

Motherboard 6497MC

User's Manual

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Version:

User's Manual V1.0 in English for 6497MC series motherboard.

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Symbol description:

-  **Note:** refers to important information that can help you to use motherboard better.
-  **Attention:** indicates that it may damage hardware or cause data loss, and tells you how to avoid such problems.
-  **Warning:** means that a potential risk of property damage or physical injury exists.

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i Attention:

1. Attach the CPU and heatsink using silica gel to ensure full contact.
2. It is suggested to select high-quality, certified fans in order to avoid damage to the motherboard and CPU due to high temperatures.
3. Never turn on the machine if the CPU fan is not properly installed.
4. Ensure that the DC power supply is turned off before inserting or removing expansion cards or other peripherals, especially when you insert or remove a memory module. Failure to switch off the DC power supply may result in serious damage to your system or memory module.

i Attention:

We cannot guarantee that your system will operate normally while over-clocked. Normal operation depends on the over-clock capacity of your device.

i Attention:

Since BIOS programs are upgraded from time to time, the BIOS description in this manual is just for reference. We do not guarantee that the content of this manual will remain consistent with the actual BIOS version at any given time in the future.

i Attention:

The pictures of objects used in this manual are just for your reference. Please refer to the physical motherboard.

Chapter 1

Thank you for buying sis 6497MCseries motherboard. This series of motherboard is one of our new products, and offers superior performance, reliability and quality, at a reasonable price. This motherboard adopts the advanced SiS649 / 965L chipset, providing users a computer platform with a high integration-compatibility-performance price ratio.

This chapter includes the following information:

- ❖ Main Features
- ❖ Motherboard Layout
- ❖ Rear I/O Ports

Main Features

Size

- mATX form factor of 9.6 inch x 9.6 inch

Microprocessor

- Supports Intel® Pentium® 4, Celeron® D processor in an LGA775 package
- Supports FSB at 533 MHz /800 MHz

Chipset

- SiS649 (North Bridge) + SiS965L (South Bridge)

System Memory

- Two 184-pin DIMM slots
- Supports Single-Channel DDR 400/333/266
- Supports up to 2GB DDR memory
- Registered memory not supported
- Supports 128Mb, 256Mb, 512Mb and 1Gb DDR2 technologies

USB 2.0 Ports

- Supports hot plug
- Eight USB 2.0 ports (four rear panel ports, two onboard USB headers providing four extra ports)
- Supports wake-up from S1 and S3 mode
- Supports USB 2.0 protocol up to 480Mbps transmission rate

Onboard Serial ATA(optional)

- 150MBps data transfer rate
- Supports two/four SATA devices
- Supports RAID 0, RAID 1, JBOD

Onboard LAN

- LAN interface built-in onboard
- Supports 10/100 Mbit/sec Ethernet

Onboard Audio

- AC'97 2.3 Specification Compliant
- Supports SPDIF output (optional)
- Onboard Line-in jack, Microphone jack, Line-out jack
- Supports 6-channel audio (setting via software)

PCI Express x16 Support

- Supports 4 GB/sec (8 GB/sec concurrent) bandwidth
- Low power consumption and power management features

Green Function

- Supports ACPI (Advanced Configuration and Power Interface)
- Supports S0 (normal), S1 (power on suspend), S3 (suspend to RAM), S4 (Suspend to disk - depends on OS), and S5 (soft - off)

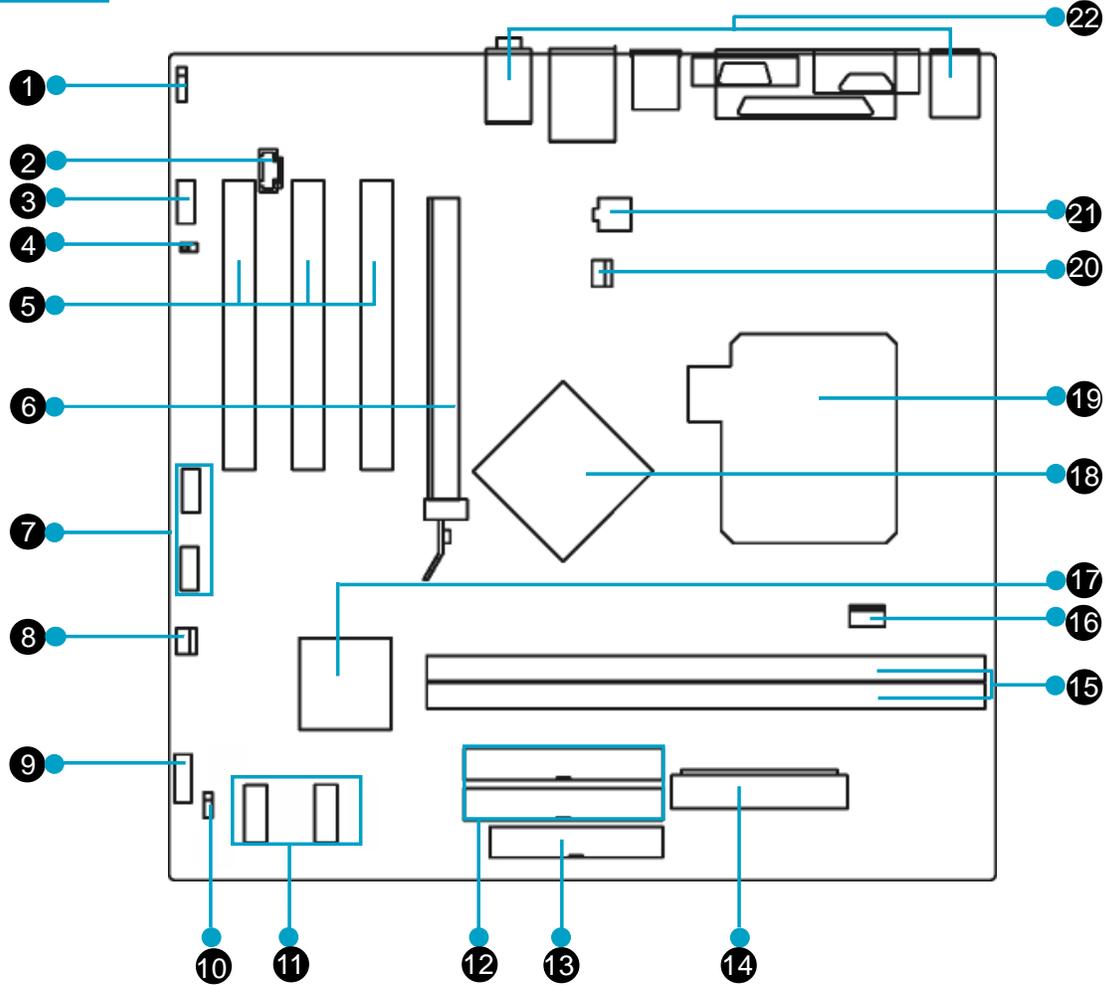
Expansion Slots

- Three PCI slots
- One PCI Express x16 Graphics slot

Advanced Features

- PCI 2.3 specification compliant
- Supports Windows 2000/XP soft-off
- Supports PC Health function (capable of monitoring system voltage, CPU temperature, system temperature, and fan speed)

Layout

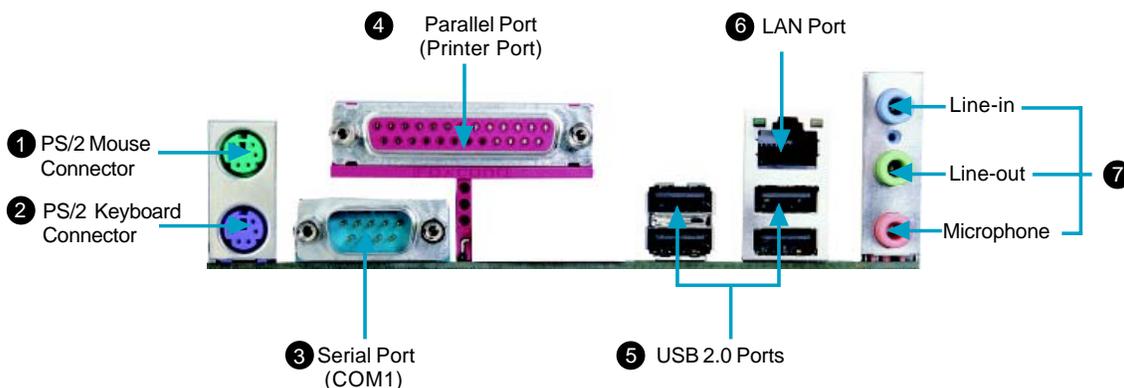


- | | |
|--------------------------------------|-----------------------------------|
| 1. SPDIF_OUT Connector | 13. FDD Connector |
| 2. AUX_IN Connector (optional) | 14. 24-pin ATX Power Connector |
| 3. Front Audio Connector | 15. 184-pin DDR DIMM Slots |
| 4. BIOS TBL Jumper | 16. CPU Fan Connector |
| 5. PCI Slots | 17. South Bridge:965L |
| 6. PCI Express x16 Slot | 18. North Bridge: SiS649 |
| 7. Front USB Connectors | 19. CPU Socket |
| 8. System Fan2 Connector | 20. System Fan1 Connector |
| 9. Front Panel Connector | 21. 4-pin ATX_12V Power Connector |
| 10. Clear CMOS Jumper | 22. Rear Panel |
| 11. Serial ATA Connectors (optional) | |
| 12. ATA 133 /100/66 IDE Connectors | |

Note: This layout is provided for reference, please refer to the physical motherboard.

Rear I/O Ports

This motherboard provides the ports as below:



7 Line in, Line out, Microphone Jacks (for -6 models)

When using a 2-channel sound source, the Line-out jack is used to connect to speaker or headphone; the Line-in jack connects to an external CD player, tape player or other audio device. The Microphone jack is used to connect to the microphone.

When using a 6-channel sound source, connect the front speaker to the green audio output; connect the surround sound speaker to the blue audio output; connect the center speaker/subwoofer to the red Microphone output.

Chapter 2

This chapter introduces the hardware installation process, including the installation of the CPU, memory, power supply, slots, and pin headers, and the mounting of jumpers. Caution should be exercised during the installation of these modules. Please refer to the motherboard layout prior to any installation and read the contents in this chapter carefully.

This chapter includes the following information:

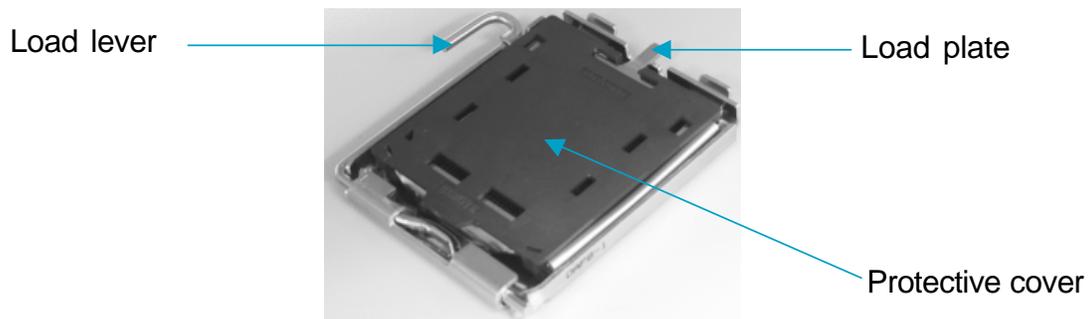
- ❖ CPU
- ❖ Memory
- ❖ Power supply
- ❖ Other Connectors
- ❖ Expansion Slots
- ❖ Jumpers

CPU

This motherboard supports single processor including Pentium 4, Celeron D processor in an LGA775 package with a Front Side Bus of 533/800 MHz. It also supports Hyper-Threading technology.

Installation of CPU

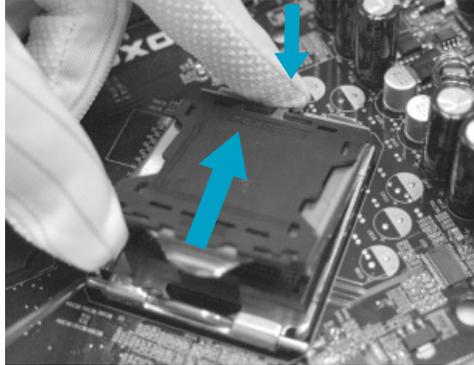
Below is the CPU socket illustration. Follow these procedures to install a CPU.



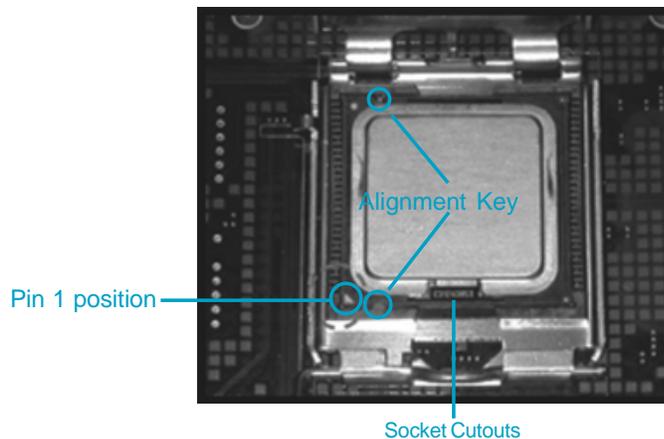
1. Use thumb and forefinger to hold the hook of the load lever and pull the lever down and away from socket to unlock it. Lift the load lever.



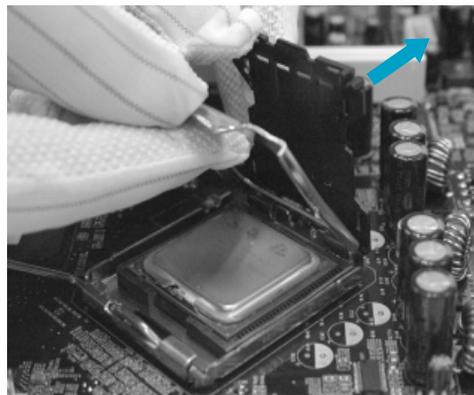
2. Push down the rear tab with your forefinger to bring the front end of the load plate up slightly. Open the load plate with thumb. Be careful not to touch the contacts.



3. Hold CPU with thumb and forefinger. Ensure fingers align to socket cutouts. Match the CPU triangle marker to Pin 1 position as shown below. The alignment key also provides the orientation directed function. Lower the CPU straight down without tilting or sliding the CPU in the socket.



4. After installing the CPU, remove the protective cover from load plate. The protective cover is used to protect the contacts of the socket. Do not discard the protective cover. Always replace the socket cover if the CPU is removed from the socket.



5. Close the load plate, and slightly push down the tongue side.



6. Lower the lever and lock it to the load plate, then the CPU is locked completely.



 **Note :**

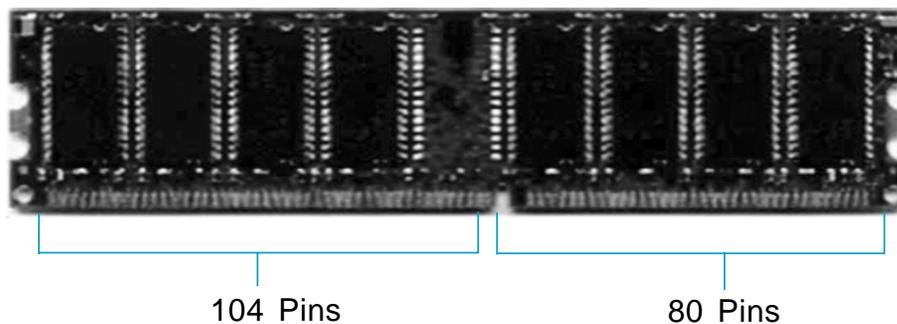
Excessive temperatures will severely damage the CPU and system. Therefore, you should install CPU cooling fan and make sure that the cooling fan works normally at all times in order to prevent overheating and damaging to the CPU. Please refer to your CPU fan user guide to install it properly.

Memory

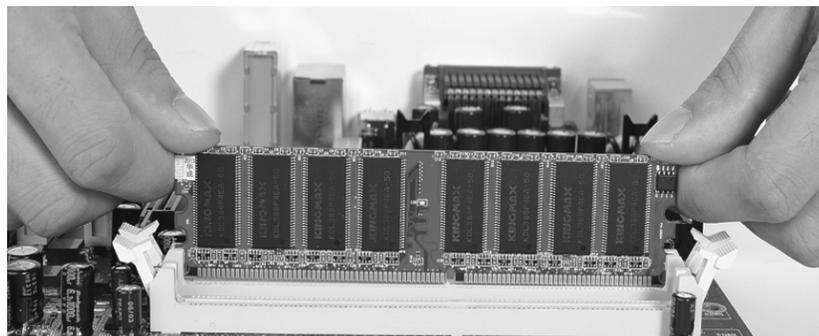
This motherboard includes two 184-pin slots with 2.5V for DDR. These slots support 256 Mb, 512 Mb and 1 Gb DDR technologies for x8 and x16 devices. You must install at least one memory bank to ensure normal operation.

Installation of DDR Memory

1. There is only one gap near the center of the DIMM slot, and the memory module can be fixed in one direction only. Unlock a DIMM slot by pressing the module clips outward.
2. Align the memory module to the DIMM slot, and insert the module vertically into the DIMM slot.



3. The plastic clips at both sides of the DIMM slot will lock automatically.



Warning :

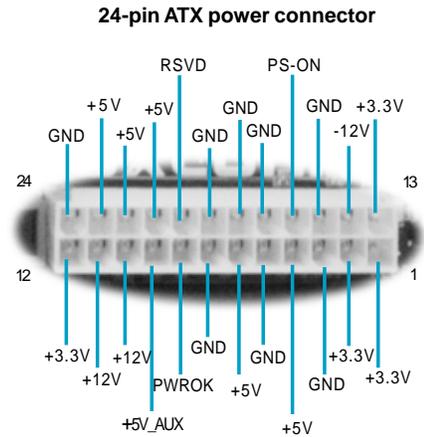
Be sure to unplug the AC power supply before adding or removing expansion cards or other system peripherals, especially the memory devices, otherwise your motherboard or the system memory might be seriously damaged.

Power Supply

This motherboard uses an ATX power supply. In order to avoid damaging any devices, make sure that they have been installed properly prior to connecting the power supply.

24-pin ATX power connector: PWR1

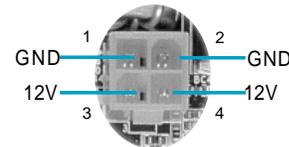
PWR1 is the ATX power supply connector. Make sure that the power supply cable and pins are properly aligned with the connector on the motherboard. Firmly plug the power supply cable into the connector and make sure it is secure.



4-pin ATX_12 V Power Connector: PWR2

The 4-pin ATX 12V power supply connects to PWR2 and provides power to the CPU.

4-pin ATX_12V power connector



Other Connectors

This motherboard includes connectors for floppy devices, IDE devices, Serial ATA devices, USB devices, IR module, and others.

FDD Connector: FLOPPY

This motherboard includes a standard FDD connector, supporting 360K, 720K, 1.2M, 1.44M, and 2.88M FDDs.

IDE Connectors: PIDE, SIDE

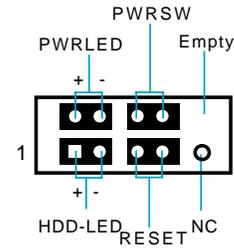
These connectors support the provided Ultra DMA 133/100/66 IDE hard disk ribbon cable. Connect the cable's blue connector to the primary (recommended) or secondary IDE connector, then connect the gray connector to the Ultra DMA 133/100/66 slave device (hard disk drive) and the black connector to the Ultra DMA 133/100/66 master device. If you install two hard disks, you must configure the second drive as a slave device by setting its jumper accordingly. Refer to the hard disk documentation for the jumper settings.

Attention:

Ribbon cables are directional, therefore, make sure to always connect with the cable on the same side as pin 1 of the PIDE/SIDE or FDD connector on the motherboard.

Front Panel Connector: FP1

This motherboard includes one connector for connecting the front panel switch and LED indicators.



FP1

HDD LED Connector (HDD-LED)

The connector connects to the case's HDD indicator LED indicating the activity status of hard disks.

Reset Switch (RESET)

Attach the connector to the Reset switch on the front panel of the case; the system will restart when the switch is pressed.

Power LED Connector (PWRLED)

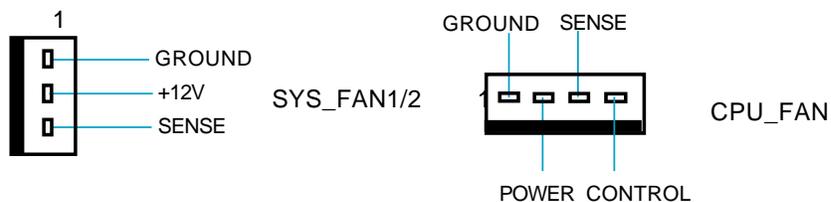
Attach the connector to the power LED on the front panel of the case. The Power LED indicates the system's status. When the system is in S0 status, the LED is on. When the system is in S1 status, the LED is blink; When the system is in S3, S4, S5 status, the LED is off.

Power Switch Connector (PWRSW)

Attach the connector to the power button of the case. Pushing this switch allows the system to be turned on and off rather than using the power supply button.

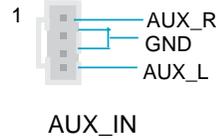
Fan Connectors: CPU_FAN, SYS_FAN1, SYS_FAN2

The fan speed can be detected and viewed in "PC Health Status" section of the CMOS Setup. These fans will be automatically turned off after the system enters S3, S4 and S5 mode.



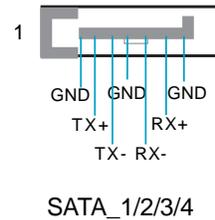
Audio Connectors: AUX_IN (optional)

AUX_IN is Sony standard CD audio connectors, it can be connected to a CD-ROM drive through a CD audio cable.



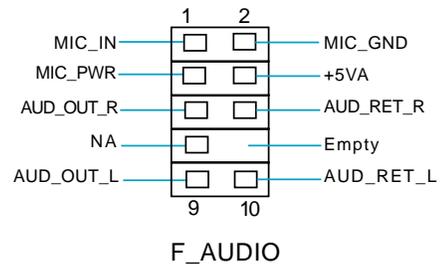
Serial ATA Connectors: SATA_1, SATA_2, SATA_3, SATA_4 (optional)

The Serial ATA connector are used to connect the Serial ATA device to the motherboard. These connectors support the thin Serial ATA cables for primary storage devices. The current Serial ATA interface allows up to 150MB/s data transfer rate.



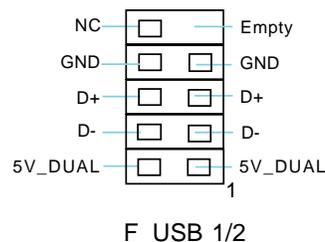
Audio Interface: F_AUDIO

The audio interface provides two kinds of audio output choices: the Front Audio, the Rear Audio. Their priority is sequenced from high to low (Front Audio to Rear Audio). If headphones are plugged into the front panel of the chassis (using the Front Audio), then the Line-out (Rear Audio) on the rear panel will not work. If you do not want to use the Front Audio, pin 5 and 6, pin9 and



USB Headers: F_USB1, F_USB2

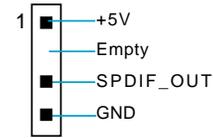
Besides four USB ports on the rear panel, the series of motherboards also have two 10-pin headers on board which may connect to front panel USB cable (optional) to provide additional four USB ports.



S/PDIF Out Connector: SPD_OUT

The S/PDIF out connector is capable of providing digital audio to external speakers or compressed AC3 data to an external Dolby digital decoder.

Note: The empty pin of S/PDIF cable should be aligned to empty pin of S/PDIF out connector.



SPD_OUT

Expansion Slots

This motherboard includes three 32-bit master PCI bus slots and two PCI Express x 16 slots.

PCI Express Slots

PCI Express will offer the following design advantages over the PCI and AGP interface:

- Compatible with existing PCI drivers and software and Operating Systems.
- High Bandwidth per Pin. Low overhead. Low latency.
- PCI Express supports a raw bit-rate of 2.5 Gb/s on the data pins. This results in a real bandwidth per pair of 250 MB/s.
- A point to point connection, allows each device to have a dedicated connection without sharing bandwidth.
- Ability to comprehend different data structure.
- Low power consumption and power management features.

PCI Express will take two forms, x16 and x1 PCI Express slots. Whereas the x16 slot is reserved for graphic/video cards, the x1 slots are designed to accommodate less bandwidth-intensive cards, such as a modem or LAN card.

The difference in bandwidth between the x16 and x1 slots are not able to be sure, with the x16 slot pushing 4GB/sec (8GB/sec concurrent) of bandwidth, and the x1 PCI Express slot offering 250MB/sec.

Warning:

If a performance graphics card was installed into x16 PCI Express slot, 2X12 pin power supply was strongly recommended.

Jumpers

The users can change the jumper settings on this motherboard if needed. This section explains how to use the various functions of this motherboard by changing the jumper settings. Users should read the following content carefully prior to modifying any jumper settings.

Description of Jumpers

1. For the jumpers on this motherboard, pin 1 can be identified by the silk-screen printed “1” next to it. However, in this manual, pin 1 is simply labeled as “1”.
2. The following table provides some explanation of the jumper pin settings. User should refer to this when adjusting jumper settings.

Jumper	Diagram	Definition	Description
1		1-2	Set pin1 and pin2 closed
		2-3	Set pin2 and pin3 closed
1		Closed	Set the pin closed
		Open	Set the pin opened

Clear CMOS Jumper: CLR_CMOS

The motherboard uses the CMOS RAM to store all the set parameters. The CMOS can be cleared by removing the CMOS jumper.

How to clear CMOS?

1. Turn off the AC power supply and connect pins 1 and 2 together using the jumper cap.
2. Return the jumper setting to normal (pins 2 and 3 together with the jumper cap).
3. Turn the AC power supply back on.

NORMAL
(Default) 
1 2 3

CLEAR 
1 2 3

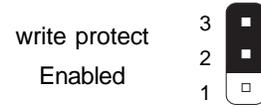
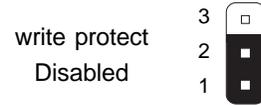
CLR_CMOS

Warning:

1. Disconnect the power cable before adjusting the jumper settings.
2. Do not clear the CMOS while the system is turned on.

BIOS Protection Jumper: WP_EN1

The motherboard BIOS is inside the FWH. If the jumper WP_EN1 is set as write protect Enabled, the system BIOS is protected from being attacked by a serious virus, such as the CIH virus. You will be unable to flash the BIOS to the motherboard, when the system BIOS is protected.



WP_EN1

Chapter 3

This chapter tells how to change system settings through the BIOS Setup menus. Detailed descriptions of the BIOS parameters are also provided.

You have to run the Setup Program when the following cases occur:

1. An error message appears on the screen during the system POST process.
2. You want to change the default CMOS settings.

This chapter includes the following information:

- ❖ Enter BIOS Setup
- ❖ Main Menu
- ❖ Standard CMOS Features
- ❖ BIOS Features
- ❖ Advanced BIOS Features
- ❖ Advanced Chipset Features
- ❖ Integrated Peripherals
- ❖ Power Management Setup
- ❖ PnP/PCI Configurations
- ❖ PC Health Status
- ❖ Frequency/Voltage Control
- ❖ Load Fail-Safe Defaults
- ❖ Load Optimized Defaults
- ❖ Set Password
- ❖ Save & Exit Setup
- ❖ Exit Without Saving

Enter BIOS Setup

The BIOS is the communication bridge between hardware and software, correctly setting up the BIOS parameters is critical to maintain optimal system performance. Power on the computer, when the following message briefly appears at the bottom of the screen during the POST (Power On Self Test), press key to enter the AWARD BIOS CMOS Setup Utility.

Press TAB to show POST Screen, DEL to enter SETUP.

If you want to enter the BIOS, you must press the button within 3-5 seconds of the appearance of the above message.

Note:

We do not suggest that you change the default parameters in the BIOS Setup, and we shall not be responsible for any damage that result from any changes that you make.

Main Menu

The main menu allows you to select from the list of setup functions and two exit choices. Use the arrow keys to select among the items and press <Enter> to accept or go to the sub-menu.



Main Menu

The items in the main menu are explained as below:

Standard CMOS Features

The basic system configuration can be set up through this menu.

Advanced BIOS Features

The advanced system features can be set up through this menu.

Advanced Chipset Features

The values for the chipset can be changed through this menu, and the system performance can be optimized.

Integrated Peripherals

All onboard peripherals can be set up through this menu.

Power Management Setup

All the items of Green function features can be set up through this menu.

PnP/PCI Configurations

The system's PnP/PCI settings and parameters can be modified through this menu.

PC Health Status

This will display the current status of your PC.

Frequency/Voltage Control

Frequency and voltage settings can be adjusted through this menu.

Load Optimized Defaults

The optimal performance settings can be loaded through this menu, however, the stable default values may be affected.

Set Password

The password can be set up through this menu.

Save & Exit Setup

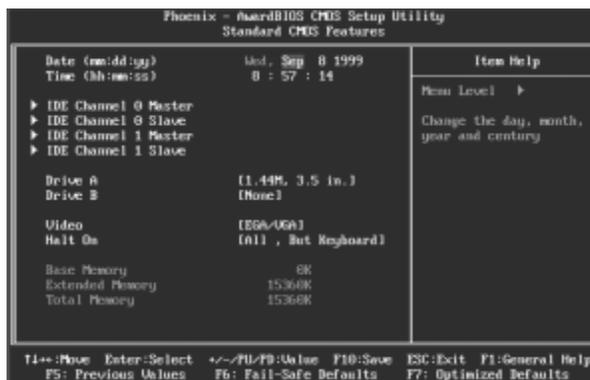
Save CMOS value settings to CMOS and exit setup.

Exit Without Saving

Abandon all CMOS value changes and exit setup.

Standard CMOS Features

This sub-menu is used to set up the standard CMOS features, such as the date, time, HDD model and so on. Use the arrow keys select the item to set up, and then use the <PgUp> or <PgDn> keys to choose the setting values.



Standard CMOS Features Menu

Date

This option allows you to set the desired date (usually as the current day) with the <day><month><date><year> format.

Day—weekday from Sun. to Sat., defined by BIOS (read-only).

Month—month from Jan. to Dec..

Date—date from 1st to 31st, can be changed using the keyboard.

Year—year, set up by users.

Time

This option allows you to set up the desired time (usually the current day) with <hour><minute><second> format.

IDE Primary/Secondary Master/Slave

These categories identify the HDD types of 2 IDE channels installed in the computer system. There are three choices provided for the Enhanced IDE BIOS: None, Auto, and Manual. “None” means no HDD is installed or set; “Auto” means the system can auto-detect the hard disk when booting up; by choosing “Manual” and changing Access Mode to “CHS”, the related information should be entered manually. Enter the information directly from the keyboard and press < Enter>:

Cylinder	number of cylinders	Head	number of heads
Precomp	write pre-compensation	Landing Zone	landing zone
Sector	number of sectors		

Award (Phoenix) BIOS can support 3 HDD modes: CHS, LBA and Large or Auto mode.

CHS	For HDD<528MB
LBA	For HDD>528MB & supporting LBA (Logical Block Addressing)
Large	For HDD>528MB but not supporting LBA
Auto	Recommended mode

Drive A/B

This option allows you to select the kind of FDD to be installed, including “None”, [360K, 5.25 in], [1.2M, 5.25 in], [720K, 3.5 in], [1.44M, 3.5 in] and [2.88 M, 3.5 in].

Video

The following table is provided for your reference in setting the display mode for your system.

EGA/VGA	Enhanced Graphics Adapter / Video Graphic Array. For EGA, VGA, SEGA, SVGA, or PGA monitor adapters.
CGA 40	Color Graphic Adapter, powering up in 40 column mode.
CGA 80	Color Graphic Adapter, powering up in 80 column mode.
MONO	Monochrome adapter, including high resolution monochrome adapters.

Halt On

This category determines whether or not the computer will stop if an error is detected during powering up.

All Errors	Whenever the BIOS detects a nonfatal error, the system will stop and you will be prompted.
No Errors	The system boot will not stop for any errors that may be detected.
All, But Keyboard	The system boot will not stop for a keyboard error; but it will stop for all other errors.
All, But Diskette	The system boot will not stop for a floppy disk error; but it will stop for all other errors.
All, But Disk/Key	The system boot will not stop for a keyboard or disk error, but it will stop for all other errors.

Memory

This is a Display-Only Category, determined by POST (Power On Self Test) of the BIOS.

Base Memory	The BIOS POST will determine the amount of base (or conventional) memory installed in the system.
Extended Memory	The BIOS determines how much extended memory is present during the POST.
Total Memory	Total memory of the system.

Advanced BIOS Features



Advanced BIOS Features Menu

❖ CPU Feature

Press enter to set the items of CPU feature.

❖ Hard Disk Boot Priority

This option is used to select the priority for HDD startup. After pressing <Enter>, you can select the HDD using the <PageUp>/<PageDn> or up/down arrow keys, and change the HDD priority using <+> or <->; you can exit this menu by pressing <Esc>.

❖ Hyper-Threading Technology

This option is used to turn on or off the Hyper-threading function of the CPU. The available setting values are: Disabled and Enabled.

Note: This function will not be displayed until a CPU that supports Hyper-Threading has been installed.

❖ First/Second/Third Boot Device

This option allows you to set the boot device's sequence.

❖ Boot Other Device

With this function set to enable, the system will to boot from some other devices if the first/second/third boot devices failed. The available setting values are: Disabled and Enabled.

❖ Boot Up NumLock Status

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

❖ **Typematic Rate Setting**

If this option is enabled, you can use the following two items to see the typematic rate and the typematic delay settings for your keyboard. The available setting values are: Disabled and Enabled.

❖ **Typematic Rate (Chars/Sec)**

Use this option to define how many characters per second a held-down key generated.

❖ **Typematic Delay (Msec)**

Use this option to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

❖ **Security Option**

When it is set to “Setup”, a password is required to enter the CMOS Setup screen; When it is set to “System”, a password is required not only to enter CMOS Setup, but also to start up your PC.

❖ **MPS Version Control For OS**

This option is used to set up the version of MPS Table used in NT4.0 OS.



CPU Feature Menu

❖ Thermal Management

This option is used to manage Prescott CPU thermal.

❖ TM2 Bus Ratio

Represents the frequency bus ratio of the throttled performance state that will be initiated when the on-diesensor goes from not hot to hot.

❖ TM2 Bus VID

Represents the voltage of the throttled performance state that will be initiated when the on-diesensor goes from not hot to hot.

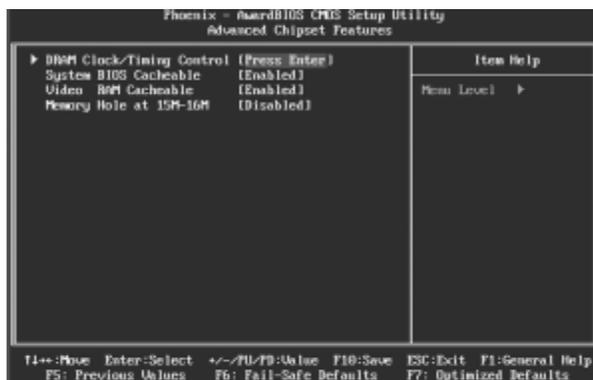
❖ Limit CPUID MaxVal

The option is used to set limit CPUID MaxVal. The available setting values are: Disabled and Enabled. Set Limit CPUID MaxVal to 3, should be "Disabled" for WinXP.

❖ NX BIOS Control

When disabled, forces the NX feature flag to always return 0.

Advanced Chipset Features



Advanced Chipset Features Menu

❖ DRAM Clock/Timing Control

Press enter to set the items about DDR RAM.

❖ System BIOS Cacheable

Select “Enabled” to allow caching of the system BIOS which may improve performance. If any other program writes to this memory area, a system error may result. The available setting values are: Enabled and Disabled.

❖ Video RAM Cacheable

Select “Enabled” to allow caching of the Video BIOS which may improve performance. If any other program writes to this memory area, a system error may result. The available setting values are: Enabled and Disabled.

❖ Memory Hole at 15M-16M

This option is used to determine whether the 15M-16M address field of memory is reserved for the ISA expansion card. The available setting values are: Enabled and Disabled.



DRAM Clock/Timing Control Menu

❖ DRAM CAS Latency

When synchronous DRAM is installed, the number of clock cycles of CAS latency depends on the DRAM timing.

❖ DRAM Timing control

Selects whether DRAM timing is controlled by the SPD (Serial Presence Detect) EEPROM on the DRAM module. Setting to “Auto” enables DRAM timings to be determined by BIOS based on the configurations on the SPD. Selecting “Manual” allows users to configure the DRAM timings manually. The setting values are: Auto, Manual.

Note: The following options can be activated and configured only when this option is set as “Manual”.

❖ RAS to CAS Delay (tRCD)

It is used to set the delay time between RAS (Row Address Strobe) and CAS (Column Address Strobe) signals.

❖ Precharge Time (tRP)

It is used to set the precharge time of RAS.

❖ RAS to Active Time (tRAS)

It is used to set the RAS to active time.

❖ Write Recovery Time (tWR)

It is used to set the write recovery time.

❖ DDR 128-Bit Access

It is used to set whether 128-bit access is allowed or not.

❖ ECC Data Check

It is used to enable or disable ECC data check function.

Integrated Peripherals



Integrated Peripherals Menu

❖ SIS OnChip IDE Device

Press enter to set onchip IDE device.

❖ SIS OnChip PCI Device

Press enter to set onchip PCI device.

❖ Onboard SuperIO Device

Press enter to set Onboard SuperIO device.

❖ Onboard Lan Device

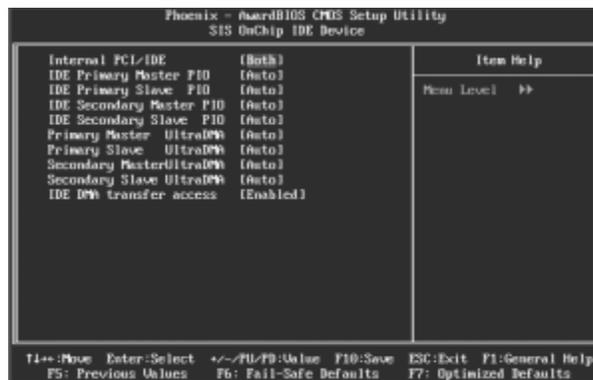
This option is used to enable or disable onboard LAN device. The setting values are: Disabled and Enabled.

❖ IDE HDD Block Mode

This option is used to set whether the IDE HDD Block Mode is allowed. The available setting values are: Disabled and Enabled.

❖ Onboard Lan Boot ROM

This option is used to decide whether to invoke the boot ROM of the onboard LAN chip.



SIS OnChip IDE Device Menu

❖ Internal PCI/IDE

This option is used to set the ports of onboard IDE. The available setting values are: Disabled, Primary, Secondary and Both.

❖ IDE Primary/ Secondary Master/Slave PIO

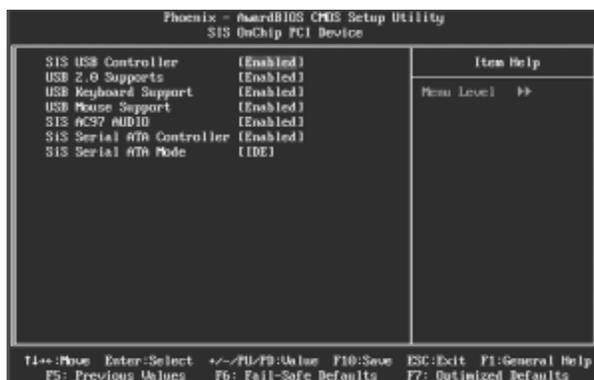
These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. Choose Auto to let the system auto detect which PIO mode is the best or select a PIO mode from 0-4.

❖ Primary/Secondary Master/Slave UltraDMA

UltraDMA technology provides faster access to IDE devices. If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. The available setting values are: Disabled and Auto.

❖ IDE DMA transfer access

This option is used to enable or disable IDE DMA transfer access.



SIS OnChip PCI Device Menu

❖ SIS USB Controller

This option is used to enable or disable SIS USB controller.

❖ USB 2.0 Supports

This option is used to enable or disable USB 2.0.

❖ USB Keyboard Support

This option is used to enable or disable USB keyboard under legacy OS.

❖ USB Mouse Support

This option is used to enable or disable USB mouse under legacy OS.

❖ SIS AC97 AUDIO

This option is used to enable or disable SIS AC97 AUDIO.

❖ SIS Serial ATA Controller

This option is used to enable or disable SIS serial ATA controller.

❖ SIS Serial ATA Mode

This option is used to select SIS serial ATA mode.



Onboard SuperIO Device Menu

❖ Onboard FDC Controller

This option is used to set whether the Onboard FDC Controller is enabled. The available setting values are: Disabled and Enabled.

❖ Onboard Serial Port 1/2

This option is used to assign the I/O address and interrupt request (IRQ) for the onboard serial port 1/2.

❖ UART Mode Select

Use this option to select the UART mode. Setting values include Normal, IrDA, ASKIR and SCR. The setting value is determined by the infrared module installed on the board.

❖ UR2 Duplex Mode

This option is available when UART 2 mode is set to either ASKIR or IrDA. This option enables you to determine the infrared function of the onboard infrared chip.

❖ Onboard Parallel Port

This option allows you to determine onboard parallel port controller I/O address and interrupt request (IRQ).

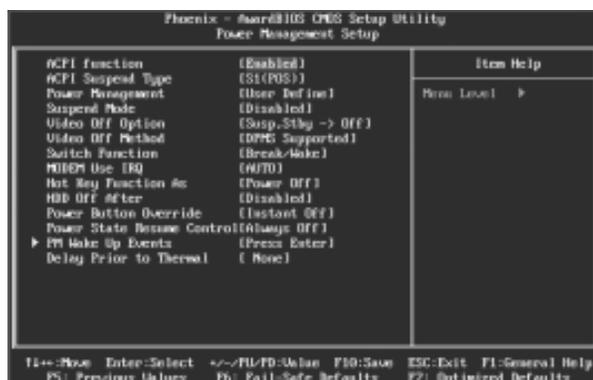
❖ Parallel Port Mode

Select an address and corresponding interrupt for the onboard parallel port.

❖ ECP Mode Use DMA

Select a DMA Channel for the parallel port when using the ECP mode. This field is only configurable if Parallel Port Mode is set to ECP.

Power Management Setup



Power Management Setup Menu

❖ ACPI function

ACPI stands for “Advanced Configuration and Power Interface”. ACPI is a standard that defines power and configuration management interfaces between an operating system and the BIOS. In other words, it is a standard that describes how computer components work together to manage system hardware. In order to use this function the ACPI specification must be supported by the OS (for example, Windows2000 or WindowsXP). The available setting values are: Enabled and Disabled.

❖ ACPI Suspend Type

This option is used to set the energy saving mode of the ACPI function. When you select “S1 (P0S)” mode, the power will not shut off and the supply status will remain as it is, in S1 mode the computer can be resumed at any time. When you select “S3 (STR)” mode, the power will be cut off after a delay period. The status of the computer before it enters STR will be saved in memory, and the computer can quickly return to previous status when the STR function wakes. When you select “S1 & S3” mode, the system will automatically select the delay time.

❖ **Switch Function**

This option is used to enable or disable switch function to wake up.

❖ **MODEM Use IRQ**

This option is used to set the IRQ in which the Modem can use. The system will automatically wake up when the Modem receives an incoming call.

❖ **Hot Key Function As**

This option is used to define the hot key function.

❖ **Power Button Override**

This option is used to set the power down method. This function is only valid for systems using an ATX power supply.

When “Instant Off” is selected, press the power switch to immediately turn off power.

When “Delay 4 Sec” is selected, press and hold the power button for four seconds to turn off power.

❖ **Power State Resume Control**

This option is used to control power resume state.

❖ **PM Wake Up Events**

Press <Enter> to set the items of PM wake up Events.

❖ **Delay Prior to Thermal**

This option is used to set the delay time before the CPU enters auto thermal mode.



PM Wake Up Events Menu

❖ **IRQ [3-7, 9-15], NMI**

This option is used to enable or disable IRQ [3-7, 9-15], NMI.

❖ **IRQ 8 Break Suspend**

This option is used to enable or disable IRQ8 break suspend.

❖ **PCIPME Power Up Control**

This option is used to enable or disable the system to be waken up by PCI card.

❖ **PS2KB Wakeup from S3/S4/S5**

This option is used to set which action will wake up PS/2 keyboard from S3/S4/S5 status. The hotkey is Ctrl+Alt+Backspace. The setting values are Any Key, Hot Key and Password.

❖ **PS2MS Wakeup from S3/S4/S5**

This option used to set which action will wake up PS/2 mouse from S3/S4/S5 status. The setting values are: Disabled, Click, Move & Click.

❖ **Power Up by Alarm**

This option is used to set the timing of the start-up function. In order to use this function, the start-up password function must be canceled. Also, the PC power source must not be turned off. The setting values are Disabled and Enabled.

❖ **Month Alarm**

This option is used to set the timing for the start-up month. The setting values contain 1 - 12 and NA.

❖ **Day of Month Alarm**

This option is used to set the timing for the start-up day of the month. The setting values contain 0 - 31.

❖ **Time (hh:mm:ss) Alarm**

This option is used to set the timing for the start-up time. The setting values contain hh:0 – 23; mm:0 – 59; ss:0 – 59.

❖ **Primary/Secondary IDE**

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

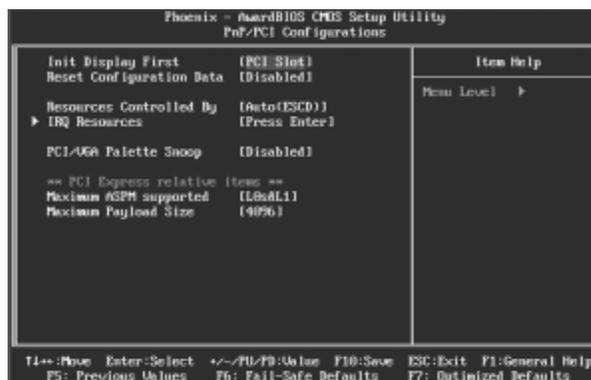
❖ **FDD, COM, LPT Port**

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

❖ **PCI PIRQ [A-D]#**

When this option is disabled, any PCI device set as the master will not power on the system.

PnP/PCI Configurations



PnP/PCI Configurations Menu

❖ Init Display First

This item is used to set which display device will be used first when your PC starts up.

❖ Reset Configuration Data

This option is used to set whether the system is permitted to automatically distribute IRQ DMA and I/O addresses when each time that the machine is turned on.

❖ Resources Controlled By

This option is used to define the system resource control scheme. If all cards you use support PnP, then select Auto (ESCD) and the BIOS automatically distributes interruption resources. If you install ISA cards not supporting PnP, you will need to select “Manual” and manually adjust interruption resources in the event of hardware conflicts. However, since this motherboard has no ISA slot, this option does not apply.

❖ PCI/VGA Palette Snoop

If you use a non-standard VGA card, use this option to solve graphic acceleration card or MPEG audio card problems (e.g., colors not accurately displayed).

❖ Maximum ASPM Supported

Control maximum level of ASPM supported on the given PCI Express links on the system.

❖ Maximum Payload Size

This option is used to maximum TLP payload size for PCI Express devices. The unit is byte.

PC Health Status



PC Health Status Menu

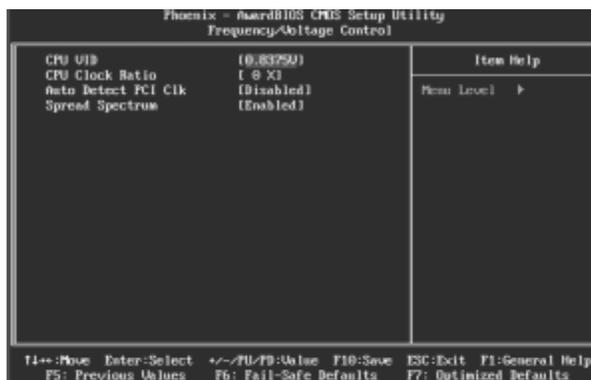
❖ Shutdown Temperature

This option is used to set upper limitation of system temperature. When the temperature is higher than setting values, the system will automatically shutdown.

❖ Smart Fan Controller

This option is used to enable or disable smart fan function. The setting values are Disabled and Enabled.

Frequency/Voltage Control



Frequency/Voltage Control Menu

❖ Auto Detect PCI Clk

This option is used to set whether the clock of an unused PCI/DIMM slot will be disabled to reduce electromagnetic interference. The setting values are Disabled and Enabled.

❖ Spread Spectrum

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

⚡ Warning:

Be sure your selection is right. CPU over speed will be dangerous!
We will not be responsible for any damages caused.

Load Optimized Defaults

Select this option and press <Enter>, and a dialogue box will pop up to let you load the optimized BIOS default settings. Select <Y> and then press <Enter> to load the optimized defaults. Select <N> and press <Enter> to exit without loading. The defaults set by BIOS are the optimized performance parameters for the system, to improve the performance of your system components. However, if the optimized performance parameters are not supported by your hardware devices, it will likely cause system reliability and stability issues. If you only want to load the optimized default for a single option, select the desired option and press the <F7> key.

Set Supervisor/User Password

The access rights and permissions associated with the Supervisor password are higher than those of a regular User password. The Supervisor password can be used to start the system or modify the CMOS settings. The User password can also start the system. While the User password can be used to view the current CMOS settings, these settings cannot be modified using the User password. When you select the Set Supervisor/User Password option, the following message will appear in the center of the screen, which will help you to set the password:

Enter Password:

Enter your password, not exceeding 8 characters, then press <Enter>. The password you entered will replace any previous password. When prompted, key in the new password and press <Enter>.

If you do not want to set a password, just press <Enter> when prompted to enter a password, and the following message will appear on the screen. If no password is keyed in, any user can enter the system and view/modify the CMOS settings.

PASSWORD DISABLED!!!
Press any key to continue ...

Under the menu “Advanced BIOS Features Setup”, if you select “System” from the Security Option, you will be prompted to enter a password once the system is started or whenever you want to enter the CMOS setting program. If the incorrect password is typed, you will not be permitted to continue.

Under the menu “Advanced BIOS Features Setup”, if you select “Setup” from the Security Option, you will be prompted to enter a password only when you enter the CMOS setting program.

Save & Exit Setup

When you select this option and press <Enter>, the following message will appear in the center of the screen:

SAVE to CMOS and EXIT (Y/N) ? Y

Press <Y> to save your changes in CMOS and exit the program; press <N> or <ESC> to return to the main menu.

Exit Without Saving

If you select this option and press <Enter>, the following message will appear in the center of the screen:

Quit Without Saving (Y/N) ? N

Press <Y> to exit CMOS without saving your changes; press <N> or <ESC> to return to the main menu screen.