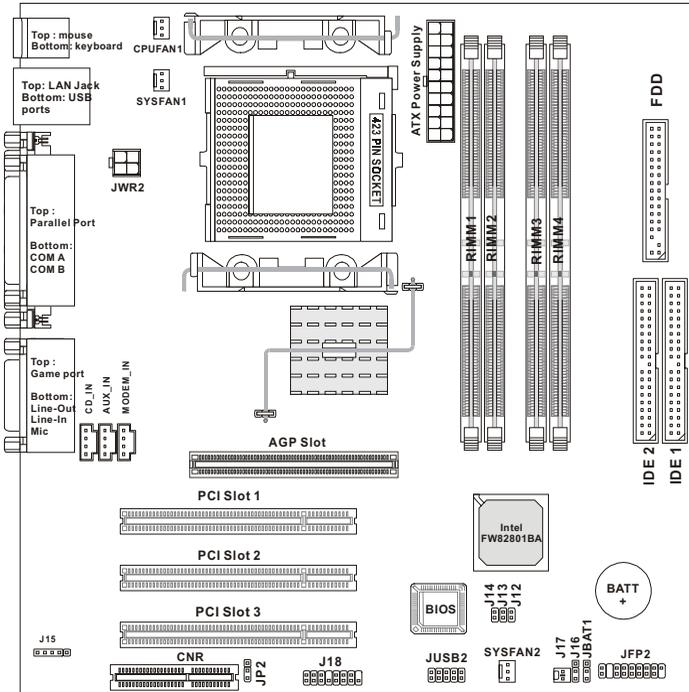
**Mounting**

- 8 mounting holes.

**Special Features**

- Microsoft® PC99 Compliant
- Micro-ATX Form Factor
- Support Intel® Pentium® 4 processors
- Support DMI(Desktop Management Interface) through BIOS
- LAN Wake Up Function via PME
- PC Alert System Hardware Monitor (optional)
- Modem Wake Up Function via PME
- Support PCI 2.2
- Suspend to RAM/Disk

# Mainboard Layout



**MS-6385 MICRO ATX Mainboard**

## **Quick Components Guide**

<b>Component</b>	<b>Function</b>	<b>Reference</b>
Socket 423	Installing CPU	p. 2-2
RIMM1~4	Installing memory module	p. 2-4
ATX Power Supply	Installing power supply	p. 2-6
FDD	Connecting to floppy disk drive	p. 2-11
JUSB2	Connecting to USB device	p. 2-11
IDE1 & IDE2	Connecting to HDD drive	p. 2-12
JFP2	Connecting to case	p. 2-13
J15	Connecting to IR module	p. 2-14
J12 & 17	Connecting to chassis intrusion switch	p. 2-14
CPUFAN1	Connecting to processor fan	p. 2-15
SYSFAN1&2	Connecting to system fan	p. 2-15
J18	Connecting to front audio	p. 2-17
JBAT1	Setting clear CMOS	p. 2-18
J13	Clearing BIOS password	p. 2-19
J16	Setting beep by buzzer/speaker	P. 2-19
JP2	Setting onboard audio codec	P. 2-20
J14	Setting BIOS flash	P. 2-21
AGP	Inserting AGP expansion card	p. 2-22
PCI Slot	Inserting expansion cards	p. 2-22
CNR	Inserting CNR expansion card	p. 2-22

## Chapter 1

# MSI Special Features

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The MSI special features are designed by MSI R&D which are only available in MSI mainboards. The 6385 mainboard is equipped with PC Alert™ III.

## PC Alert™ III

The PC Alert™ III is a utility you can find in the CD-ROM. The utility is just like your PC doctor that can detect the following PC hardware status during real time operation:

- \* monitor CPU & system temperature
- \* monitor fan speed
- \* monitor system voltage
- \* monitor chassis intrusion

If one of the items above is abnormal, the program main screen will be immediately shown on the screen, with the abnormal item highlighted in red. This will continue to be shown until user disables warning.





**Features:**

- Network Management
  - Monitoring & remote control
- Basic System Utilities
  - Scandisk & Defragment to maintain your HDD
- 3D Graphics Design
  - Enables a more friendly user interface
- Software Utilities
  - SoftCooler Optimized Cooling

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# *Hardware Setup*

# 2

This chapter provides you with the information about hardware setup procedures. While doing the installation, be careful in holding the components and follow the installation procedures. For some components, if you install in the wrong orientation, the components will not work properly.

Besides, please use a grounded wrist strap before handling computer components. Static electricity may damage the components.

Chapter 2 contains the following topics:

Central Processing Unit (CPU)	2-2
Memory Installation	2-4
Power Supply	2-6
Back Panel	2-7
Connectors	2-11
Jumpers	2-18
Slots	2-22

## Chapter 2

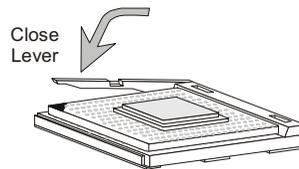
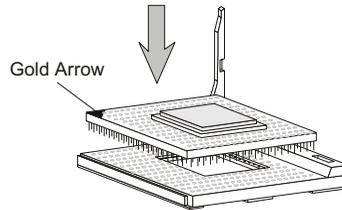
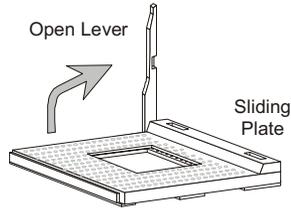
# Central Processing Unit: CPU

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The mainboard supports Intel® Pentium™ 4 processors. The mainboard uses a CPU socket called Socket 423 for easy CPU installation. Make sure that the CPU has a Heat Sink and a cooling fan attached to prevent overheating. If you do not find the Heat Sink and cooling fan, contact your dealer or purchase them before turning on the computer.

### CPU Installation Procedures

1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.
2. Look for the gold arrow. The gold arrow should point towards the end of lever. The CPU will only fit in the correct orientation.
3. Hold the CPU down firmly, and then close the lever to complete the installation.



**WARNING!**

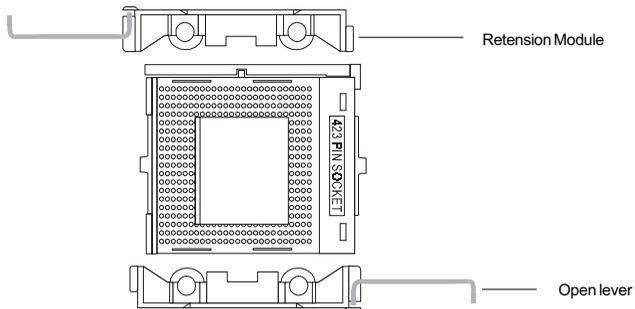
*Overheating will seriously damage the CPU and system. After inserting the Heat Sink and cooling fan, check if the cooling fan can work properly to protect the CPU.*

## Attaching CPU Fan

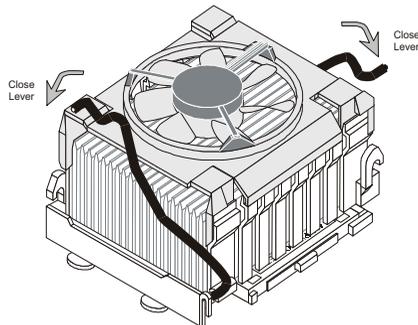
After installing the CPU, please attach the specific CPU fan to prevent overheating. Preventing overheating is very important for Pentim 4 processor as the CPU runs in a very high speed. The Pentium 4 has its specific CPU fan. No matter what kind of motherboard you buy, it always comes with a universal retension module that fits the specific CPU fan. Unsuitable CPU fan may cause the problem of overheating that will damage the CPU.

### Attaching CPU fan procedure

1. Open the lever



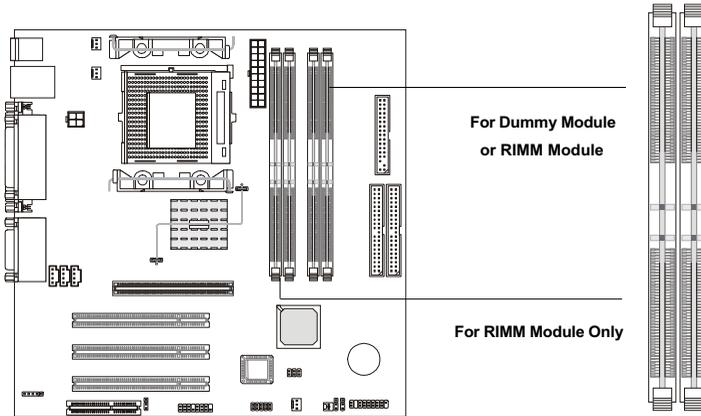
2. Insert the CPU fan into th socket. Close the lever to fix th attachment.



## Chapter 2

# Memory Installation

The mainboard provides 4 gold-lead sockets for 184-pin RIMM modules. To operate properly, at least two RIMM module must be installed. The mainboard supports the memory size up to 2 GB.



## Memory Population Rules

1. Support only RIMM.
2. To operate properly, make sure that the RIMM banks are using the same type and equal size density memory.
3. Support FSB 100MHz: PC600/800 RIMM.  
*Note: PC700 will run at PC600 specification.*
4. Support up to 32 Direct Rambus Device.
5. Support ECC Single bit Correction and Multiple bit error detection (Setting in BIOS)

## Installing RIMM Modules

**Note:** You can install two or four RIMM modules. If you install two RIMM modules, please install the two Dummy modules that come with the motherboard into the sockets as p. 2-4 indicates.

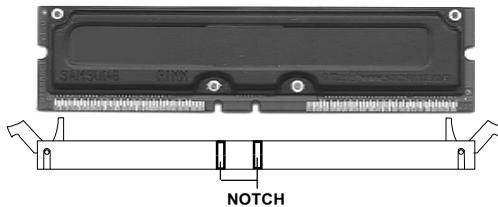
### Dummy Module



1. The RIMM slot has 2 Notch Keys, so the RIMM memory module can only fit in one orientation.



2. Insert the RIMM memory module vertically into the RIMM slot. Then push it in.



3. The plastic clip at the side of the RIMM slot will automatically close.

## Power Supply

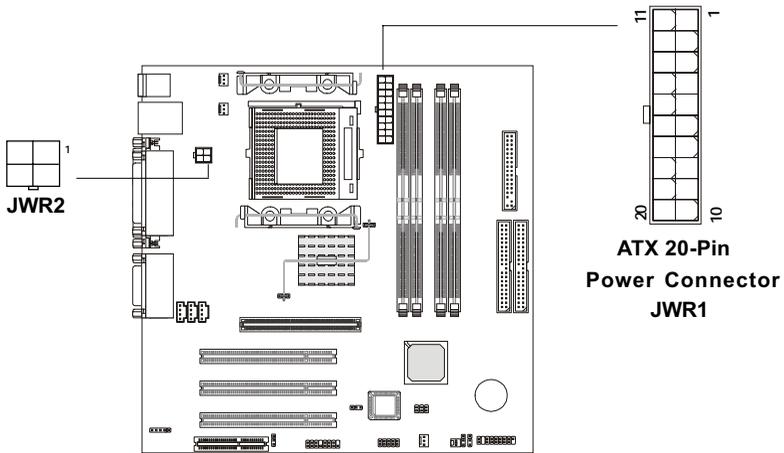
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The mainboard supports ATX power supply for the power system. As the mainboard has the instant power on function, make sure that all components are installed properly before inserting the power supply connector to ensure that no damage will be done.

**- ATX 20-Pin Power Connector: JWR1**

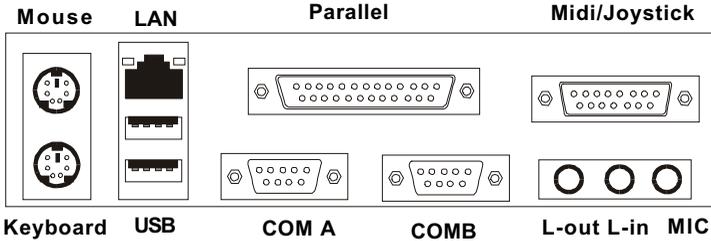
**- ATX 12V Power Connector: JWR2**

These two connectors allow you to connect to ATX power supplies. To connect to the ATX power supplies, make sure the plugs of the power supplies insert in the proper orientation and the pins are aligned. Then push down the power supplies firmly into the connectors.



## Back Panel

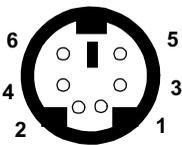
The Back Panel provides the following connectors:



### Mouse Connector

The mainboard provides a standard PS/2<sup>®</sup> mouse mini DIN connector for attaching a PS/2<sup>®</sup> mouse. You can plug a PS/2<sup>®</sup> mouse directly into this connector.

PS/2 Mouse (6-pin Female)



PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection

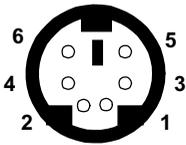
Pin Definition

## Chapter 2

### Keyboard Connector

The mainboard provides a standard PS/2® keyboard mini DIN connector for attaching a PS/2® keyboard. You can plug a PS/2® keyboard directly into this connector.

PS/2 Keyboard (6-pin Female)



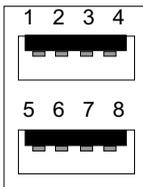
PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

Pin Definition

### USB Connectors

The mainboard provides a UHCI (Universal Host Controller Interface) Universal Serial Bus root for attaching USB devices such as keyboard, mouse or other USB devices. You can plug the USB device directly into this connector.

USB Ports



PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data 0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	-Data 1	Positive Data Channel 1
7	+Data 1	Negative Data Channel 1
8	GND	Ground

USB Port Description

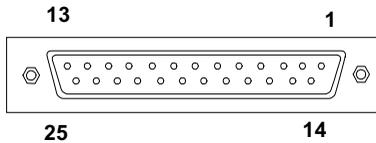
### LAN Port (option)

The mainboard provides a LAN port for connection to Local Area Network (LAN). You can connect the network cable to the LAN port.



## Parallel Port Connector

The mainboard provides a 25 pin female centronic connector for LPT. A parallel port is a standard printer port that also supports Enhanced Parallel Port (EPP) and Extended Capabilities Parallel Port (ECP).



### Pin Definition

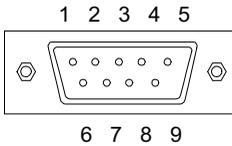
PIN	SIGNAL	DESCRIPTION
1	STROBE	Strobe
2	DATA 0	DATA 0
3	DATA1	Data1
4	DATA2	Data2
5	DATA3	Data3
6	DATA4	Data4
7	DATA5	Data5
8	DATA6	Data6
9	DATA7	Data7
10	ACK#	Acknowledge
11	BUSY	Busy
12	FE	Paper End
13	SELECT	Select
14	AUTOFEED#	Automatic Feed
15	ERR#	Error
16	INIT#	Initialize Printer
17	SLIN#	Select In
18	GND	Ground
19	GND	Ground
20	GND	Ground
21	GND	Ground
22	GND	Ground
23	GND	Ground
24	GND	Ground
25	GND	Ground1

## Chapter 2

### Serial Port Connectors: COM A & COM B

The mainboard has two 9-pin male DIN connectors for serial port COM A & COM B. You can attach a mouse or other serial devices directly into this connector.

9-Pin Male DIN Connectors



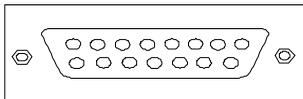
Pin Definition

PIN	SIGNAL	DESCRIPTION
1	DCD	Data Carry Detect
2	SIN	Serial In or Receive Data
3	SOUT	Serial Out or Transmit Data
4	DTR	Data Terminal Ready)
5	GND	Ground
6	DSR	Data Set Ready
7	RTS	Request To Send
8	CTS	Clear To Send
9	RI	Ring Indicate

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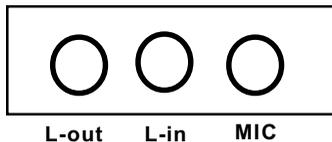
### Midi/Joystick Connectors

You can connect game joysticks or game pads to this 15-pin female connector for playing game. You can also connect MIDI devices for playing or editing professional audio.



### Audio Port Connectors

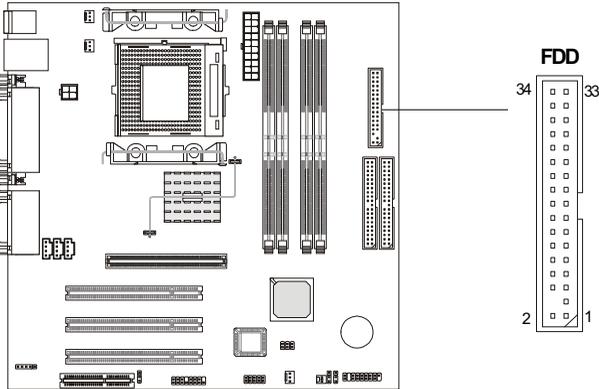
**Line Out** is a connector for headphone or speakers. **Line In** is used for external CD player, tape players or other audio devices to be recorded by your computer or played through the Line Out. **Mic** is a connector for the microphone.



## Connectors

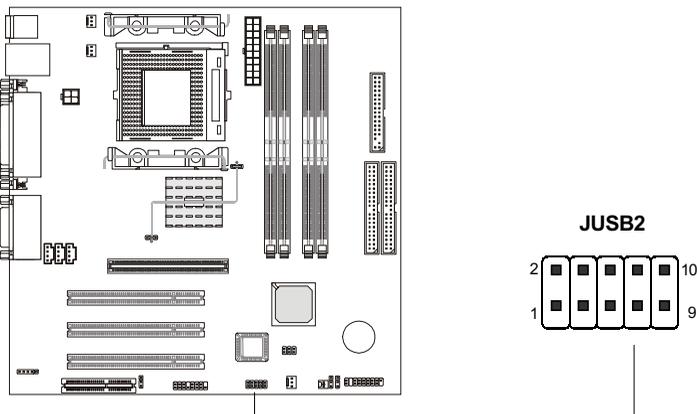
### Floppy Disk Drive Connector: FDD

The mainboard provides a standard floppy disk drive connector that supports 360K, 720K, 1.2M, 1.44M and 2.88M floppy disk types.



### USB Front Connector: JUSB2

The mainboard provides a front Universal Serial Bus connector for you to connect to USB devices.



## Chapter 2

### Hard Disk Connectors: IDE1 & IDE2

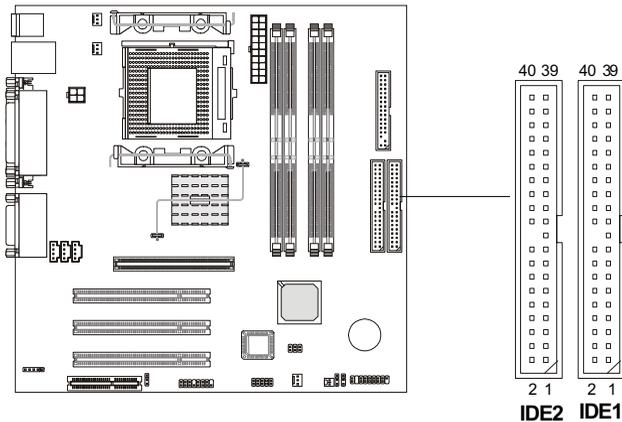
The mainboard has an IDE controller on the VT8233 chipset that provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA66/100 operations modes. It has two HDD connectors IDE1 (Primary) and IDE2 (Secondary). You can connect up to four hard disk drives, CD-ROM or 120MB Floppy to IDE1 and IDE2.

#### IDE1 (Primary IDE Connector)

- The first hard disk drive should always be connected to IDE1. You can connect a Master and a Slave drive to IDE1.

#### IDE2 (Secondary IDE Connector)

- You can connect a Master and a Slave drive to IDE2.

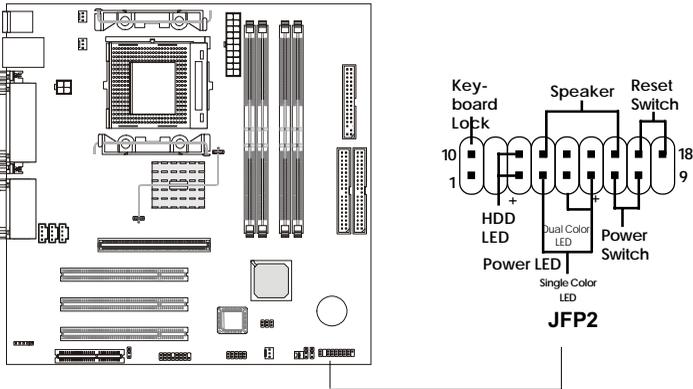


#### TIP:

*If you install two hard disks, you must configure the second drive to Slave mode by setting its jumper accordingly. Refer to the hard disk documentation for the jumper setting.*

## Case Connector: JFP2

The case connector block JFP1 allows you to connect the Power Switch, Reset Switch, Power LED, Speaker, Key Lock and HDD LED.



### Power Switch

Connect to a 2-pin push button switch.

### Reset Switch

Reset switch is used to reboot the system rather than turning the power ON/OFF.

### Power LED

The Power LED is lit while the system power is on. You can connect the Power LED from the system case to this pin. There are two types of LED that you can use: 3-pin single color LED or 2-pin dual color LED (ACPI request).

- 3 pin single color LED connector to pin 4,5 & 6. This LED will lit when the system is on.
- 2 pin dual color LED connector to pin 5 & 6.

GREEN color: Indicate the system is in full on mode.

ORANGE color: Indicate the system is in suspend mode.

### Speaker

Speaker from the system case is connected to this pin.

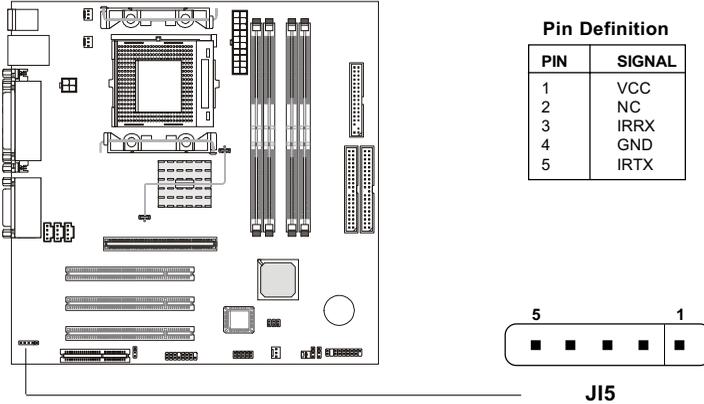
### HDD LED

HDD LED shows the activity of a hard disk drive. Avoid turning the power off while the HDD led is lit. You can connect the HDD LED from the system case to this pin.

## Chapter 2

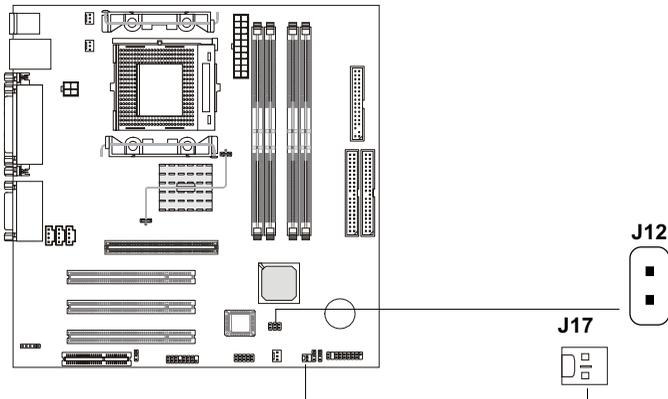
### IrDA Infrared Module Connector: J15

The mainboard provides one infrared (IR) connector for IR modules. This connector is for optional wireless transmitting and receiving infrared module. You must configure the setting through the BIOS setup to use the IR function.



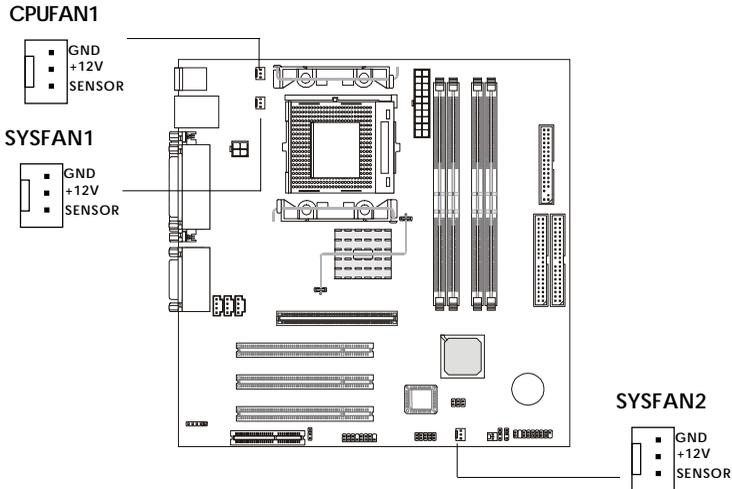
### Chassis Intrusion Switch Connectors: J12/J17(option)

These two connectors are connected to 2-pin chassis switches. If the chassis is opened, the switch will be short. The system will record this status and show a warning message on the screen. To clear the warning, you must enter the BIOS utility and clear the record.



## Fan Power Connectors: CPU FAN1/SYSFAN1/SYSFAN2

The CPUFAN1 (processor fan) and SYSFAN1/2 (system fan) support system cooling fan with +12V. It supports three pin head connector. When connecting the wire to the connector, always take note that the red wire is the positive and should be connected to the +12V, the black wire is Ground and should be connected to GND. As the mainboard has a System Hardware Monitor chipset on-board, you must use a specially designed fan with speed sensor to take advantage of the CPU fan control.



**Note:**

1. Always consult the vendor for proper CPU cooling fan.
2. CPU Fan supports the fan control. You can install the PC Alert utility that will automatically control the CPU Fan speed according to the actual CPU temperature.

## Chapter 2

### AUX Line In Connector

This connector is used for DVD Add on Card with Line In connector.

### CD-In Connector

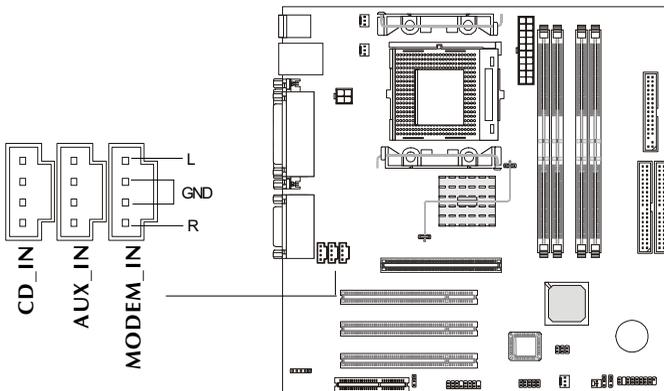
This connector is for CD-ROM audio connector.

### Modem-In

This connector is for Modem with internal voice connector.

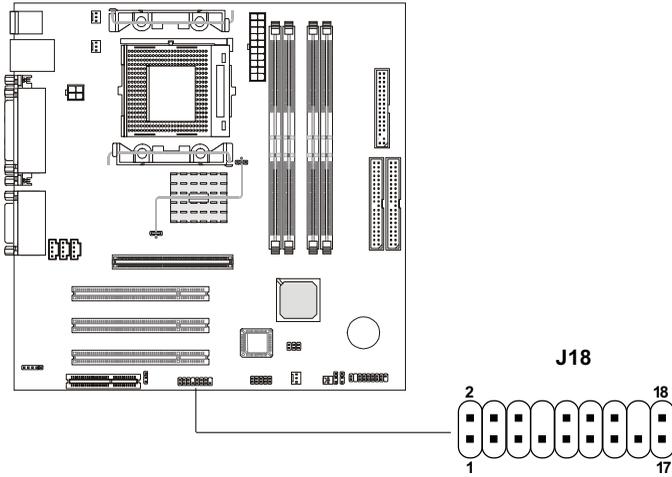
Mono\_Out is connected to the Modem Speaker Out connector.

Phone\_In is connected to the Modem Microphone In connector.



**Front Panel Audio Connector: J18**

This connector allows you to connect to a front panel audio.



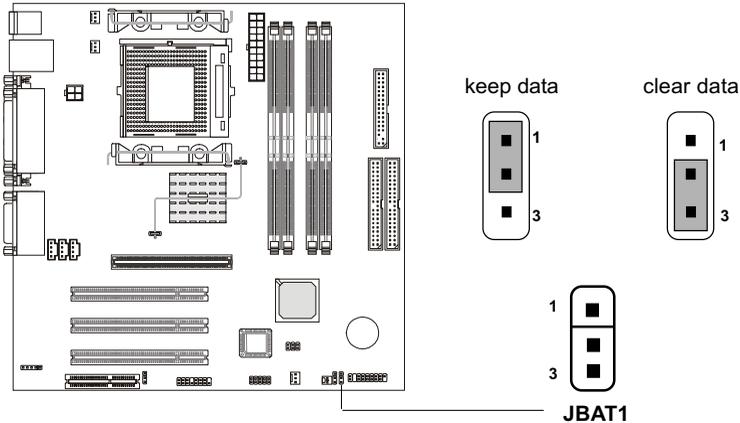
PIN	Description	PIN	Description
1	Active Line Out (R)	2	Active Line Out (L)
3	GND (ALO)	4	GND (ALO)
5	GND (+12)	6	GND (+12)
7	+12V (1A)	8	(Cut)
9	MIC	10	GND (MIC)
11	Front Line Out (R)	12	Line Next (R)
13	Front Line Out (L)	14	Line Next (L)
15	GND (FLO)	16	(Cut)
17	Line In (R)	18	Line In (L)

## Jumpers

The motherboard provides you with the following jumpers to set the computer's function. Besides jumper setting, some of the motherboard's onboard functions are adjusted through the DIP switches. This section will mention how to change your motherboard's function through the use of jumpers and/or switches.

### Clear CMOS Jumper: JBAT1

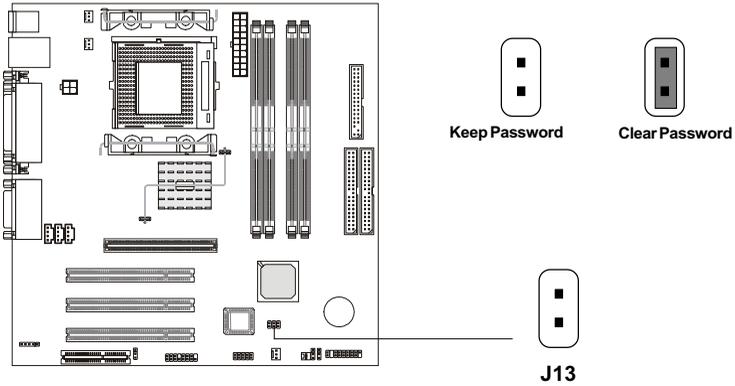
There is a CMOS RAM on board that has a power supply from external battery to keep the data of system configuration. With the CMOS RAM, the system can automatically boot OS every time you turn on the computer. That battery has long life time for at least 5 years. If you want to clear the system configuration, you can use the JBAT1 (Clear CMOS Jumper) to clear data. Follow the steps below to clear the data:



 <b>WARNING!</b>	<p><i>You can clear CMOS by shorting 2-3 pin while the system is off. Then return to 1-2 pin position. Avoid clearing the CMOS while the system is on; it will damage the mainboard.</i></p>
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## Clearing BIOS password Jumper: J13

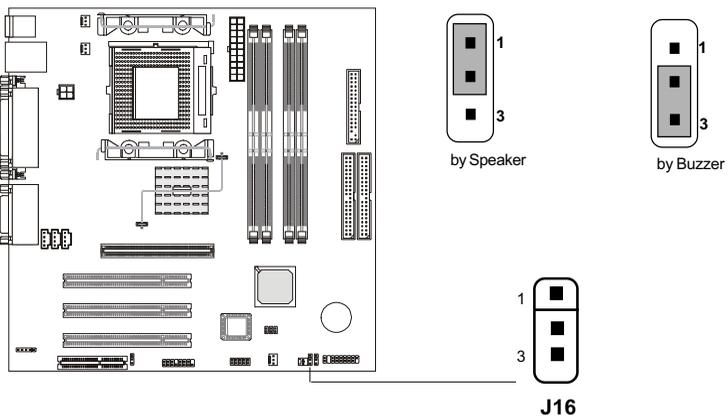
This jumper allows you to clear BIOS password.



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## Beep by Buzzer/Speaker Jumper: J16

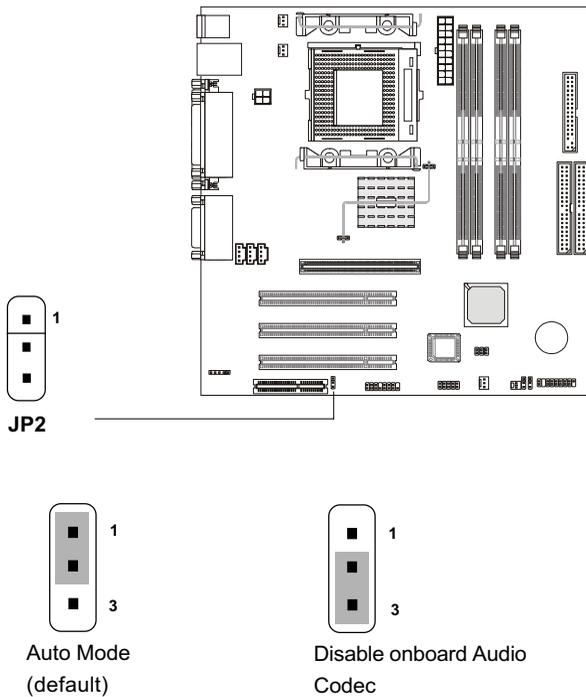
This jumper is used to set the beep by internal Buzzer or external Speaker when starting the system.



## Chapter 2

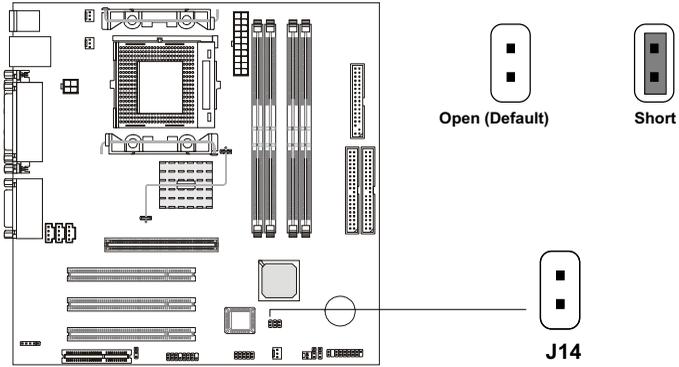
### Onboard Audio Codec Jumper: JP2

The jumper is used to enable or disable the onboard software audio codec. In Auto Mode, the system will use the onboard codec as the PRIMARY audio adapter and the installed CNR card as the SECONDARY one. But some types of CNR cards cannot be set to the secondary one, then the onboard audio codec must be disabled to resolve the system conflict.



## **BIOS Flash Jumper: J14**

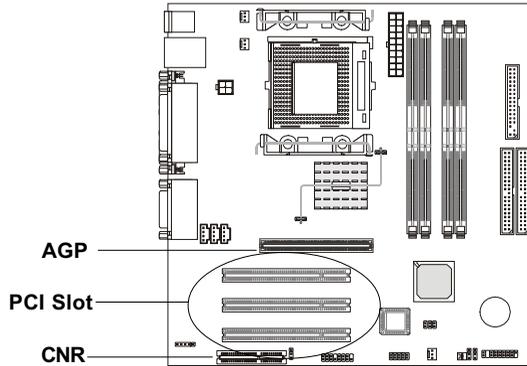
The jumper is used to lock or unlock the boot block area on the BIOS. When unlocked, the BIOS boot block area can be updated. When locked, the area can not be updated.



## Chapter 2

### Slots

The motherboard provides one AGP slot, one CNR (Communication Network Riser) slot and three 32-bit Master PCI Bus Slots.



#### **AGP Slot (Accelerated Graphics Port)**

The AGP Slot allows you to insert AGP graphics cards (only 1.5V AGP cards). AGP is designed specially for the throughput demands of 3-D graphics and introduce a dedicated 32 bits wide channel and runs at 66MHz.

#### **PCI Slot**

The 3 PCI slots allow you to insert the expansion cards according to your needs. When adding or removing expansion cards, make sure that you unplug the power supply. Meanwhile, read the documentation for the expansion card and make any necessary hardware or software settings for the expansion card, such as jumpers, switches or BIOS.

#### **CNR (Communication Network Riser)**

The CNR slot allows you to insert the CNR expansion cards. CNR is a specially designed network, audio, or modem riser card for ATX family motherboards. The processing is done through software setup and controlled by the motherboard's chipset.

---

## **PCI Interrupt Request**

The IRQ, abbreviation of interrupt request line, and pronounced I-R-Q, are hardware lines over which devices can send interrupt signals to the microprocessor. The PCI IRQ pins are typically connected to the PCI bus INTA#-INTD# pins as follows.

	Order1	Order2	Order3	Order4
AGP	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>	<b>INTD</b>
PCI1	<b>INTB</b>	<b>INTC</b>	<b>INTD</b>	<b>INTA</b>
PCI2	<b>INTC</b>	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>
PCI3	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>
Audio	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>
USB1	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>
USB2	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>
USB3	<b>INTD</b>	<b>INTA</b>	<b>INTB</b>	<b>INTC</b>

Audio & USB1,2,3 shared.

---

*AWARD® BIOS Setup***3**

The mainboard uses AWARD® BIOS ROM that provides a Setup utility for users to modify the basic system configuration. The information is stored in a battery-backed CMOS RAM so it retains the Setup information when the power is turned off.

This chapter provides you with the overview of the BIOS Setup program. It contains the following topics:

Entering Setup	3-2
Control Keys	3-2
Getting Help	3-3
The Main Menu	3-4
Standard CMOS Feature	3-6
Advanced BIOS Features	3-9
Advanced Chipset Features	3-13
Integrated Peripherals	3-15
Power Management Setup	3-20
PnP/PCI Configurations	3-24
PC Health Status	3-26
Frequency/Voltage Control	3-28
Load Fail-Safe/Optimized Defaults	3-29
Set Supervisor/User Password	3-30
Save & Exit Setup	3-31
Exit Without Saving	3-33

## Chapter 3

# Entering Setup

---

Power on the computer and the system will start POST (Power On Self Test) process. When the message below appears on the screen, press <DEL> key to enter Setup.

Hit DEL if you want to run SETUP

If the message disappears before you respond and you still wish to enter Setup, restart the system by turning it OFF and On or pressing the RESET button. You may also restart the system by simultaneously pressing <Ctrl>, <Alt>, and <Delete> keys.

## Control Keys

---

<↑>	Move to the previous item
<↓>	Move to the next item
<←>	Move to the item in the left hand
<→>	Move to the item in the right hand
<Enter>	Select the item
<Esc>	Jumps to the Exit menu or returns to the main menu from a submenu
<+ / PU>	Increase the numeric value or make changes
<- / PD>	Decrease the numeric value or make changes
<F1>	General help, only for Status Page Setup Menu and Option Page Setup Menu
<F5>	Restore the previous CMOS value from CMOS, only for Option Page Setup Menu
<F6>	Load the default CMOS value from Fail-Safe default table, only for Option Page Setup Menu
<F7>	Load Optimized defaults
<F10>	Save all the CMOS changes and exit

## Getting Help

---

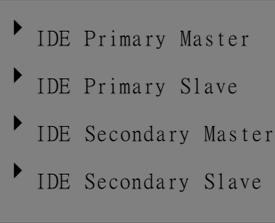
After entering the Setup utility, the first screen you see is the Main Menu.

### Main Menu

The main menu displays the setup categories the BIOS supplies. You can use the arrow keys (↑↓) to select the item. The on-line description for the selected setup category is displayed on the bottom of the screen.

### Sub-Menu

If you find a right pointer symbol appears to the left of certain fields (as shown in the right view), that means a sub-menu containing additional options for the field can be launched from this field. To enter the sub-menu, highlight the field and press <Enter>. Then you can use control keys to move between and change the settings of the sub-menu. To return to the main menu, press <Esc>.



```
▶ IDE Primary Master
▶ IDE Primary Slave
▶ IDE Secondary Master
▶ IDE Secondary Slave
```

### General Help <F1>

The BIOS setup program provides a General Help screen. You can call up this screen from any menu by simply pressing <F1>. The Help screen lists the appropriate keys to use and the possible selections for the highlighted item. Press <Esc> to exit the Help screen.

## Chapter 3

# The Main Menu

---

Once you enter AWARD® BIOS CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu displays eleven configurable functions and two exit choices. Use arrow keys to move among the items and press <Enter> to enter the sub-menu.

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software

▸ Standard CMOS Features	▸ Frequency/Voltage Control
▸ Advanced BIOS Features	Load Fail-Safe Defaults
▸ Advanced Chipset Features	Load Optimized Defaults
▸ Integrated Peripherals	Set Supervisor Password
▸ Power Management Setup	Set User Password
▸ PnP/PCI Configurations	Save & Exit Setup
▸ PC Health Status	Exit Without Saving
ESC : Quit                    F9 : Menu in BIOS                    ↑↓←→ : Select Item	
F10 : Save & Exit Setup	
Time, Date, Hard Disk Type...	

### Standard CMOS Features

Use this menu for basic system configurations, such as time, date etc.

### Advanced BIOS Features

Use this menu to setup the items of Award® special enhanced features.

### Advanced Chipset Features

Use this menu to change the values in the chipset registers and optimize your system's performance.

### Integrated Peripherals

Use this menu to specify your settings for integrated peripherals.

**Power Management Setup**

Use this menu to specify your settings for power management.

**PnP/PCI Configurations**

This entry appears if your system supports PnP/PCI.

**PC Health Status**

This entry displays the current status of your PC.

**Frequency/Voltage Control**

Use this menu to specify your settings for frequency/voltage control.

**Load Fail-Safe Defaults**

Use this menu to load the BIOS default values for the minimal/stable performance of your PC.

**Load Optimized Defaults**

Use this menu to load the default factory settings for BIOS for optimal system performance.

**Supervisor Password**

Use this menu to set Supervisor Password.

**User Password**

Use this menu to set User Password.

**Save & Exit Setup**

Save changes to CMOS and exit setup.

**Exit Without Saving**

Abandon all changes and exit setup.

## Chapter 3

# Standard CMOS Features

---

The items inside Standard CMOS Features menu are divided into 13 categories. Each category includes none, one or more setup items. Use the arrow keys to highlight the item you want to modify and use the <PgUp> or <PgDn> keys to switch to the value you prefer.

CMOS Setup Utility - Copyright(C) 1984-2001 Award Software  
Standard CMOS Features

Date (mm:dd:yy):	Fri, Mar 2 2001	Item Help
Time (hh:mm:ss):	00:00:00	
▶ IDE Primary Master		Menu Level ▶
▶ IDE Primary Slave		
▶ IDE Secondary Master		Change the day, month, year and century
▶ IDE Secondary Slave		
Drive A	1,44 M, 3.5 in.	
Drive B	None	
Video	EGA/VGA	
Halt On	All, But Keyboard	
Base Memory	640K	
Extended Memory	65472K	
Total Memory	1024K	
↑↓ → ←: Move Enter: Select +/-/PU/PD: Value F10: Save ESC: Exit F1: General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

## Date

This allows you to set the system to the date that you want (usually the current date). The format is <day><month> <date> <year>.

- day** Day of the week, from Sun to Sat, determined by BIOS. Read-only.
- month** The month from Jan. through Dec.
- date** The date from 1 to 31 can be keyed by numeric function keys.
- year** The year depends on the year of the BIOS.

**Time**

This allows you to set the system time that you want (usually the current time). The time format is <hour> <minute> <second>.

**IDE Primary Master/Primary Slave/Secondary Master/Secondary Slave**

Press PgUp/<+> or PgDn/<-> to select the hard disk drive type. The specification of hard disk drive will show up on the right hand according to your selection.

IDE Primary Master		Item Help
IDE HDD Auto-Detection	Press Enter	
IDE Primary Master	Auto	Menu Level ▶▶  To auto-detect the HDD's size, head...on this channel
Access Mode	Auto	
Capacity	15021MB	
Cylinder	291024	
Head	16	
Precomp	0	
Landing Zone	29103	
Sector	63	

- Access Mode      The settings are Auto, CHS, LBA and Large.
- Capacity        The formatted size of the storage device.
- Cylinder        Number of cylinders.
- Head             Number of heads.
- Precomp         Write precompensation.
- Landing Zone    Cylinder location of the landing zone.
- Sector            Number of sectors.

**Drive A/B**

This item allows you to set the type of floppy drives installed. Available options are *None*, *360K, 5.25 in.*, *1.2M, 5.25 in.*, *720K, 3.5 in.*, *1.44M, 3.5 in.*, *2.88M, 3.5 in.*. The default value for Floppy Drive A is *1.44M, 3.5 in.*, and for Floppy Drive B is *None*.

## Chapter 3

### Video

The item sets the type of video adapter used for the primary monitor of the system . Available options are *EGA/VGA* , *CGA 40*, *CGA 80* and *Mono*. Default value is *EGA/VGA*.

### Halt On

The item determines whether the system will stop if an error is detected at boot. Available options are:

<i>All Errors</i>	The system stops when any error is detected.
<i>No Errors</i>	The system doesn't stop for any detected error.
<i>All, But Keyboard</i>	The system doesn't stop for a keyboard error.
<i>All, But Diskette</i>	The system doesn't stop for a disk error.
<i>All, But Disk/Key</i>	The system doesn't stop for either a disk or a keyboard error.

## Advanced BIOS Features

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Advanced BIOS Features

Anti-virus Protection	Disabled	Item Help
CPU L1 & L2 Cache	Enabled	
Compatible FPU OPCODE	Disabled	Menu Level ▾  Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.
CPU Fast-Strings	Disabled	
Quick Power On Self Test	Disabled	
First Boot Device	Floppy	
Second Boot Device	HDD-0	
Third Boot Device	LS120	
Boot Other Device	Enabled	
Swap Floppy Drive	Disabled	
Boot Up Floppy Seek	Disabled	
Boot Up Numlock Status	On	
Gate A20 Option	Fast	
Typeomatic Rate Setting	Disabled	
xTypeomatic Rate (Chars/Sec)	6	
xTypeomatic Delay (Msec)	250	
Security Option	Setup	
OS Select for DRAM > 64MB	Non-OS2	
HDD S.M.A.R.T. Capability	Disabled	
BIOS Flash Write Control	Disabled	
↑↓ → ←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

### Anti-Virus Protection

The item is to set the Virus Warning feature for IDE Hard Disk boot sector protection. If the function is enabled and any attempt to write data into this area is made, BIOS will display a warning message on screen and beep. Settings are *Disabled* and *Enabled*. Default value is *Disabled*.

### CPU L1 & L2 Cache

Cache memory is additional memory that is much faster than the conventional DRAM (system memory). When the CPU requests data, the system transfers the requested data from the main DRAM into cache memory, for even faster access by the CPU.

**Enabled** (default) Enable cache

**Disabled** Disable cache

**Note:** The internal cache is built in the processor.

## Chapter 3

### Compatible FPU OPCODE

Setting this bit enables the P6-compatible FPU OPCODE register usage model. Default value: [Disabled]

### CPU Fast-Strings

Setting this bit enables the fast-strings feature on the Willamette family of processors. Default value: [Disabled]

### Quick Power On Self Test

Setting the item to *Enabled* allows the system to shorten boot time since it will skip some check items. Settings are *Enabled* and *Disabled*. Default value is *Disabled*.

### First/Second/Third Boot Device

The items allow you to set the sequence of boot devices where BIOS attempts to load the disk operating system. The settings are:

<i>HDD-0</i>	The system will boot from the first HDD.
<i>HDD-1</i>	The system will boot from the second HDD.
<i>HDD-2</i>	The system will boot from the third HDD.
<i>HDD-3</i>	The system will boot from the fourth HDD.
<i>Floppy</i>	The system will boot from floppy drive.
<i>ZIP100</i>	The system will boot from ATAPI ZIP drive.
<i>LS-120</i>	The system will boot from LS-120 drive.
<i>SCSI</i>	The system will boot from the SCSI.
<i>LAN</i>	The system will boot from the Network drive.
<i>CD-ROM</i>	The system will boot from the CD-ROM.
<i>Disabled</i>	Disable this sequence.

### Boot Other Device

Setting the option to *Enabled* allows the system to try to boot from other device if the system fails to boot from the 1st/2nd/3rd boot device.

### Swap Floppy Drive

Setting to *Enabled* will swap floppy drives A: and B:. Default is *Disabled*.

### Boot Up Floppy Seek

Setting to *Enabled* will make BIOS seek floppy drive A: before booting the

system. Setting options are *Disabled* and *Enabled*. Default is *Enabled*.

### **Boot Up NumLock Status**

This item is to set the Num Lock status when the system is powered on. Setting to *On* will turn on the Num Lock key when the system is powered on. Setting to *Off* will allow end users to use the arrow keys on the numeric keypad. Settings are *On* and *Off*. Default is *On*.

### **Gate A20 Option**

This item is to set the Gate A20 status. A20 refers to the first 64KB of extended memory. When the default value *Fast* is selected, the Gate A20 is controlled by Port92 or chipset specific method resulting in faster system performance. When *Normal* is selected, A20 is controlled by a keyboard controller or chipset hardware.

### **Typematic Rate Setting**

This item is used to enable or disable the typematic rate setting including Typematic Rate & Typematic Delay.

### **Typematic Rate (Chars/Sec)**

After Typematic Rate Setting is enabled, this item allows you to set the rate (characters/second) at which the keys are accelerated. Setting options are *6, 8, 10, 12, 15, 20, 24* and *30*.

### **Typematic Delay (Msec)**

This item allows you to select the delay between when the key was first pressed and when the acceleration begins. Setting options are *250, 500, 750* and *1000*.

### **Security Option**

This category allows you to limit access to the system and Setup, or just to Setup.

<b>System</b>	The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.
<b>Setup(default)</b>	The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

## ***Chapter 3***

### **OS Select for DRAM > 64MB**

This allows you to run the OS/2<sup>®</sup> operating system with DRAM larger than 64MB. When you choose the default value *Non-OS2*, you cannot run the OS/2<sup>®</sup> operating system with DRAM larger than 64MB. But it is possible if you choose *OS2*. Default value is *Non-OS2*.

### **HDD S.M.A.R.T Capability**

This item allows you to Enabled or Disabled the HDD S.M.A.R.T (Self-Monitoring Analysis and Reporting Technology) Capability. The default setting is Disabled.

### **BIOS Flash Write Control**

Setting *Enabled* allows the non-Award flash utility to update BIOS. Default value is *Disabled*.

## Advanced Chipset Features

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Advanced Chipset Features

DRAM Data Integrity Mode	Non-ECC	Item Help
Delayed Transaction	Enabled	Menu Level ▶
AGP Aperture Size (MB)	64	
↑↓ → ←: Move    Enter: Select    +/-/PU/PD: Value    F10: Save    ESC: Exit    F1: General Help F5: Previous Values    F6: Fail-Safe Defaults    F7: Optimized Defaults		

 **Note:** Change these settings only if you are familiar with the chipset.

### DRAM Data Integrity Mode

This option allows you to select the Parity or ECC (Error-Checking and Correcting), according to the type of installed DRAM.

### Delayed Transaction

The chipset has an embedded 32-bit posted write buffer to support delay transactions cycles. Select *Enabled* to support compliance with PCI specification version 2.1. The settings are Enabled and Disabled.

## *Chapter 3*

### **AGP Aperture Size (MB)**

This option determines the effective size of the graphics aperture used in the particular PAC configuration. The AGP aperture is memory-mapped, while graphics data structure can reside in a graphics aperture. The aperture range should be programmed as not cacheable in the processor cache, accesses with the aperture range are forwarded to the main memory, then PAC will translate the original issued address via a translation table that is maintained on the main memory. The option allows the selection of an aperture size of 4MB, 8MB, 16MB, 32MB, 64MB, 128MB and 256MB.

# Integrated Peripherals

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Integrated Peripherals

OnChip Primary PCI IDE	Enabled	Item Help
OnChip Secondary PCI IDE	Enabled	
IDE Primary Master PIO	Auto	Menu Level ▾
IDE Primary Slave PIO	Auto	
IDE Secondary Master PIO	Auto	
IDE Secondary Slave PIO	Auto	
IDE Primary Master UDMA	Auto	
IDE Primary Slave UDMA	Auto	
IDE Secondary Master UDMA	Auto	
IDE Secondary Slave UDMA	Auto	
USB Controller	Enabled	
USB Keyboard Support	Disabled	
Init Display First	AGP	
AC97 Audio	Auto	
AC97 Modem	Auto	
Onboard/CNR LAN selection	Onboard	
IDE HDD Block Mode	Enabled	
Power On Function	BUTTON ONLY	
KB Power On Password	Enter	

Hot Key Power On	Ctrl-F1	
Onboard FDC Controller	Enabled	
Onboard Serial Port 1	3F8/IRQ4	
Onboard Serial Port 2	2F8/IRQ3	
UART Mode Select	Normal	
RxD, TxD Active	Hi, Lo	
IR Transmission Delay	Enabled	
UR2 Duplex Mode	Half	
USE IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	ECP	
EPP Mode Select	EPP 1.7	
ECP Mode use UDMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201	
Midi Port Address	330	
Midi Port IRQ	10	
Power Status Led	Single	

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

## **Chapter 3**

### **OnChip Primary/Secondary PCI IDE**

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select *Enabled* to activate each channel separately. The settings are: Enabled and Disabled.

### **IDE Primary/Secondary Master/Slave PIO**

The four IDE PIO (Programmed Input/Output) fields let you set a PIO mode (0-4) for each of the four IDE devices that the onboard IDE interface supports. Modes 0 through 4 provide successively increased performance. In Auto mode, the system automatically determines the best mode for each device. The settings are: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

### **IDE Primary/Secondary Master/Slave UDMA**

Ultra DMA implementation is possible only if your IDE hard drive supports it and the operating environment includes a DMA driver (Windows 95/98/ME/2000 OSR2 or a third-party IDE bus master driver). If your hard drive and your system software both support Ultra DMA/33, Ultra DMA/66/100 select Auto to enable BIOS support. The settings are Auto and Disabled.

### **USB Controller**

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals. The settings are Enabled and Disabled.

### **USB Keyboard Support**

Select *Enabled* if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard. You can use the USB keyboard under DOS environment. The settings are Enabled and Disabled.

### **Init Display First**

Initialize the AGP video display before initializing any other display device on the system. Thus the AGP display becomes the primary display. The settings are PCI slot and AGP.

### **AC97 Audio**

This item allows you to decide to Enable/Disable the 850 chipset family to support AC97 Audio.

### **AC97 Modem**

This item allows you to Enabled or Disabled the AC97 Modem.

### **Onboard/CNRLAN Selection**

This allows you to select the LAN type “onboard” or “CNR”. Default value: [Onboard]

### **IDE HDD Block Mode**

Block mode is also called block transfer, multiple commands, or multiple sector read/write. If your IDE hard drive supports block mode (most new drives do), select Enabled for automatic detection of the optimal number of block read/writes per interrupt the drive can support. The settings are Enabled and Disabled.

### **Power On Function**

This function allows you to select the item to power on the system. The settings are Button Only, Mouse Left, Mouse Right, Password, Hotkey Power On and Keyboard 98.

### **KB Power on Password**

Normally, this item is unselectable. To Enabled this function choose the “Password” setting in the Power On Function. This will allow you to input the password for the KB Power On.

### **Hot Key Power On**

This allows you to use the hot key to power on the system. Default value: [Ctrl-F1]

### **Onboard FDC Controller**

Select Enabled if your system has a floppy disk controller (FDD) installed on the system board and you wish to use it. If you install add-on FDC or the system has no floppy drive, select Disabled in this field.

The settings are: Enabled and Disabled.

## ***Chapter 3***

### **Onboard Serial Port1/2**

Select an address and corresponding interrupt for the first and second serial ports. The settings are: 3F8/IRQ4, 2E8/IRQ3, 3E8/IRQ4, 2F8/IRQ3, Disabled, Auto.

### **UART Mode Select**

This item allows you to determine which InfraRed(IR) function of the onboard I/O chip, this functions uses.

### **RxD, TxD Active**

This item allows you to determine the active of RxD, TxD. The settings are “Hi,Hi”, “Lo,Lo”, “Lo,Hi” and “Hi,Lo”.

### **IR Transmission Delay**

This item allows you to Enabled/Disabled the IR transmission delay. The settings are Enabled or Disabled.

### **UR2 Duplex Mode**

This item allows you to select the IR half.full duplex function. The settings are Half and Full.

### **Use IR Pins**

Consult your IR peripheral documentation to select the correct setting pf the TxD and RxD signals.

### **Onboard Parallel Port**

Select a logical LPT port address and corresponding interrupt for the physical parallel port.

### **Parallel Port Mode**

To operate the onboard parallel port as Standard Parallel Port only, choose “SPP.” To operate the onboard parallel port in the EPP modes simultaneously, choose “EPP.” By choosing “ECP”, the onboard parallel port will operate in ECP mode only. Choosing “ECP + EPP” will allow the onboard parallel port to support both the ECP and EPP modes

simultaneously. The ECP mode has to use the DMA channel, so choose the onboard parallel port with the ECP feature. After selecting it, the following message will appear: “ECP Mode Use DMA” At this time, the user can choose between DMA channels 3 or 1. The onboard parallel port is EPP EPP function, the following message will be displayed on the screen: “EPP Mode Select.” At this time either EPP 1.7 spec. or EPP 1.9 spec. can be chosen.

**SPP:** Standard Parallel Port

**EPP:** Enhanced Parallel Port

**ECP:** Extended Capability Port

### **EPP Mode Select**

This allows you to select the EPP port type 1.7 or 1.9 as required by your parallel peripheral.

### **ECP Mode Use DMA**

This option allows you to select a DMA channel for the parallel port in ECP mode. Setting options: [1] [3]. Default value: [3]

### **PWRON After PWR-FAIL**

This option will determine how the system will power on after a power failure.

### **Game Port Address/Midi Port Address**

This will determine which Address the Game Port/Midi Port will use.

### **Midi Port IRQ**

This determines the IRQ in which the MIDI Port can use.

### **Power Status LED**

This item determines which state the Power LED will use. The settings are Blinking (default), Dual, and Single. During blinking, the power LED will blink when the system enters the suspend mode. When the mode is in Dual, the power LED will change its color. Choose the single and the power LED will always remain lit.

## Chapter 3

# Power Management Setup

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Power Management Setup

IPCA Function	Enabled	Item Help
ACPI Suspend Type	S1 (POS)	
Power Management	User Define	
Video Off Method	DPMS	Menu Level ▶
Video Off In Suspend	Yes	
Modem Use IRQ	3	
Suspend Mode	Disabled	
HDD Power Down	Disabled	
Soft-Off by PWR-BTTN	Instant-Off	
Wake-Up by PCI Card	Disabled	
Power On by Ring	Enabled	
CPU Thermal-Throttling	50%	
Resume By Alarm	Disabled	
xDate (of Month) Alarm	0	
xTime (hh:mm:ss) Alarm	0 0 0	
**Reload Global Timer Events**		
Primary IDE 0	Disabled	
Primary IDE 1	Disabled	
Secondary IDE 0	Disabled	
Secondary IDE 1	Disabled	
FDD, COM, LPT Port	Disabled	
PCIPIRQ[A-D]#	Disabled	
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

### IPCA Function

This item is to activate the ACPI (Advanced Configuration and Power Management Interface) Function. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

### **ACPI Suspend Type**

This item will set which ACPI suspend type will be used.

#### **S1 (POS)**

The S1 sleeping state is low wake-up latency sleeping state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.

#### **S3 (STR)**

The S3 state is a low wake-up latency sleeping state where all system context is lost except system memory. CPU, cache, and chipset context are lost in this state. Hardware maintains memory context and restores some CPU and L2 configuration context.

### **Power Management**

This category allows you to select the type (or degree) of power saving and is directly related to the following modes:

1. Suspend Mode
2. HDD Power Down

There are three selections for Power Management, two of which have fixed mode settings.

Min. Power Saving                      Minimum power management. Suspend Mode = 1 hr., and HDD Power Down = 15 min.

Max. Power Saving                      Maximum power management — Suspend Mode = 1 min., and HDD Power Down = 1 min.

User Defined (default)                Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

### **Video Off Method**

This determines the manner in which the monitor is blanked.

V/HSYNC+Blank                      This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.

Blank Screen                            This option only writes blanks to the video buffer.

DPMS (default)                        Initial display power management signaling.

## **Chapter 3**

### **Video Off In Suspend**

This determines the manner in which the monitor is blanked.

The settings are Yes and No.

### **Modem Use IRQ**

This determines the IRQ in which the MODEM can use.

The settings are 3, 4, 5, 7, 9, 10, 11 and NA.

### **Suspend Mode**

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off. The settings are 1/2/4/8/12/20/30/40 Min, 1 Hour and Disabled.

### **HDD Power Down**

When enabled and after the set time of system inactivity, the hard disk drive will be powered down while all other devices remain active.

The settings are: 1/2/3/4/5/6/7/8/9/10/11/12/13/14/15Min and Disabled.

### **Soft-Off by PWR-BTTN**

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state. The settings are Delay 4 Sec and Instant-Off.

### **Wake-Up by PCI Card**

This will enable the system to wake up through PCI Card peripheral. The settings are Enabled and Disabled.

### **Power On by Ring**

During Disabled, the system will ignore any incoming call from the modem.

During Enabled, the system will boot up if there's an incoming call from the modem.

### **CPU Thermal-Throttling**

Select the CPU THRM-Throttling rate. The settings are: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

**Resume by Alarm**

This function is for setting date and time for your computer to boot up. During Disabled, you cannot use this function. During Enabled, choose the Date and Time Alarm:

**Date(of month) Alarm**      You can choose which month the system will boot up. Set to 0, to boot every day.

**Time(hh:mm:ss) Alarm**      You can choose what hour, minute and second the system will boot up.

**Note:** If you have change the setting, you must let the system boot up until it goes to the operating system, before this function will work.

**Reload Global Timer Events**

Reload Global Timer 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 which occurs to a device which is configured as *Enabled* , even when the system is in a power down mode.

- Primary IDE 0**
- Primary IDE 1**
- Secondary IDE 0**
- Secondary IDE 1**
- FDD, COM, LPT Port**
- PCI PIRQ[A-D] #**

## Chapter 3

# PnP/PCI Configurations

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CMOS Setup Utility - Copyright(C) 1984-2000 Award Software  
PnP/PCI Configurations

Reset Configuration Data	Disabled	Item Help
Resources Controlled By xIRQ Resources	Auto (ESCD) Press Enter	Menu Level ▶
PCI/VGA Palette Snoop	Disabled	Select Yes if you are using a Plug and Play capable operation system Select No if you need the BIOS to configure non-boot devices
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

### Reset Configuration Data

The ESCD (Extended System Configuration Data) is a method that the BIOS uses to store resource information for both PNP and non PNP devices in a bit string format. When *Enabled*, the system will re-built ESCD and you will see the message “ESCD Update Successfully” on boot up.

### Resources Controlled By

If select *Auto(ESCD)*, BIOS will automatically configure all the boot and PnP (Plug & Play) compatible devices and assigns system resources like IRQ to these devices. However, this feature means absolutely nothing unless you are using a Plug and Play operating system such as Windows®95/98. If you want to configure by yourself, select *Manual*. Default is *Auto(ESCD)*.

**IRQ Resources**

This item is adjustable only when **Resources Controlled By** is set to *Manual*. Press <Enter> and you will enter the sub-menu of this item. The item lists IRQ3 ~ 15 and allows you to set each IRQ a type depending on the type of device using the IRQ. Settings are *PCI Device* and *Reserved*.

**PCI/VGA Palette Snoop**

When set to *Enabled*, multiple VGA devices operating on different buses can handle data from the CPU on each set of palette registers on every video device. Bit 5 of the command register in the PCI device configuration space is the VGA Palette Snoop bit (0 is disabled). For example, if there are two VGA devices in the computer (one PCI and one ISA) and the:

<b>VGA Palette Snoop Bit Setting</b>	<b>Action</b>
<i>Disabled</i>	Data read or written by the CPU is only directed to the PCI VGA device's palette registers.
<i>Enabled</i>	Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette registers of both VGA devices to be identical.

The setting must be set to *Enabled* if any ISA adapter card installed in the system requires VGA palette snooping. The Setup and BIOS default values are *Disabled*.

## Chapter 3

# PC Health Status

This section is to monitor the current hardware status including CPU temperature, CPU Fan speed, Vcore etc. This is available only if there is hardware monitoring onboard.

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software  
PC Health Status

CPU Warning Temperature	Disabled	Item Help
Current System Temp.		Menu Level ▶
Current CPU Temperature		
Current SYSTEM Fan		
Current CPU Fan		
Vcore		
VTT		
3.3 V		
+ 5 V		
+ 12V		
-12 V	-	
- 5 V	-	
VBAT(V)		
5VSB(V)		
Chassis Intrusion Detect	Disabled	
Shutdown Temperature	Disabled	
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

### CPU Warning Temperature

This item is used to specify a thermal standard for CPU. If CPU temperature reaches the specified standard, the system will issue a warning and allows you to prevent the CPU overheat problem. Settings are *Disabled*, *50°C/122°F*, *53°C/127°F*, *56°C/133°F*, *60°C/140°F*, *63°C/145°F*, *66°C/151°F* and *70°C/158°F*. Default is *Disabled*.

### Current System Temp, Current CPU Temperature, Current System Fan/ CPU Fan, Vcore, VTT, 3.3/+ 5/+ 12/- 12/- 5V, VBAT(V), 5VSB(V)

These items display the current status of all of the monitored hardware devices/components such as CPU voltages, temperatures and fans's speed.

**Chassis Intrusion Detect**

This function allows you to detect the chassis intrusion. If you set “Enabled”, any intrusion on the system chassis will be recorded. The next time you turn on the system, it will show a warning message. To be able to clear those warnings, choose “Reset”. After clearing the message it will go back to “Enabled”. Default value “Disabled”.

**Shutdown Temperature**

The item allows the ACPI aware OS to automatically shutdown if the system temperature reaches a thermal level specified here. This can prevent the system components from being damaged due to overheat. Settings are *Disabled, 80°C/176°F, 85°C/185°F, 90°C/194°F*. Default is *Disabled*.

## Chapter 3

# Frequency/Voltage Control

---

CMOS Setup Utility - Copyright(C) 1984-2000 Award Software  
Frequency/Voltage Control

CPU Clock Ratio	x 8(Safe)	Item Help
		Menu Level ▸
↑↓→←:Move Enter:Select +/-/PU/PD:Value F10:Save ESC:Exit F1:General Help F5:Previous Values F6:Fail-Safe Defaults F7:Optimized Defaults		

### CPU Clock Ratio

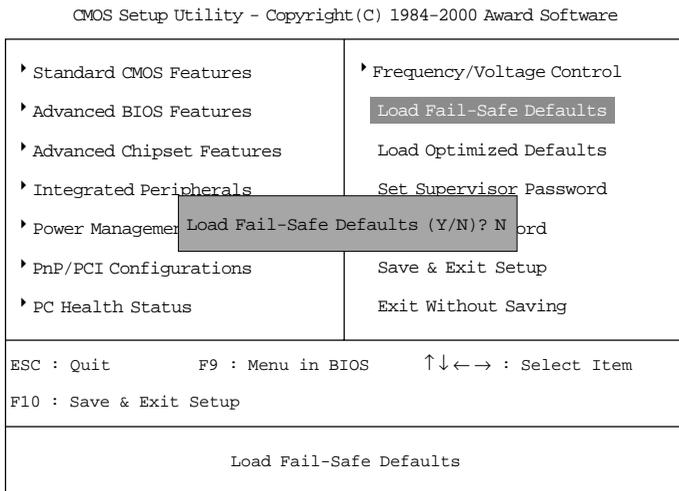
The CPU Clock Ratio provides flexibility for overclockers from x8(safe), x10, x11, x12, x13, x14, x15, x16, x17, x18, x19, x20, x21, x22, x23 to x24.

**Note:** Most of the Pentium® 4 processor doesn't support clock ratio adjustment. Always consult your reseller for further instructions.

## Load Fail-Safe/Optimized Defaults

The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for the optimal performance of the mainboard. The Fail-Safe Defaults are the default values set by the BIOS vendor for the stable system performance.

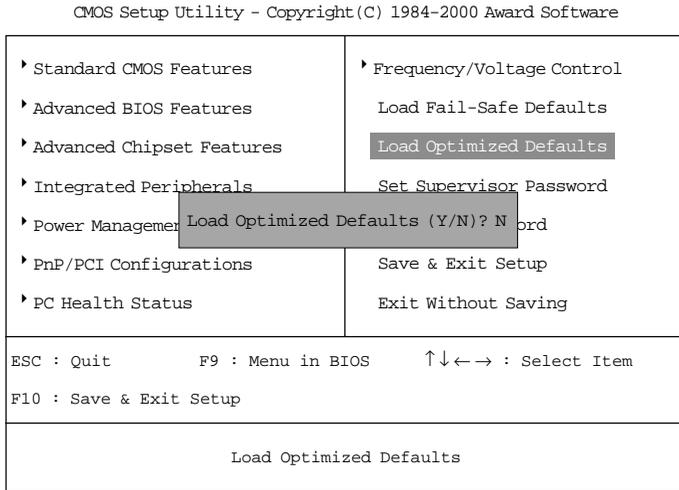
When you select Load Fail-Safe Defaults, a message as below appears:



Pressing Y loads the BIOS default values for the most stable, minimal system performance.

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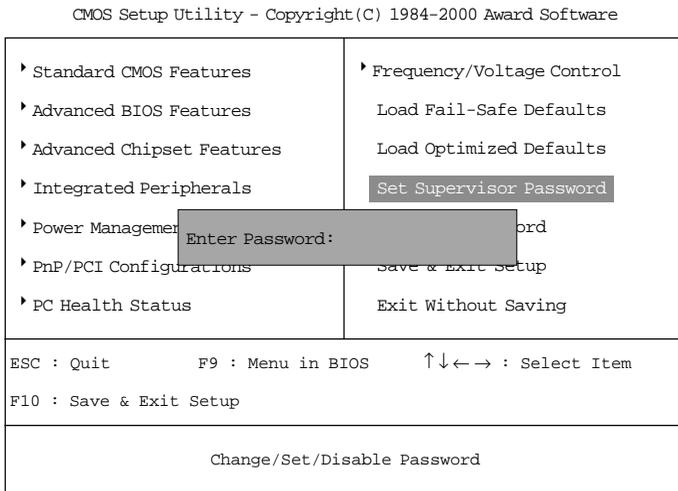
When you select Load Optimized Defaults, a message as below appears:



Pressing *Y* loads the default factory settings for optimal system performance.

## Set Supervisor/User Password

When you select this function, a message as below will appear on the screen:



Type the password, up to eight characters in length, and press <Enter>. The password typed now will clear any previously set password from CMOS memory. You will be prompted to confirm the password. Re-type the password and press <Enter>. You may also press <Esc> to abort the selection and not enter a password.

To clear a set password, just press <Enter> when you are prompted to enter the password. A message will show up confirming the password will be disabled. Once the password is disabled, the system will boot and you can enter Setup without entering any password.

When a password has been set, you will be prompted to enter it every time you

## ***Chapter 3***

try to enter Setup. This prevents an unauthorized person from changing any part of your system configuration.

Additionally, when a password is enabled, you can also have BIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the Security Option of the Advanced BIOS Features menu. If the Security Option is set to *System*, the password is required both at boot and at entry to Setup. If set to *Setup*, password prompt only occurs when trying to enter Setup.

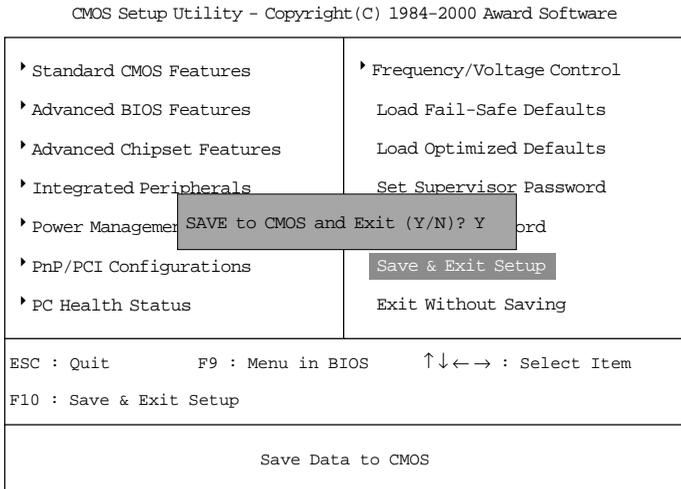
### ***About Supervisor Password & User Password:***

*Supervisor password :* Can enter and change the settings of the setup menus.

*User password:* Can only enter but do not have the right to change the settings of the setup menus

## Save & Exit Setup

When you want to quit the Setup menu, you can select this option to save the changes and quit. A message as below will appear on the screen:



Typing “Y” will allow you to quit the Setup Utility and save the user setup changes to RTC CMOS.

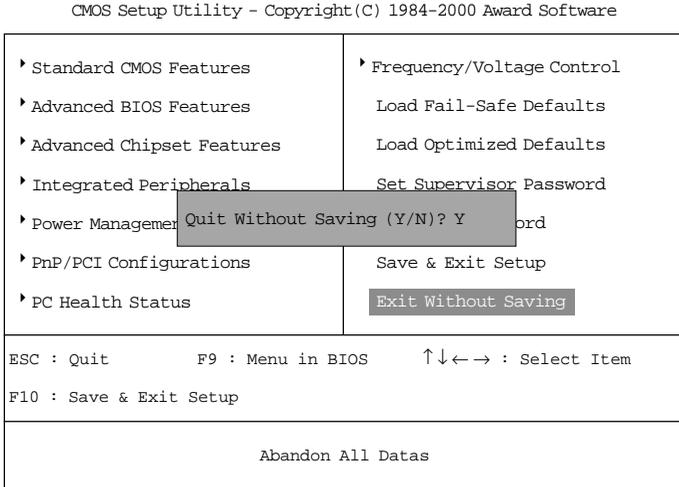
Typing “N” will return to the Setup Utility.

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# Exit Without Saving

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When you want to quit the Setup menu, you can select this option to abandon the changes. A message as below will appear on the screen:



Typing “Y” will allow you to quit the Setup Utility without saving any changes to RTC CMOS.

Typing “N” will return to the Setup Utility.