Introduction 1

The MS6382 MICRO ATX mainboard is a high performance computer mainboard based on **KT266/VT8366 and VT8233** chipset. The KT266 chipset is ideal for high quality and high integration desktop and notebook AGP/PCI/LPC computer systems based on Socket A processors.

The VT8366 Host system controller provides superior perfromance between CPU, DRAM, AGP bus, and V-Link bus with pipelined, burst, and concurrent operation. The VT8233 V-Link Client controller is a highly integrated PCI/LPC controller. It supports five PCI slots of arbitration and decoding for all integrated functions and LPC bus.

For sophisticated power management, the Apollo KT266 chipset provides independent clock stop control for the CPU/SDRAM, PCI, and AGP buses and Dynamic CKE control for powering down of the SDRAM. A seperate suspend-well plane is implemented for the SDRAM control signals for the Suspend-to-DRAM operation.

Chapter 1 contains the following topics:

Mainboard Specifications

CPU

- Socket A for AMD® Duron™/Athlon™ processor.
- Support 600MHz up to 1.5GHz processor

Chipset

- VIA® VT8366 chipset. (552 BGA)
  - FSB @200/266MHz
  - AGP 4x and high bandwidth Vlink host controller
  - Advanced memory controller support PC200/266 DDR technology
- VIA® VT8233 chipset. (376 BGA)
  - High bandwidth Vlink client controller
  - Integrated faster Ethernet controller
  - Direct sound ready AC97 digital audio controller
  - Ultra DMA 33/66/100 master mode EIDE controller
  - Support both ACPI and legacy APM power management

Clock Generator

- 100MHz/133MHz clocks are supported.

Main Memory

- Support four memory banks using two 184-pin DDR DIMM
- Support a maximum memory size of 2GB

Slots

- One (Accelerated Graphics Port) AGP slot.
  - AGP specification compliant
  - Support AGP 2.0 1x/2x/4x
- One CNR (Communication Network Riser) slot.
- Three 32-bit Master PCI Bus slots
- Supports 3.3v/5v PCI bus Interface.

On-Board IDE

- Dual Channel master mode IDE controller on the VIA® VT8233 Chipset provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA 33/66/100 operation modes.
- Can connect up to four IDE devices.

Audio

- Chip Integrated
  - Direct Sound AC97 Audio
- CT5880 Hardware Audio (Option)

On-Board Peripherals

- On-Board Peripherals include:
  - 1 floppy port supports 2 FDD with 360K, 720K, 1.2M, 1.44M and 2.88Mbytes.
  - 2 serial ports (COMA + COM B)
  - 1 parallel port supports SPP/EPP/ECP mode
  - 6 USB ports (2 Rear Connectors/ 2 USB Front Pin Headers - 4 ports)
  - 1 IrDA connector for SIR/ASKIR/HPSIR.
  - 1 Audio/Game port

BIOS

- The mainboard BIOS provides "Plug & Play" BIOS which detects the peripheral devices and expansion cards of the board automatically.
- The mainboard provides a Desktop Management Interface (DMI) function which records your mainboard specifications.

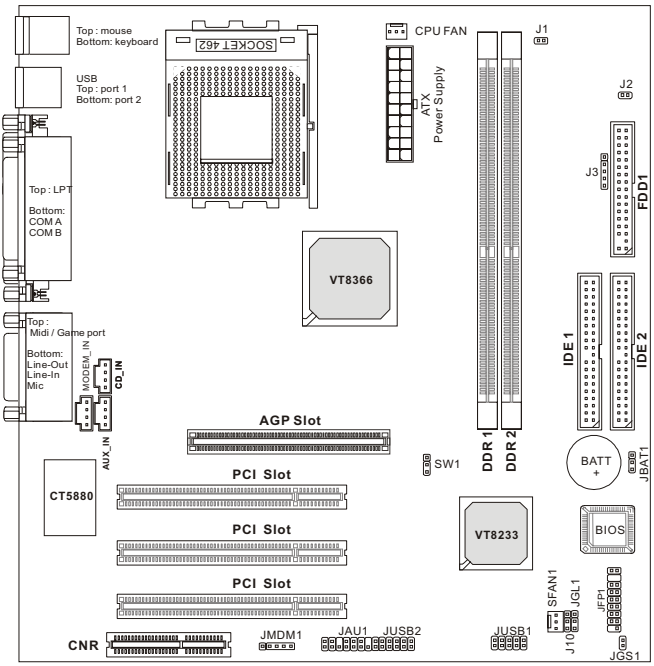
Dimension

- ATX Form Factor: 24.3cm x 23.4cm

Mounting

- 6 mounting holes.

Mainboard Layout



MS-6382 MICRO ATX Mainboard

Quick Components Guide

Component	Function	Reference
Socket 462	Installing CPU	p. 2-2
DDR1~2	Installing memory module	p. 2-4
ATX Power Supply	Installing power supply	p. 2-6
FDD1	Connecting to floppy disk drive	p. 2-11
J2	Inserting thermistor	p. 2-11
IDE1 & IDE2	Connecting to HDD drive	p. 2-12
JFP1	Connecting to case	p. 2-13
JMDM1	Connecting to modem card	p. 2-14
J1	Connecting to chassis intrusion switch	p. 2-14
CPUFAN	Connecting to processor fan	p. 2-15
SYSFAN	Connecting to system fan	p. 2-15
JUSB1 & 2	Connecting to USB devices	p. 2-17
JAU1	Connecting to Front Panel Audio	p. 2-18
JGL1	Connecting to powering saving LED	p. 2-19
JGS1	Connecting to power saving switch	P. 2-20
J3	Connecting to IR module	p. 2-20
JBAT1	Setting clear CMOS	P. 2-21
SW1	Setting CPU FSB	P. 2-22
J10	Setting Beep on Buzzer or Speaker	p. 2-22
AGP	Inserting AGP graphics card	p. 2-23
PCI Slot	Inserting expansion cards	p. 2-23
CNR	Inserting CNR card	p. 2-23

Key Features

- Micro ATX Form Factor with PC99 color connector
- Support Accelerated Graphic Port (AGP) Add-On Card
- Support AMD® PGA Socket A Duron/Athlon processors at 200/ 266MHz System Bus Frequencies
- Chip Integrated Audio (CT5880 hardware option)
- PC Alert System Hardware Monitor
- Support DMI (Desktop Management Interface) through BIOS
- LAN Wake Up Function
- Modem (Internal/External) Ring Wake Up Function
- Support PCI 2.2
- Suspend to RAM/Disk

MSI Special Features

The MSI special features are designed by MSI R&D which are only available in MSI mainboards. The 6382 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
  - Doctor Y2K diagnoses Y2K problems
  - BusRacing function adjusts F.S.B under Windows 95/98
  - MoSpeed speeds up your modem transmission

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.

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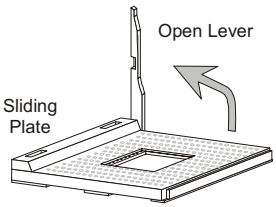
This chapter contains the following topics:

Central Processing Unit: CPU

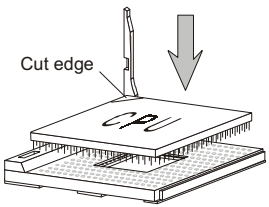
The mainboard supports AMD® Duron™ / Athlon processors. The mainboard uses a CPU socket called Socket A for easy CPU installation. Make sure that the CPU has a Heat Sink and a cooling fan attached to prevent overheating. If you do not find the Heat Sink and cooling fan, contact your dealer or purchase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

CPU Installation Procedures

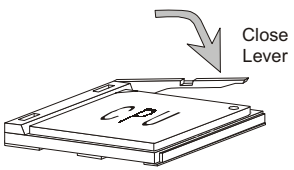
1. Pull the lever sideways away from the socket. Then, raise the lever up to a 90-degree angle.



2. Look for the cut edge. The cut edge should point towards the lever pivot. 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.*

CPU Core Speed Derivation Procedure

The mainboard can not automatically set the CPU Host Bus Frequency Clock. Please refer to 2-22 “SW1” for the manual setting.

If	CPU Clock	=	100MHz (set by SW1)
	Core/Bus ratio	=	7
then	CPU core speed	=	Host Clock x Core/Bus ratio
		=	100MHz x 7
		=	700MHz

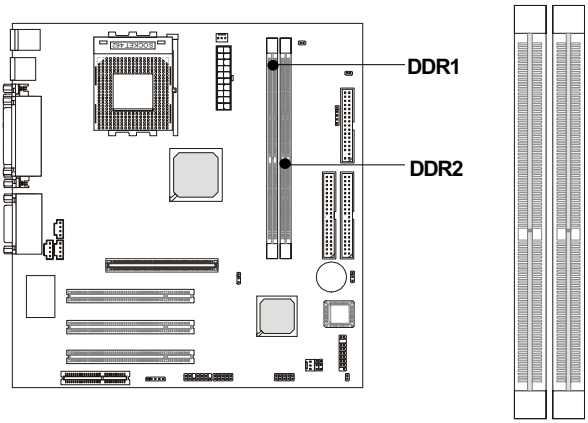
WARNING!

OVERCLOCKING

The motherboard are designed to support overclocking. Make sure your components are able to tolerate such abnormal setting while doing overclocking. Any attempt to operate beyond product specifications is not recommended. ***We do not guarantee the damages or risks caused by inadequate operation or beyond product specification.***

Memory Installation

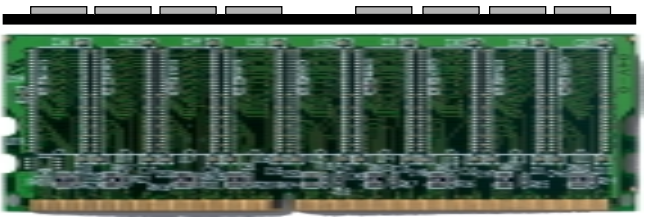
The mainboard provides 2 sockets for 184-pin single or double side DDR memory modules. To operate properly, at least one DDR module must be installed. The mainboard supports the memory size from 32MB to 2 GB.



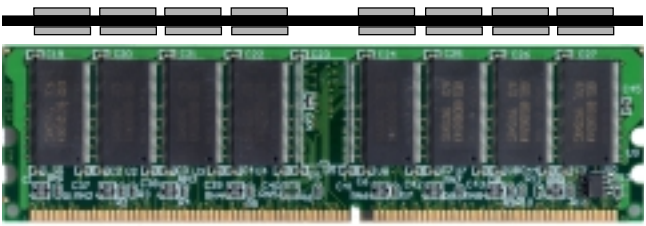
You can install memory modules in any combination as follows:

Socket	Memory Module	Total Memory
Socket 1 (Bank 0 & Bank 1)	32MB, 64MB, 128MB, 256MB, 512MB	32MB~512MB
Socket 2 (Bank 2 & Bank 3)	32MB, 64MB, 128MB, 256MB, 512MB	32MB~512MB
Total System Memory		32MB~2GB

Installing DDR Module



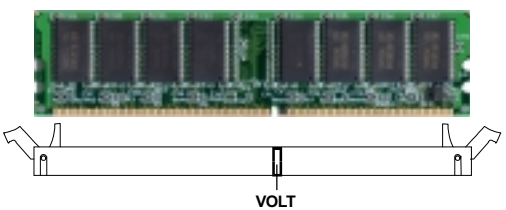
Single Sided DDR Module



Double Sided DDR Module

1. The DDR slot has 2 Notch Keys “VOLT and DRAM”, so the DDR memory module can only fit in one direction.

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



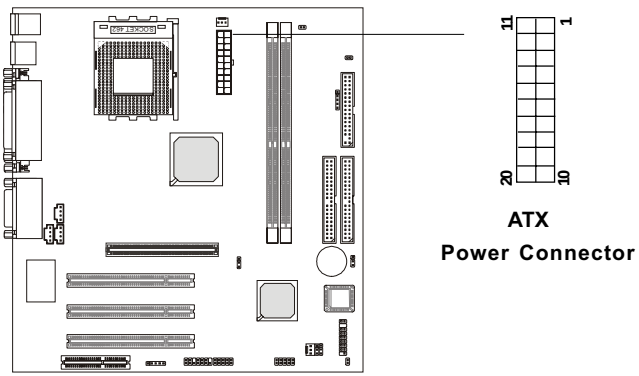
3. The plastic clip at the side of the DDR slot will automatically close.

Power Supply

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.

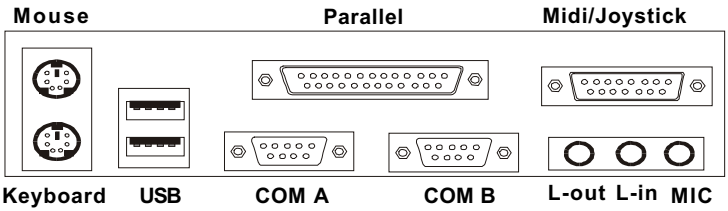
ATX 20-Pin Power Supply

This connector allows you to connect to an ATX power supply. To connect to the ATX power supply, make sure the plugs of the power supply insert in the proper orientation and the pins are aligned. Then push down the power supply firmly into the connector.



Back Panel

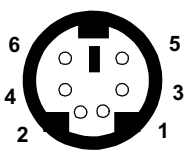
The Back Panel provides the following connectors:



Mouse Connector

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

PS/2 Mouse (6-pin Female)



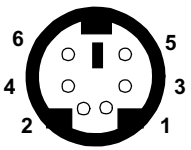
PIN	SIGNAL	DESCRIPTION
1	Mouse DATA	Mouse DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Mouse Clock	Mouse clock
6	NC	No connection

Pin Definition

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)



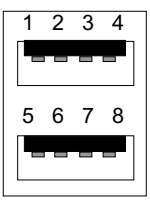
PIN	SIGNAL	DESCRIPTION
1	Keyboard DATA	Keyboard DATA
2	NC	No connection
3	GND	Ground
4	VCC	+5V
5	Keyboard Clock	Keyboard clock
6	NC	No connection

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

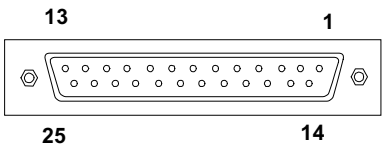


PIN	SIGNAL	DESCRIPTION
1	VCC	+5V
2	-Data 0	Negative Data Channel 0
3	+Data0	Positive Data Channel 0
4	GND	Ground
5	VCC	+5V
6	-Data 1	Positive Data Channel 1
7	+Data 1	Negative Data Channel 1
8	GND	Ground

USB Port Description

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).



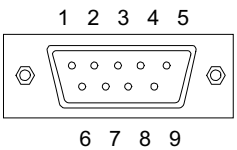
Pin Definition

PIN	SIGNAL	DESCRIPTION
1	STROBE	Strobe
2	DATA0	Data0
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	PE	Paper End
13	SELECT	Select
14	AUTO FEED#	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

Serial Port Connectors: COM A & COM B

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

9-Pin Male DIN Connectors

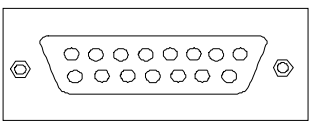


Pin Definition

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

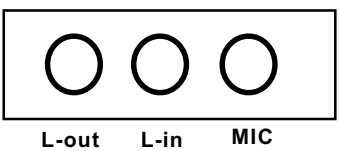
Joystick/Midi Connectors

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

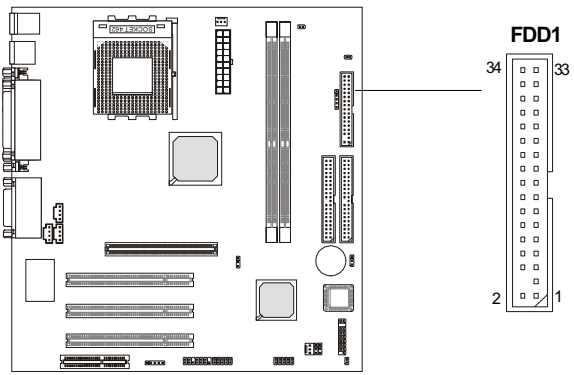
Line Out is a connector for headphone or speakers. **Line In** is used for external CD player, tape players or other audio devices to be recorded by your computer or played through the Line Out. **Mic** is a connector for the microphone.



Connectors

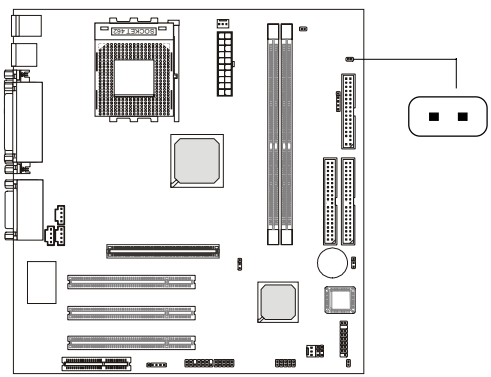
Floppy Disk Drive Connector: FDD1

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



Top Tech III: J2

The mainboard provides a 2-pin connector which can be inserted with a 20cm length thermistor. The BIOS setup for "Top Tech III" should be set to "Enable" if you want to use the thermistor to detect the component's temperature.



20CM length Thermistor

Hard Disk Connectors: IDE1 & IDE2

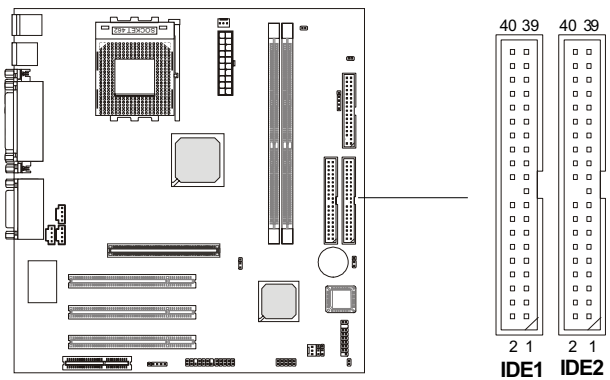
The mainboard has an IDE controller on the VT8233 chipset that provides IDE HDD/CD-ROM with PIO, Bus Master and Ultra DMA66/100 operations modes. It has two HDD connectors IDE1 (Primary) and IDE2 (Secondary). You can connect up to four hard disk drives, CD-ROM or 120MB Floppy to IDE1 and IDE2.

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.

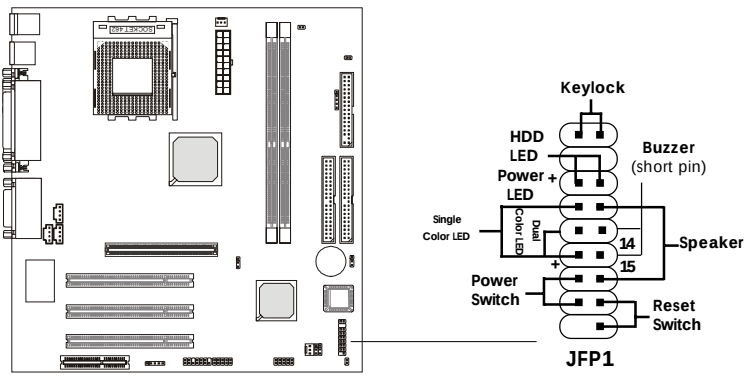


TIP:

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: JFP1

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. Avoid rebooting while the HDD LED is lit. You can connect the Reset switch from the system case to this pin.

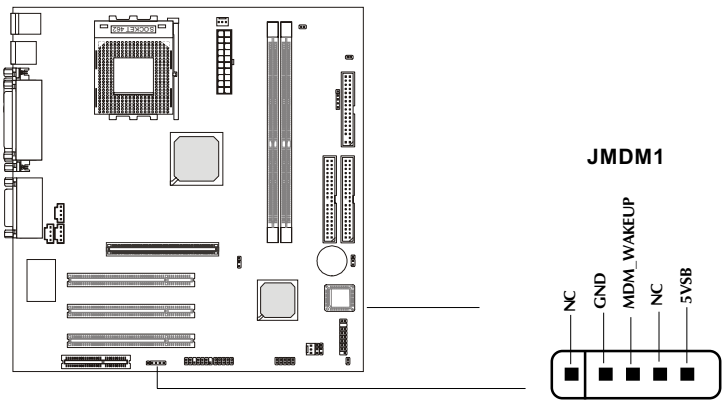
Power LED
The Power LED is lit while the system power is on. You can connect the Power LED from the system case to this pin. There are two types of LED that you can use: 3-pin single color LED or 2-pin dual color LED (ACPI request).
a. 3 pin single color LED connector to pin 4,5 & 6. This LED will lit when the system is on.
b. 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.
If on-board Buzzer is available:
Short pin 14-15: On-board Buzzer Enabled.
Open pin 14-15: On-board Buzzer Disabled.

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.

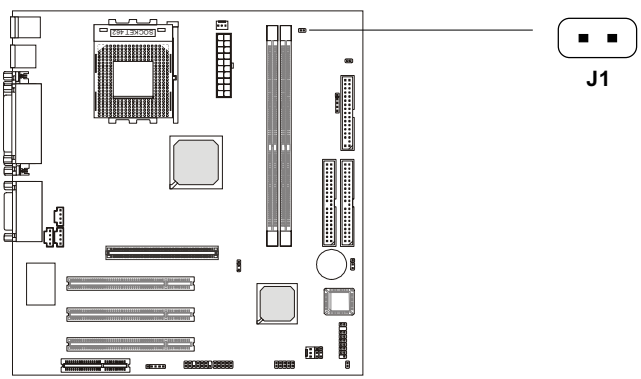
Wake On Ring Connector: JMDM1

This connector allows you to connect to a modem card with Wake On Ring function. The connector will power on the system when a signal is received through the modem card.



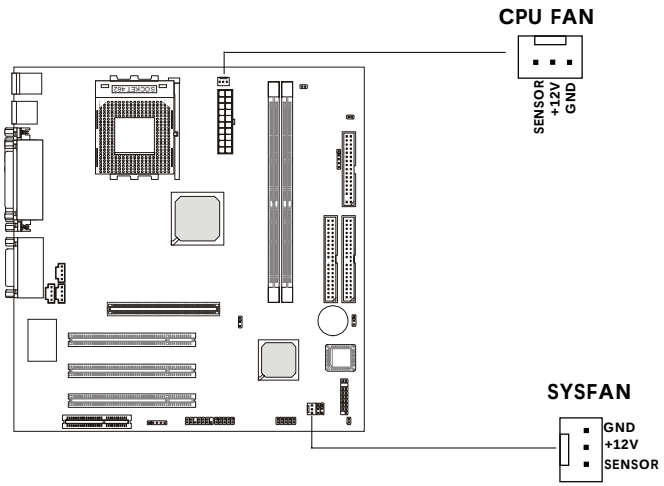
Chassis Intrusion Switch Connector: J1

This connector is connected to a 2-pin chassis switch. 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 FAN/SYSFAN

The CPUFAN (processor fan) and SYSFAN (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.

AUX Line In Connector

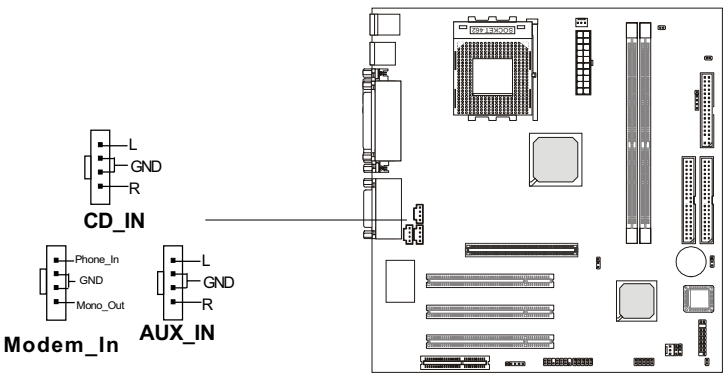
This connector is used for DVD Add on Card with Line In connector.

CD_In Connector

This connector is for CD-ROM audio connector.

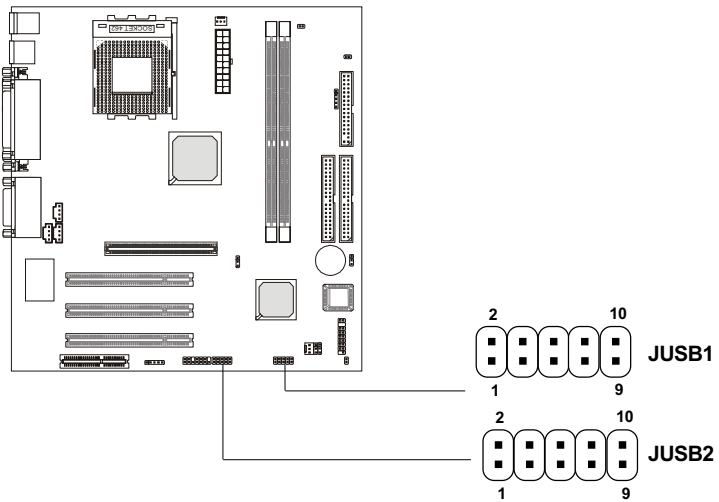
Modem_In

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.



USB Front Connectors (optional)

The mainboard provides you with two optional **Universal Serial Bus (USB)** connectors for front panel.



JUSB1 Pin Definition

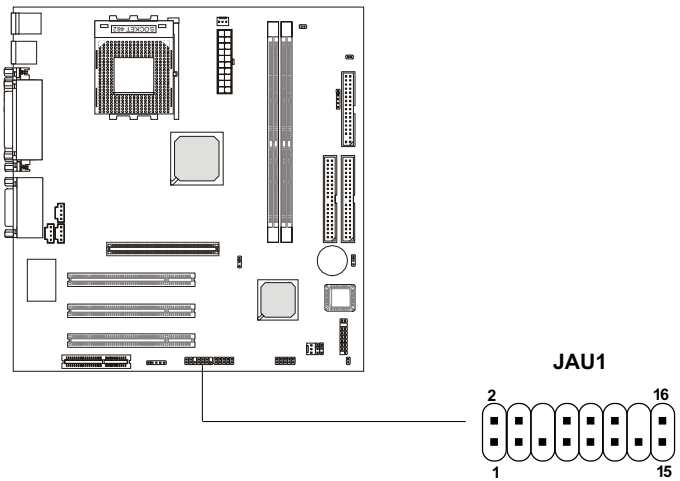
Pin	Description	Pin	Description
1	VCC	2	GND
3	USB0-	4	GND
5	USB0+	6	USB1+
7	GND	8	USB1-
9	GND	10	VCC

JUSB2 Pin Definition

Pin	Description	Pin	Description
1	VCC	2	GND
3	USB2-	4	GND
5	USB2+	6	USB3+
7	GND	8	USB3-
9	GND	10	VCC

Front Panel Audio Connector:JAU1

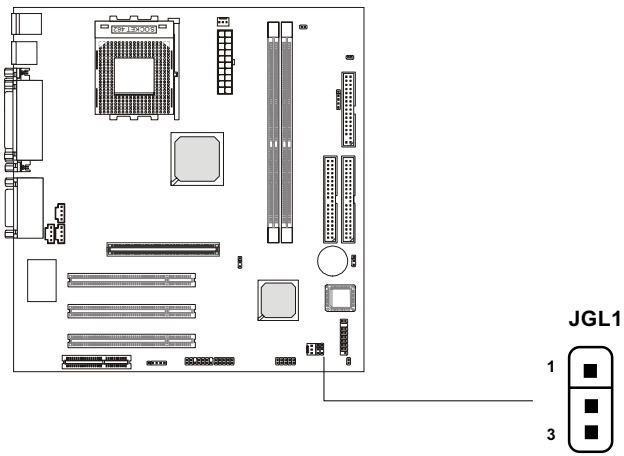
You can connect an optional Front Panel audio connector to this connector.

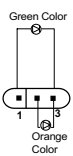
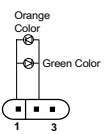


PIN	Description	PIN	Description
1	GND (ALO)	2	GND (ALO)
3	GND (+12)	4	GND (+12)
5	+12V (1A)	6	(Cut)
7	MIC	8	GND (MIC)
9	Front Line Out (R)	10	Line Next (R)
11	Front Line Out (L)	12	Line Next (L)
13	GND (FLO)	14	(Cut)
15	Line In (R)	16	Line In (L)

Power Saving LED Connector: JGL1

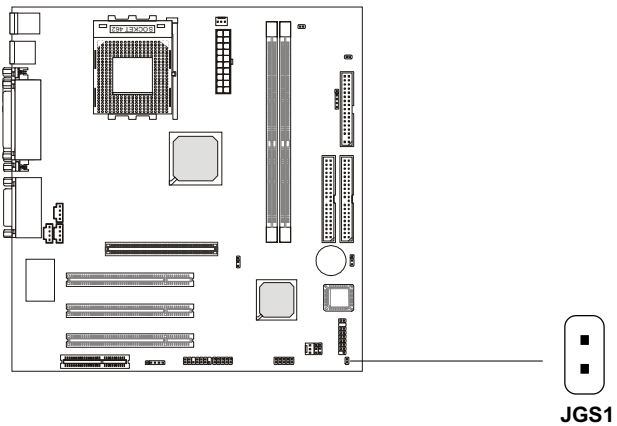
JGL1 can be connected with an LED. There are two types of LED that you can use: 3-pin LED or 2-pin LED(ACPI request). When the 2-pin LED is connected to JGL1, the light will turn green, when system is On. During sleep mode, the 2-pin LED will change color from Green to Orange. For 3-pin LED, when LED is connected to JGL1, this will light when the system is On and blinks when it is in suspend/sleep mode. See page 3-19 (Power status LED) for further instruction.



3-pin LED	2-pin LED
	
1-2 Single Color 1-3 Blink	1-2 Dual Color

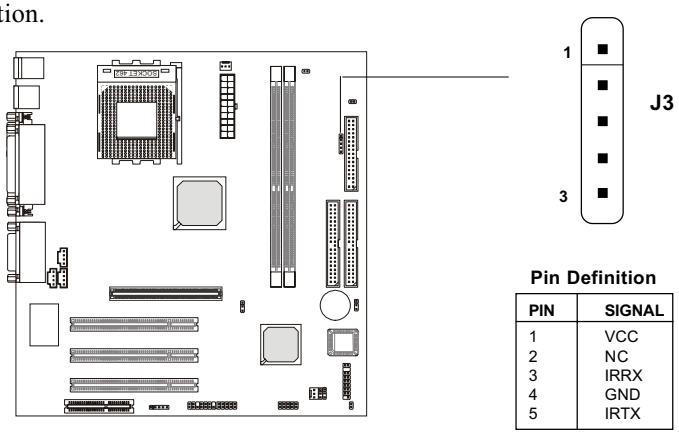
Power Saving Switch Connector: JGS1

This connector allows you to connect to a power saving switch. When the switch is pressed, the system immediately goes into suspend mode. You can press any key to wake up the system.



IrDA Infrared Module Connector: J3

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.



Pin Definition

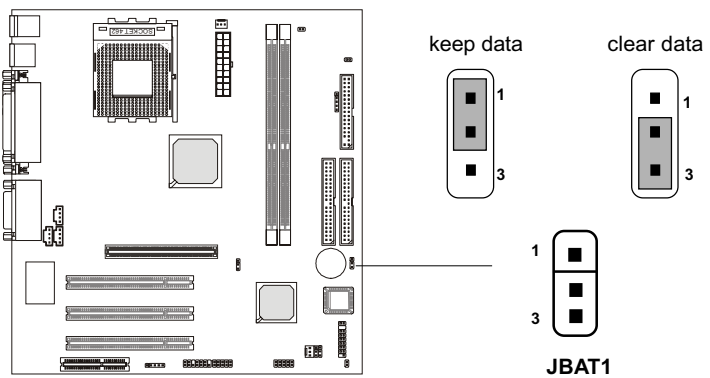
PIN	SIGNAL
1	VCC
2	NC
3	IRRX
4	GND
5	IRTX

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:

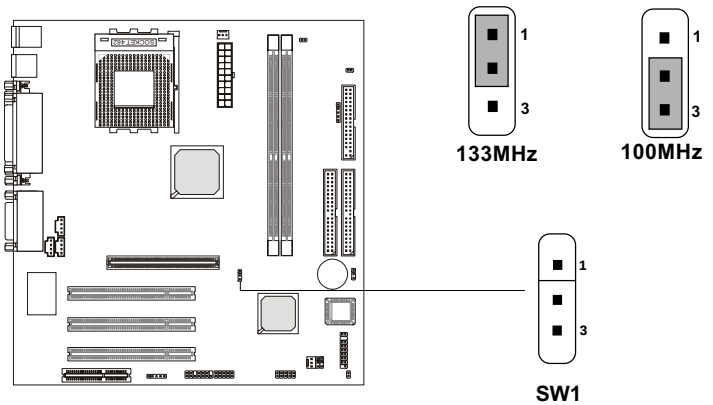


WARNING!

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.

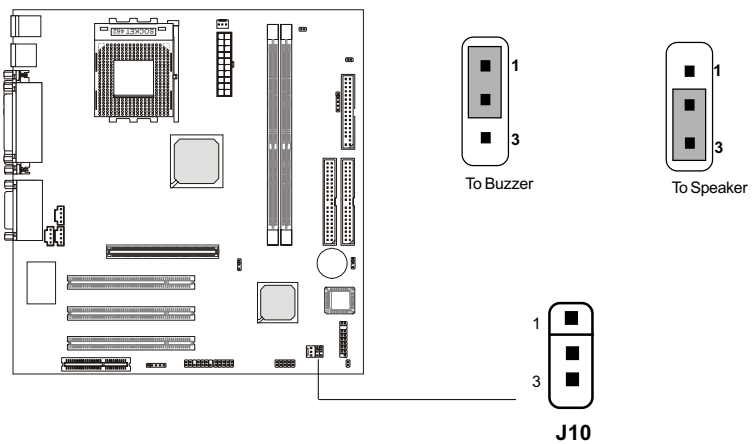
CPU FSB Jumper: SW1

This jumper allows you to set CPU FSB frequency.



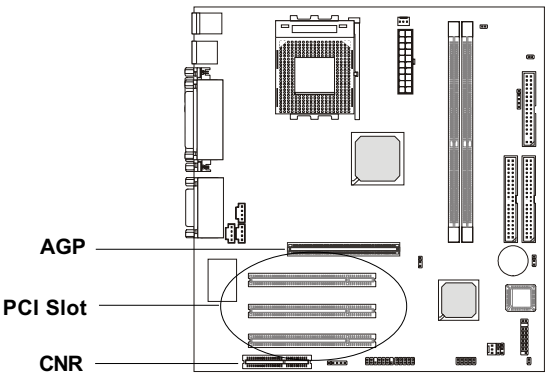
Beep On Buzzer/Speaker Jumper: J10

This jumper is used to set the beep on Buzzer or Speaker function.



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. 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 three 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	**INTA**	**INTB**	**INTC**	**INTD**
PCI1	**INTA**	**INTB**	**INTC**	**INTD**
PCI2	**INTB**	**INTC**	**INTD**	**INTA**
PCI3	**INTC**	**INTD**	**INTA**	**INTB**
Audio	**INTD**	**INTA**	**INTB**	**INTC**
USB1	**INTD**	**INTA**	**INTB**	**INTC**
USB2	**INTD**	**INTA**	**INTB**	**INTC**
USB3	**INTD**	**INTA**	**INTB**	**INTC**

AGP & PCI1 shared.

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

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

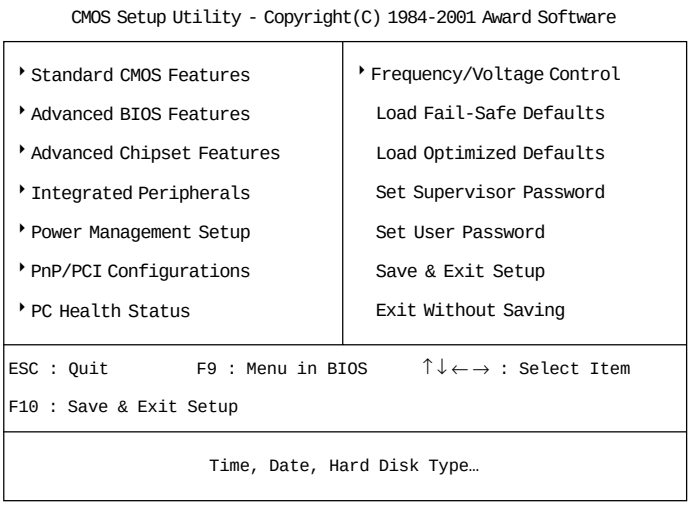
If you find a right pointer symbol appears to the left of certain fields (as shown in the right view), that means a sub-menu containing additional options for the field can be launched from this field. To enter the sub-menu, highlight the field and perss <Enter>. Then you can use control keys to move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

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.

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.



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.

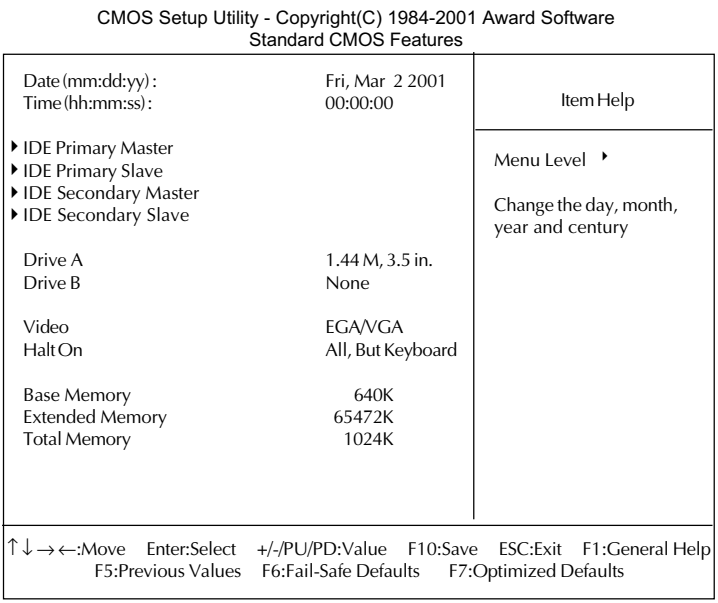
User Password
Use this menu to set User Password.

Save & Exit Setup
Save changes to CMOS and exit setup.

Exit Without Saving
Abandon all changes and exit setup.

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.



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

IDE HDD Auto-Detection	Press Enter	Item Help
IDE Primary Master	Auto	
Access Mode	Auto	Menu Level ▸▸
Capacity	15021MB	To auto-detect the HDD's size, head...on this channel
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 dirves 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*.

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:

All Errors	The system stops when any error is detected.
No Errors	The system doesn't stop for any detected error.
All, But Keyboard	The system doesn't stop for a keyboard error.
All, But Diskette	The system doesn't stop for a disk error.
All, But Disk/Key	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 Internal Cache	Enabled	
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	
Quick Power On Self Test	Enabled	Menu Level ▸
First Boot Device	Floppy	
Second Boot Device	HDD-0	Allows you to choose
Third Boot Device	LS120	the VIRUS warning
Boot Other Device	Enabled	feature for IDE Hard
Swap Floppy Drive	Disabled	Disk boot sector
Boot Up Floppy Seek	Enabled	protection. If this
Boot Up Numlock Status	On	function is enabled
Gate A20 Option	Fast	and someone attempt to
Typematic Rate Setting	Disabled	write data into this
xTypematic Rate (Chars/Sec)	6	area, BIOS will show a
xTypematic Delay (Msec)	250	warning message on
Security Option	Setup	screen and alarm beep.
OS Select for DRAM > 64MB	Non-OS2	
Video BIOS Cacheable	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 Internal Cache
The item allows you to turn on or off CPU's internal (L1) cache. Settings are *Enabled* (default) and *Disabled*.

External Cache
This allows you to turn on or off L2 (Level 2) cache memory for CPU. Settings are *Enabled* (default) and *Disabled*.

CPU L2 Cache ECC Checking
This allows you to enable or disable the ECC (Error-Correcting Code) feature to check the data when it passes through L2 cache memory. Settings are *Enabled* and *Disabled*. Default value is *Enabled.*

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 *Enabled*.

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:

HDD-0	The system will boot from the first HDD.
HDD-1	The system will boot from the second HDD.
HDD-2	The system will boot from the third HDD.
HDD-3	The system will boot from the fourth HDD.
Floppy	The system will boot from floppy drive.
ZIP100	The system will boot from ATAPI ZIP drive.
LS-120	The systm will boot from LS-120 drive.
SCSI	The system will boot from the SCSI.
LAN	The system will boot from the Network drive.
CD-ROM	The system will boot from the CD-ROM.
Disabled	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*.

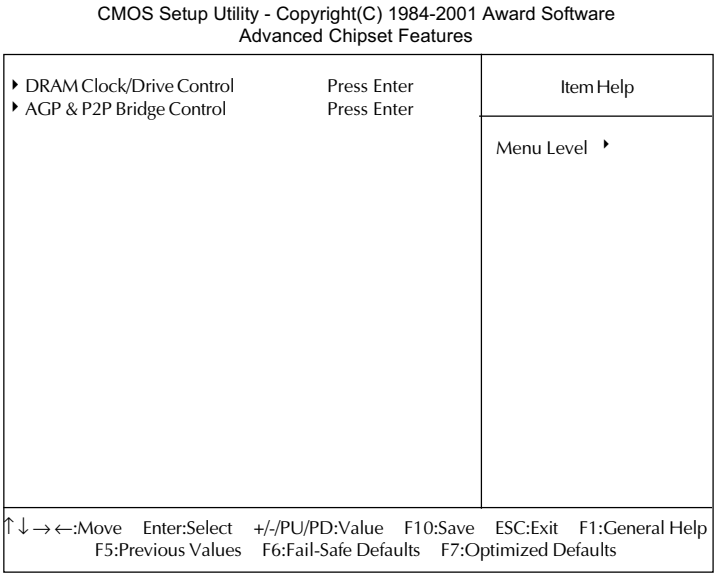
OS Select for DRAM > 64MB
This allows you to run the OS/2® operating system with DRAM larger than 64MB. When you choose the default value *Non-OS2*, you cannot run the OS/2® operating system with DRAM larger than 64MB. But it is possible if you choose *OS2*. Default value is *Non-OS2*.

Security Option
This specifies the type of BIOS password protection that is implemented. Setting options are described below:

Option	Description
Setup (default)	The password prompt appears only when end users try to run Setup.
System	A password prompt appears every time when the compuer is powered on or when end users try to run Setup.

Video BIOS Cacheable
Setting to *Enabled* allows caching of the Video BIOS ROM at C0000h-F7FFFh and leads to better video performance. But any program attempt to write to this memory area will cause a system error. Default value is *Disabled*.

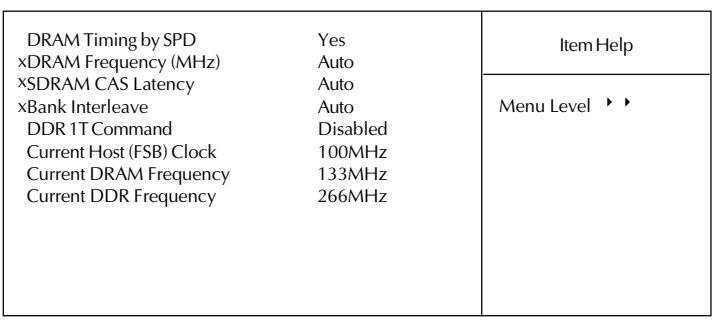
Advanced Chipset Features



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

DRAM Clock/Drive Control

Press <Enter> to enter the sub-menu, and you will see a sub-menu screen similar to the following:



DRAM Timing by SPD — Selects whether DRAM timing is controlled by the SPD EPROM on the DRAM card. Setting to *No* not only makes DRAM Frequency, SDRAM CAS Latency and Bank Interleave adjustable but also sets SDRAM "Precharge"/"RAS to CAS"/"RAS Pulse" to "3T/3T/6T."

DRAM Frequency (MHz) — The chipset supports synchronous and asynchronous mode between host clock and DRAM clock frequency. The settings are:

- Auto: BIOS automatically determines the DRAM clock frequency.
- HCLK+33: The DRAM clock will be equal to Host Clock plus 33MHz. For example, if the Host Clock is 100MHz, the DRAM clock will be 133MHz.
- HCLK: The DRAM clock will be equal to the Host Clock.
- HCLK-33: The DRAM clock will be equal to the Host Clock minus 33MHz. For example, if the Host Clock is 133MHz, the DRAM clock will be 100MHz.

SDRAM CAS Latency — Controls the time delay (in clock cycles) before SDRAM starts a read command after receiving it. Settings are *Auto*, *2*, *2.5* and *3*.

Bank Interleave — Enables or disables bank interleave feature. Settings are *Auto* and *Disabled*.

Current Host (FSB) Clock: Displays current host clock frequency.

Current DRAM Frequency: Displays current DRAM clock frequency.

Current DDR Frequency: This display-only filed appears only when DDR DRAMs are installed.

AGP & P2P Bridge Control

Press <Enter> to enter the sub-menu. You will see a sub-menu screen similar to the following:

AGP & P2P Bridge Control

AGP Aperture Size	64M	Item Help
AGP Driving Control	Auto	
x AGP Driving Value	DA	Menu Level ▸▸

AGP Aperture Size — Selects the size of the Accelerated Graphics Port (AGP) aperture. Aperture is a portion of the PCI memory address range dedicated for graphics memory address space. Host cycles that hit the aperture range are forwarded to the AGP without any translation. Options are *4M*, *8M*, *16M*, *32M*, *64M*, *128M* and *256M*.

AGP Driving Control — This filed is used to adjust the AGP driving force. Selecting *Manual* allows you to type an AGP driving force in AGP Driving Value. It is strongly suggested to select *Auto* to avoid causing any system error.

AGP Driving Value — Specifies the AGP driving force.

Integrated Peripherals

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Integrated Peripherals

▶VIA OnChip IDE Device	Press Enter	Item Help
▶VIA OnChip PCI Device	Press Enter	
Init Display First	PCI Slot	
OnChip USB Controller	All Enabled	Menu Level ▸
USB Keyboard Support	Disabled	
IDE HDD Block Mode	Enabled	
POWER ON Function	BUTTON ONLY	
xKB Power ON Password	Enter	
xHot 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	
xRxD, TxD Active	Hi, Lo	
xIR Transmission Delay	Enabled	
xUR2 Duplex Mode	Half	
xUse IR Pins	IR-Rx2Tx2	
Onboard Parallel Port	378/IRQ7	
Parallel Port Mode	ECP	
xEPP Mode Select	EPP1.7	
ECP Mode Use DMA	3	
PWRON After PWR-Fail	Off	
Game Port Address	201 (option)	
Midi Port Address	330 (option)	
Midi Port IRQ	10 (option)	

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

VIA OnChip IDE Device

Press <Enter> to enter the sub-menu, and a sub-menu similar to the following will appear.

OnChip IDE Device

OnChip IDE Channel0		Enabled	Item Help
OnChip IDE Channel1		Enabled	
Primary Master	PIO	Auto	Menu Level ▸
Primary Slave	PIO	Auto	
Secondary Master	PIO	Auto	
Secondary Slave	PIO	Auto	
Primary Master	UDMA	Auto	
Primary Slave	UDMA	Auto	
Secondary Master	UDMA	Auto	
Secondary Slave	UDMA	Auto	

OnChip IDE Channel0/1	The integrated peripheral controller contains an IDE interface with support for two IDE channels. Choose the default value *Enabled* to activate each channel separately.
Primary/Secondary Master/Slave PIO	The four fields allow you to set a PIO (Programmed Input/Output) mode for each of the four IDE devices that the onboard IDE interface supports. Modes 0~4 provide increased performance. In Auto mode, BIOS automatically determines the best mode for each IDE device.
Primary/Secondary Master/Slave UDMA	Ultra DMA implementation is possible only if your IDE device supports it and your operating environment contains a DMA driver. If both your hard drive and software support Ultra DMA, select *Auto* (default) to enable BIOS support.

VIA OnChip PCI Device

Press <Enter> to enter the sub-menu. A sub-menu screen similar to the following will appear.

OnChip PCI Device

VIA-3058 AC97 Audio	Auto (option)	Item Help
VIA-3068 MC97 Modem	Auto	
VIA-3043 OnChip LAN	Disabled	Menu Level ▸ ▸

VIA-3058 AC97 Audio	*Auto* allows the mainboard to detect whether an audio device is used. If the device is detected, the onboard VIA AC'97 (Audio Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect an audio device. Settings are *Auto* (default) and *Disabled*.
VIA-3068 MC97 Modem	*Auto* allows the mainboard to detect whether a modem is used. If a modem is detected, the onboard VIA MC'97 (Modem Codec'97) controller will be enabled; if not, the controller is disabled. Disable the controller if you want to use other controller cards to connect modems. Settings are *Auto* (default) and *Disabled*.
VIA-3043 OnChip LAN	Enables or disables VIA chip integrated LAN controller. Settings are *Enalbed* and *Disabled* (default).

Init Display First
This item specifies which VGA card is your primary graphics adapter. Available options are *PCI Slot* and *AGP*. Default value is *PCI Slot*.

OnChip USB Controller
The item specifies which USB (Universal Serial Bus) Port is enabled. The settings are *All Enabled*, *1&2 USB Port*, *2&3 USB Port*, *1&3 USB Port*, *1 USB Port*, *2 USB Port*, *3 USB Port* or *All Disabled*. Default is *All Enabled*.

USB Keyboard Support
Set to *Enabled* if your system installs and uses an USB keyboard. Default is *Disabled*.

IDE HDD Block Mode
This allows your hard disk controller to use the fast block mode to transfer data to and from the hard disk drive. Block mode is also called block transfer, multiple commands or multiple sector read/write. Setting to *Ena-*

bled makes IDE controller use block mode; *Disabled* makes the controller use standard mode. Default is *Enabled*.

POWER ON Function
This controls which button on the PS/2 mouse or keyboard can power on the sytem. Settings are *BUTTON ONLY* (default), *Keyboard 98*, *Password*, *Hot Key*, *Mouse Left* and *Mouse Right*.

KB Power On Password
If **POWER ON Function** is set to *Password*, then you can set a password in this field for the PS/2 keyboard to wake up the system from suspend mode.

Hot Key Power ON
If **POWER ON Function** is set to *Hot Key*, then you can specify a hot key combination in the field for the PS/2 keyboard to wake up the system from suspend mode. Settings are *Ctrl-F1* through *Ctrl-F12*.

Onboard FDC Controller
This is to enable or disable the onboard Floppy controller. Set to *Enabled* if you have a floppy disk drive installed on the mainboard. Default is *Enabled*.

If the ISA add-on card has	Onboard FDC to be set at
FDC exist	Disabled
None FDC exist	Enabled (default)

Onboard Serial Port 1/2
These items specify the base I/O port address of the onboard Serial Port 1 (COM 1)/Serial Port 2 (COM 2). Setting to *Auto* allows BIOS to automatically determine the correct base I/O port address. Available options are *Auto, 3F8/IRQ4*, *2F8/IRQ3*, *3E8/IRQ4*, *2E8/IRQ3* and *Disabled*. Default is *Auto*. If you have ISA add-on card, the suggested configuration is as the following:

If the ISA add-on card has				Onboard Serial port to be set at			
COM1 (I/O:3F8H)	COM2 (I/O:3F8H)	COM3 (I/O:3E8H)	COM4 (I/O:2E8H)	PORT1	IRQ ASSIGNED	PORT2	IRQ ASSIGNED
✓	✓	✓	✓	DISABLED	X	DISABLED	X
✓	✓	X	X	COM3	4	COM4	3
X	X	✓	✓	COM1	4	COM2	3
✓	X	X	✓	COM2	3	COM3	4
X	✓	✓	X	COM1	4	COM4	3
✓	✓	✓	X	COM4	3	DISABLED	X
✓	✓	X	✓	COM3	4	DISABLED	X
✓	X	✓	✓	COM2	3	DISABLED	X
X	✓	✓	✓	COM1	4	DISABLED	X
X	X	X	X	COM1	4	COM2	3
✓	X	X	X	COM2	3	COM3	4
X	✓	X	X	COM1	4	COM3	4
X	X	✓	X	COM1	4	COM2	3
X	X	X	✓	COM1	4	COM2	3

UART Mode Select

The item allows you to determine which Infra Red (IR) function of the onboard I/O chip. Settings are *Normal*(default), *IrDA* and *ASKIR*.

RxD, TxD Active

The item determines the active of RxD, TxD. Settings are "*Hi, Lo*" (default), "*Hi, Hi*", "*Lo, Hi*", "*Lo, Lo*".

IR Transmission Delay

This enables or disables IR transmission delay feature. Settings are *Enabled* and *Disabled*. Default is *Enabled*.

UR2 Duplex Mode

This specifies a duplex value for the IR device connected to the IR connector. Full-Duplex mode permits simultaneous two-direction transmission. Half-Duplex mode permits transmission in one direction only at a time. Settings are *Half* and *Full*. Default is *Half* .

Use IR Pins
Consult your IR peripheral documentation to select the correcting of the TxD and RxD signals. Settings are "*IR-Rx2Tx2*" and "*RxD2, TxD2*".

Onboard Parallel Port
This specifies the base I/O port address of the onboard Parallel Port. Settings are *378/IRQ7*, *278/IRQ5*, *3BC/IRQ7* and *Disabled*. Default is *378/IRQ7*. If you have an ISA add-on card, the suggested configuration is as below:

If the ISA add-on card has			Onboard parallel port to be set as	
LPT1 I/O:378H	LPT2 I/O:278H	LPT3 I/O:3BCH	PORT ASSIGNED	IRQ ASSIGNED
✓	✓	✓	Disabled	X
✓	✓	X	LPT3	5
✓	X	✓	LPT2	5
X	✓	✓	LPT1	7
✓	X	X	LPT2	5
X	✓	X	LPT1	7
X	X	✓	LPT1	7
X	X	X	LPT1	7

***Note**: If the onboard parallel port interrupt and ISA add-on card interrupt are in conflict, the parallel port will not work properly. Please disable one of the devices.*

Parallel Port Mode
This item selects the operating mode for the parallel port to support: *SPP*, *EPP*, *ECP* or *ECP+EPP*. Default is *SPP*.

EPP Mode Select
The item selects the EPP version used by the parallel port if the port is set to *EPP* or *ECP+EPP* mode. Settings are *EPP1.7* and *EPP1.9*.

ECP Mode Use DMA
This item automatically specifies an DMA channel 1 or 3 for the Parallel Port when it is set to *ECP* or *ECP+EPP*mode.

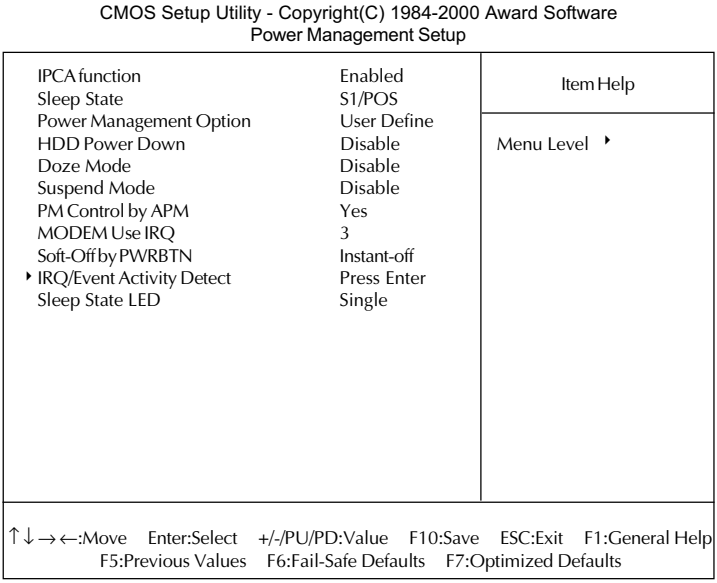
PWRON After PWR-Fail
This item specifies whether your system will reboot after a power failure or interrupts occurs. Available settings are:

Off (default)	Leaves the computer in the power off state.
On	Reboots the computer.
Former-Sts	Restores the system to the status before power failure or interrupt occurs.

Game/Midi Port Address (option)
The items disable or set an address for the onboard Game/MIDI port. Settings for Game port are *Disabled*, *201* and *209*. Settings for Midi port are *Disabled*, *330*, *300* and *290*.

Midi Port IRQ (option)
This specifies an IRQ line for the Midi Port. Settings are *5* and *10*.

Power Management Setup



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

Sleep State
This item specifies the power saving modes for ACPI function. Options are:

S1/POS	The S1 sleep mode is a low power state. In this state, no system context is lost (CPU or chipset) and hardware maintains all system context.
S3/STR	The S3 sleep mode is a lower power state where the information of system cofiguration and open applications/files is saved to main memory that remains powered while most other hardware components turn off to save energy. The information stored in memory

will be used to restore the system when an "wake up" event occurs.

Default value is *S1/POS*.

Power Management Option
This item is used to select the degree (or type) or power saving and is related to these modes: Doze Mode, Suspend Mode and HDD Power Down. There are three options for power management:

Min Saving	Minimum Power Management. Doze Mode = 1 hour, Suspend Mode = 1 hour
Max Saving	Maximum Power Management. Doze Mode = 1 min., Suspend Mode = 1 min.
User Define	Allows end users to configure each mode separately. Each of the ranges are from *1 min.* to *1 hour.* and *disabled* except for HDD Power Down which ranges from *1 min.* to *15 min.* and *disabled*.

Default value is *User Define*.

HDD Power Down
If system activity is not detected for the length of time specified in this field, the hard disk drive will be powered down while all other devices remain active. Settings are *Disabled* and *1 Min* through *15 Min*. Default is *Disabled*.

Doze Mode
If system activity is not detected for the length of time specified in this field, the CPU clock will run at slower speed while all other devices still operate at full speed. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min*, *20 Min, 30 Min, 40 Min and 1 Hour*. Default is *Disabled*.

Suspend Mode
If system activity is not detected for the length of time specified in this field, all devices except CPU will be shut off. Settings are *Disabled*, *1 Min*, *2 Min*, *4 Min*, *6 Min*, *8 Min*, *10 Min*, *20 Min, 30 Min, 40 Min and 1 Hour*. Default is *Disabled*.

PM Control by APM
Setting to *Yes* will activate an Advanced Power Management (APM) device to enhance Max Saving mode and stop CPU internal clock. Settings are *Yes* and *No*. Default is *Yes*.

MODEM Use IRQ
Name the interrupt request (IRQ) line assigned to the modem (if any) on your system. Activity of the selected IRQ always awakens the system. Settings are *3*, *4*, *5*, *7*, *9*, *10*, *11* and *NA*.

Soft-Off by PWRBTN
This feature allows users to configure the power button as a normal power-on/-off button or a suspend/resume button. Settings are:

Instant-Off	The power button functions as a normal power-on/-off button.
Delay 4 Sec.	Pressing the power button for more than 4 seconds will place the system in a very low-power-usage state (Soft-Off state), with only enough circuitry receiving power to detect power button activity or Wake Up On LAN/Ring activity. Default is *Instant-Off*.

IRQ/Event Activity Detect

Press <Enter> to enter the sub-menu and the following screen appears:

IRQ/Event Activity Detect

USB Resume from S3/S4/S5	Disabled	Item Help
VGA	OFF	
LPT & COM	LPT/COM	Menu Level ▸ ▸
HDD & FDD	ON	
PCI Master	OFF	
PowerOn by PCI Card	Disabled	
Wake Up On LAN/Ring	Disabled	
RTC Alarm Resume	Disabled	
x Date (of Month)	0	
x Resume Time (hh:mm:ss)	0 0 10	
▸ IRQs Activity Monitoring	Press Enter	

USB Resume from S3/S4/S5 — Allows the activity of USB device to wake up the system from S3, S4 or S5 power saving modes. Settings are *Enabled* and *Disabled*.

***Note**: S3/S4/S5 are three system states for ACPI, which reduce different amount of power consumption. S3 is STR (Suspend to RAM) sleep mode, S4 is Suspend to Disk mode and S5 is Soft-Off state.*

VGA, LPT & COM, HDD & FDD, PCI Master, PowerOn by PCI Card, Wake Up On LAN/Ring — These items specify whether the system will be awakened from power saving modes when activity or input signal of the specified hardware peripheral or component is detected.

***Note**: To use the function of Wake Up On LAN/Ring, you need to install a LAN card/modem supporting power on function.*

RTC Alarm Resume	This is to enable or disable the feature of booting up the system on a scheduled time/date. Settings are *Enabled* and *Disabled*(default).
Date (of Month)	Specifies the date for RTC Alarm Resume. Settings are *0~31.*
Resume Time (hh:mm: ss)	Specifies the time for RTC Alarm Resume. Format is <hour><minute><second>.
IRQs Activity Monitoring	Press <Enter> to enter the sub-menu. A similar screen to the following appears:

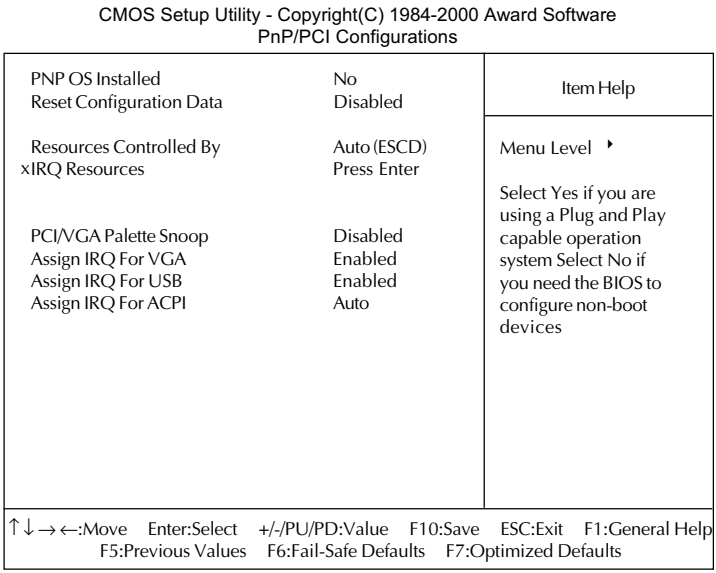
IRQs Activity Monitoring

Primary INTR	On	Item Help
IRQ3 (COM2)	Enabled	
IRQ4 (COM1)	Enabled	
IRQ5 (LPT2)	Enabled	
IRQ6 (Floppy Disk)	Enabled	Menu Level ▸ ▸ ▸
IRQ7 (LPT1)	Enabled	
IRQ8 (RTC Alarm)	Disabled	
IRQ9 (Reserved)	Disabled	
IRQ10 (Reserved)	Disabled	
IRQ11 (Reserved)	Disabled	
IRQ12 (PS/2 Mouse)	Enabled	
IRQ13 (Coprocessor)	Enabled	
IRQ14 (IDE Channel 0)	Enabled	
IRQ15 (IDE Channel 1)	Disabled	

Primary INTR	When this is set to *On*, any event occuring will wake up the system which has been powered down.
IRQ3~IRQ15	Enables or disables the monitoring of the specified IRQ line. If set to *Enabled*, the activity of the specified IRQ line will prevent the system from entering power saving modes or awaken it from power saving modes.

***Note**: IRQ (Interrup Request) lines are system resources allocated to I/O devices. When an I/O device needs to gain attention of the operating system, it singals this by causing an IRQ to occur. After receiving the signal, when the operating system is ready, the system will interrupt itself and perform the service required by the I/O device.*

PnP/PCI Configurations



PNP OS Installed
When set to *YES*, BIOS will only initialize the PnP cards used for booting (VGA, IDE, SCSI). The rest of the cards will be initialized by the PnP operating system like Windows® 95 or 98. When set to *NO*, BIOS will initialize all the PnP cards. So, select *Yes* if the operating system is Plug & Play aware.

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 *Manaul*. 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:

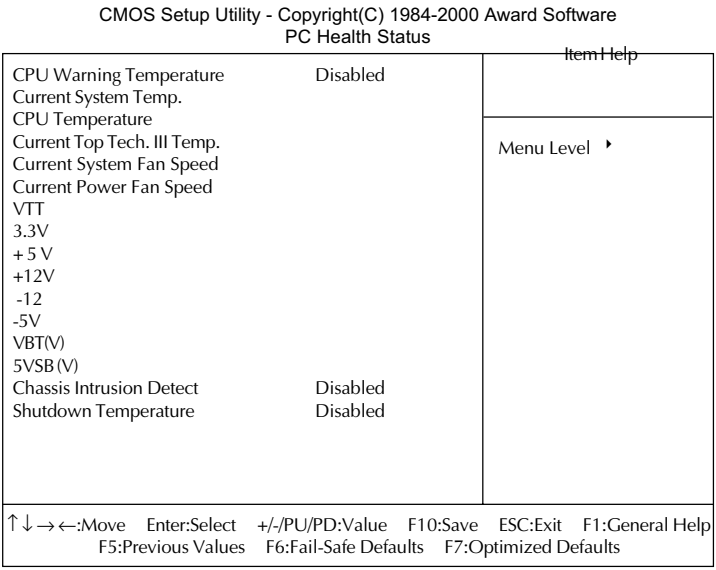
VGA Palette Snoop Bit Setting	**Action**
Disabled	Data read or written by the CPU is only directed to the PCI VGA device's palette registers.
Enabled	Data read or written by the CPU is directed to both the PCI VGA device's palette registers and the ISA VGA device's palette registers, permitting the palette 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*.

Assign IRQ For VGA/USB/ACPI
Set to *Enabled* allows BIOS to assign an IRQ to VGAcard/USB device/ACPI device. Choose *Disabled* if you want to release the IRQ.

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.



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.*

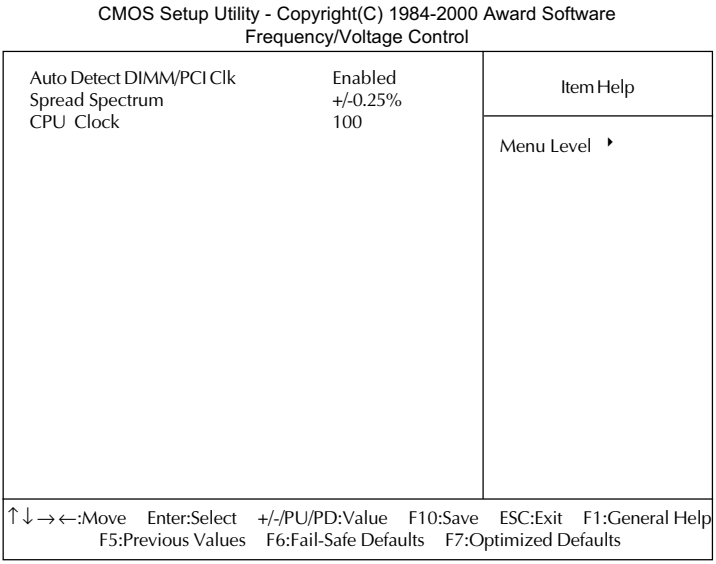
Current System Temp, Current CPU Temperature, Current Top Tech. III Temp., Current System Fan/Power Fan Speed, Vcore, VTT, 3.3/+ 5/+ 12/- 12/- 5V, VBAT(V), 5VSB(V)

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 clearning the message it will go back to "Enabled". Default value "Disabled".

Shutdown Temperature
The item allows the system 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*.

Frequency/Voltage Control



Auto Detect DIMM/PCI Clk
Use this item to enable or disable the feature of auto detecting the clock frequency of the installed DRAM DIMMs and PCI cards. Settings are *Enabled* (default) and *Disabled*.

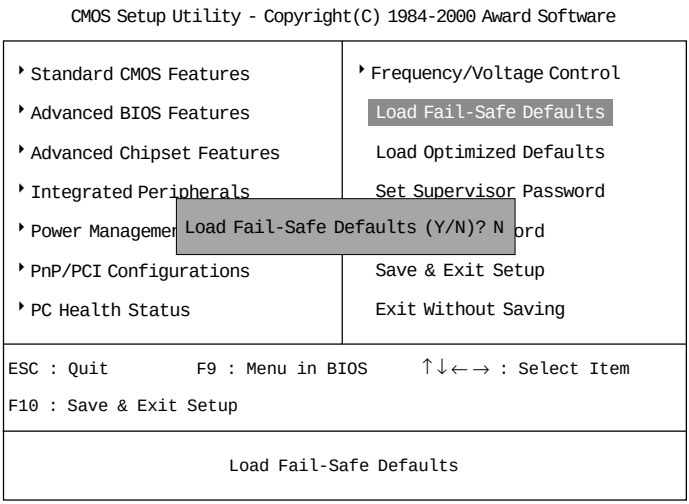
Spread Spectrum
This item is used to enable or disable the clock generator's Spread Spectrum feature. When overclocking the processor, always set it to *Disabled*. Setting options: [+/-0.25%] [-0.5%] [+/-0.5%] [+/-0.75%] [Disabled] Default value: [+/-0.25%]

CPU Clock
This item specifies the clock frequency of CPU host bus (FSB) and provides a method for end users to overclock the processor accordingly.

Load Fail-Safe/Optimized Defaults

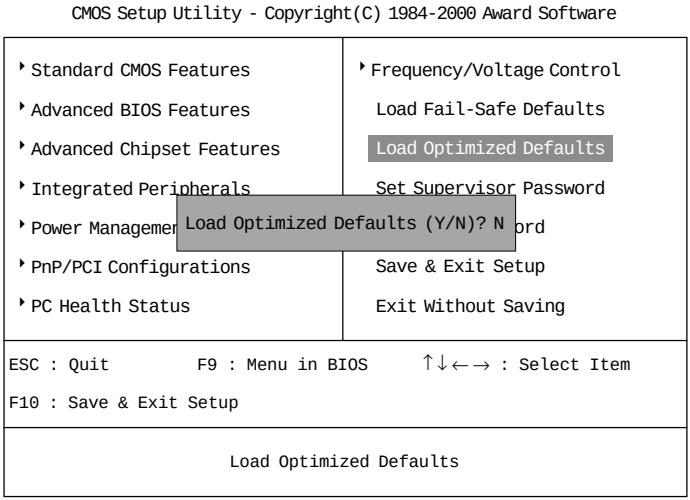
The two options on the main menu allow users to restore all of the BIOS settings to the default Fail-Safe or Optimized values. The Optimized Defaults are the default values set by the mainboard manufacturer specifically for the optimal performance of the mainboard. The Fail-Safe Defaults are the default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

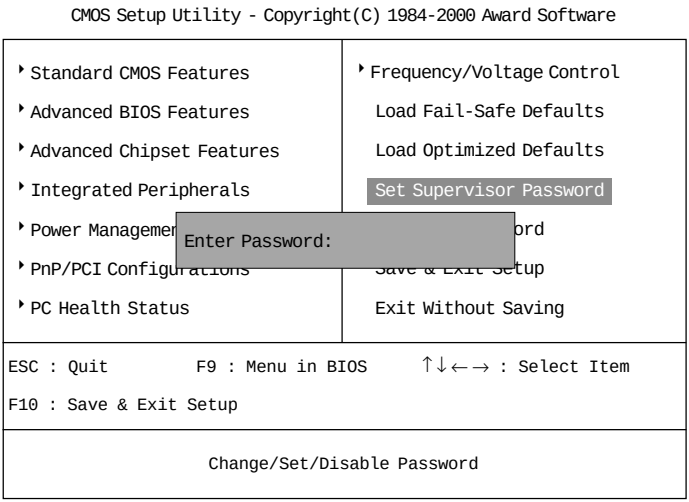
When you select Load Optimized Defaults, a message as below appears:



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

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

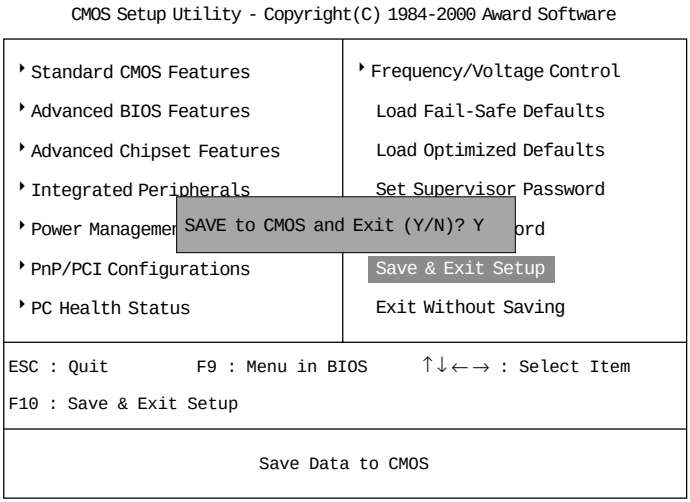
Additionally, when a password is enabled, you can also have BIOS to request a password each time the system is booted. This would prevent unauthorized use of your computer. The setting to determine when the password prompt is required is the Security Option of the Advanced BIOS Features menu. If the 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:

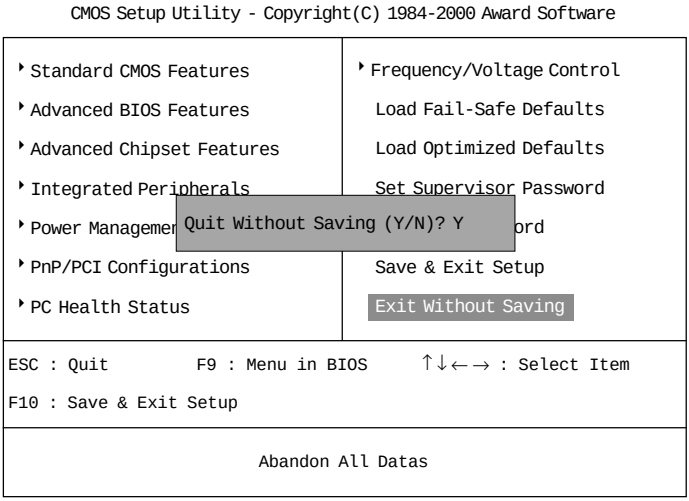


Typing “Y” will allow you to quit the Setup Utility and save the user setup changes to RTC CMOS.

Typing “N” will return to the Setup Utility.

Exit Without Saving

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.