

AE14

**PPGA Celeron processor
Based AGPset MAIN BOARD**

User's Manual

Shuttle® Spacewalker™ AE14

PPGA Celeron processor based AGPset Mainboard Manual Version 2.0

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Technical Support

- Contact Your Dealer
- Check Shuttle's Web Site
- Shuttle's (RMA or Warranty) Policy

1 INTRODUCTION

1.1 To Different Users

First-Time DIY System Builder

Welcome to the DIY world! Building your own computer system is not as difficult as you may think. To make your first computer DIY experience a success, right from the start, we have designed the **3 Hardware Installation** section in a step-by-step fashion for all the first-time DIY system builders. Prior to installation, we also suggest you to read the whole manual carefully to gain a complete understanding of your new Shuttle AE14 mainboard.

Experienced DIY User

Congratulations on your purchase of the Shuttle AE14 mainboard. You will find that installing your new Shuttle AE14 mainboard is just that easy. Bundled with an array of onboard functions, the highly-integrated AE14 mainboard provides you with a total solution to build the most stable and reliable system. Refer to section **3.2 Jumper Settings** and **Chapter 4 Drivers/Software Utilities** to find out how to get the best out of your new mainboard. **Chapter 5 BIOS Setup** also contains relevant information on how to tune up your system to achieve higher performance.

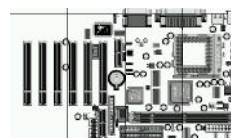
System Integrator

You have wisely chosen Shuttle AE14 to construct your system. Shuttle AE14 incorporates all the state-of-the-art technology of the i810 chipset from Intel. It integrates the most advanced functions you can find to date in a compact ATX board. Refer to section **3.2 Jumper Settings** and **Chapter 4 Drivers/Software Utilities** for an in-depth view of system construction.

1.2 Item Checklist:

Check all items you received with your AE14 mainboard to make sure nothing is missing. The complete package should include:

- * One Shuttle AE14 Mainboard
(with onboard Socket 370, built-in Intel i810 chipset , ATX form factor, including 2xUSB, 1xSerial, and 1xParallel ports, plus 1xPS/2 Keyboard, and 1xPS/2 Mouse connectors.)



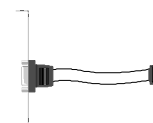
- * One ATA/66 Ribbon Cable



- * One Floppy Ribbon Cable



- * One 9-pin COM2 Cable



- * This AE14 User's Manual



- * One Shuttle Spacewalker Bundled CD-ROM containing:

- The AE14 user's manual on PDF format
- The Intel INF driver
- The Intel 810 VGA driver
- The audio CODEC driver
- The System Manager
- The Award Flashing Utility



2 FEATURES

The AE14 mainboard is carefully designed for the demanding PC user who wants high performance and maximum intelligent features in a compact package.

2.1 Specifications

* CPU Support

PGA 370 Celeron processors: 300/66 ~ 500+/66 MHz

PGA 370 Celeron processors: 500+/100 MHz (for future CPU upgrade)

* Intel 810 Chipset

Features 100/66 MHz Intel 810 system chipset with integrated 2D/3D AGP graphics engine, onboard AC97 Codec digital link sound controller, and I/O subsystems which support UltraDMA 33/66 devices allowing up to 33/66 MB/sec of disk data transfer speed.

* Jumperless CPU Configuration

Auto-detect CPU voltage

Soft-configure CPU Speed (The CPU operating speed is software configurable in the CMOS Setup menu of the BIOS Setup utility.)

* Versatile Memory Support

Equipped with two DIMM banks of PC/100 compliant SDRAM to provide up to 512MB of system memory.

* Built-In 2D/3D Graphics Controller

The onboard Intel 810 chipset integrates a high-performance 2D/3D graphics controller which provides a full 2D H/W acceleration, and 3D Hyper Pipelined Architecture.

* PCI and ISA Expansion Slots

Provides five or six 32-bit PCI slots and one or two optional 16-bit ISA slots.

* UPT and AMR Expansion Slots

Provides one UPT (USB-PanelLink-TV out) slot and featuring one AMR (Audio/Modem Riser) slot.

* **LPC Super I/O Onboard**

Provides a variety of I/O interfaces:

- 1 × Floppy interface for 3.5-inch FDD with 720KB, 1.44MB, 2.88MB format or for 5.25-inch FDD with 360KB or 1.2MB format.
- 1 × PS/2 mouse connector
- 1 × PS/2 Keyboard connector
- 2 × DB9 Serial connectors 16V550 UART compatible
- 1 × Infrared communications port ASKIR and HPSIR compatible. (Serial port COM2 can also be redirected to an external IrDA Adapter for wireless connection.)
- 1 × DB25 Parallel port supporting Standard Parallel Port and Bi-directional (SPP), Enhanced Parallel Port (EPP), and Extended Capabilities Port (ECP) data transmission schemes.

* **USB Interface Onboard**

- 2 × USB connectors on back-panel

* **PCI Bus Master IDE Controller Onboard**

Two UltraDMA 33/66 Bus Master Dual-channel IDE ports provide support to a maximum of four IDE devices (one Master and one Slave per channel). The IDE Bus implements data transfer speeds of up to 33/66 MB/sec and also supports Enhanced PIO Modes 3 & 4.

* **ATX Power Supply Connector**

ATX power supply unit can connect to the onboard 20-pin ATX power connector, supporting Suspend and Soft-On/Off by dual-function power button.

* **Advanced Configuration and Power Interface**

Features four power savings modes: S1 (Snoop), S3 (Suspend to RAM), S4 (Suspend to Disk), and S5 (Soft-Off). ACPI provides more efficient Energy Savings Features controlled by your operating system that supports OS Direct Power Management (OSPM) functionality.

* **System BIOS**

Provides licensed Award BIOS V6.0 PG on Intel Firmware Hub with 4 Mb flash core (Intel 4Mb FWH). Supports Green PC, Desktop Management Interface (DMI) and bundled with NCR SCSI BIOS.

* **ATX Form Factor**

System board conforms to the ATX specification.

Board dimensions: 305mm × 170mm (12.0" x 6.7")

* **Advanced Features**

- **Dual Function Power Button** - The system can be in one of two states, one is Suspend mode and the other is Soft-Off mode. Pushing the power button for less than 4 seconds places the system into Suspend mode. When the power button is pressed for longer than 4 seconds, the system enters the Soft-Off mode.
- **Keyboard/Mouse Power-On** - This mainboard implements a special jumper to enable a system power-on function by keyboard or PS/2 mouse.
- **Wake-on-LAN (WOL)** - The onboard WOL connector can be attached to a network card that supports this function to wake up the system via the LAN.
- **Modem Ring Power-On** - The system can be powered on automatically by activation of the modem ring.

* **Intelligent Features**

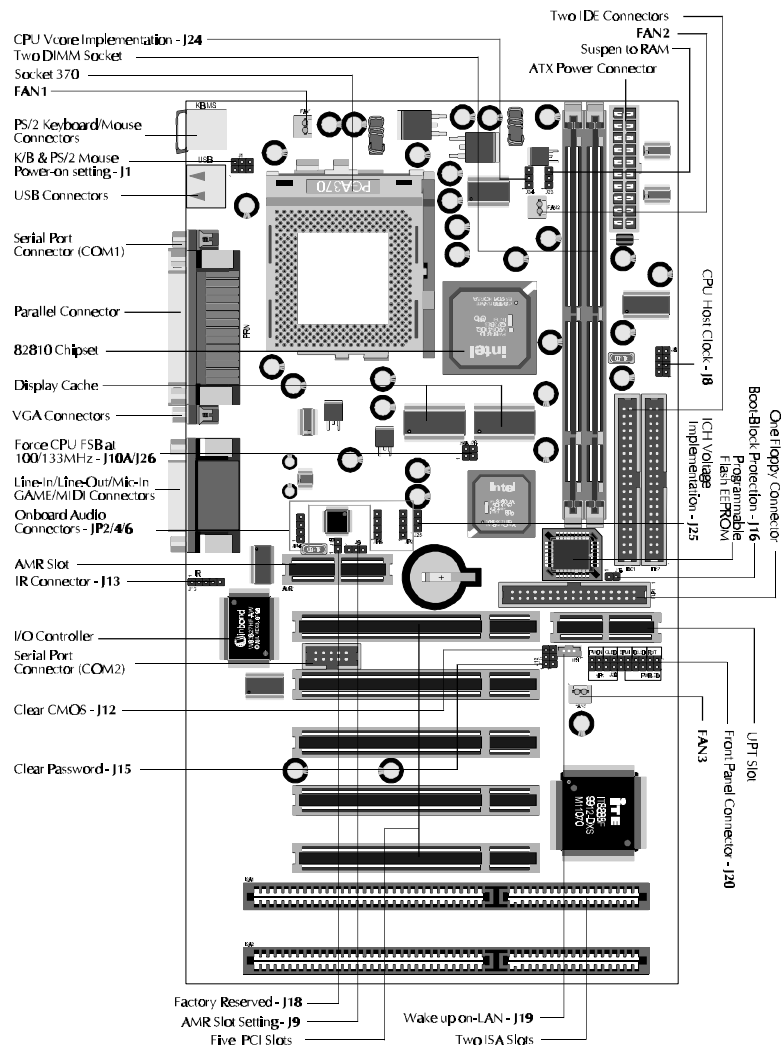
- **Voltage Monitoring** - Monitors various voltages of key elements, such as the CPU, and other critical system voltage levels to ensure stable current reach to mainboard components. System voltages include Vcore/ VTT on CPU, and +5V, +12V, -5V, -12V on system.
- **Fan Status Monitoring** - To prevent overheating of CPU, the CPU fan is monitored for RPM and failure. (CPU Cooling FAN with RPM sensor is required.)

3 HARDWARE INSTALLATION

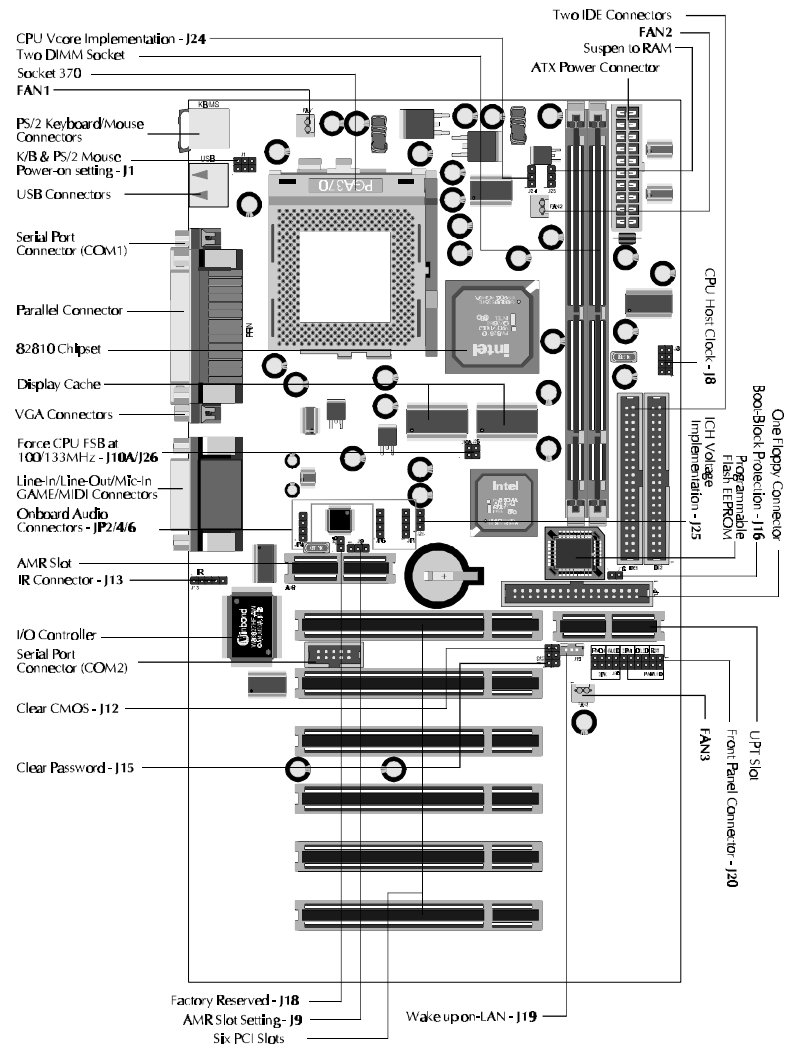
This section outlines how to install and configure your AE14 mainboard. Refer to the following mainboard layout to help you identify various jumpers, connectors, slots, and ports. Then follow these steps designed to guide you through a quick and correct installation of your system.

3.1 Step-by-Step Installation

AE14 Mainboard with 5 PCI Slots and 2 ISA Slots



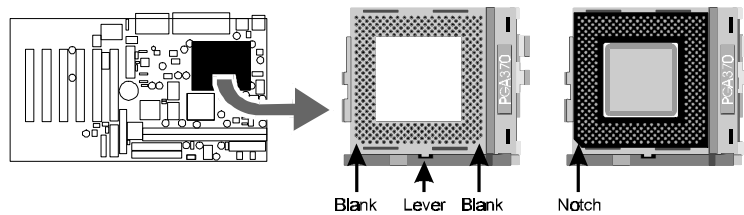
AE14 Mainboard with 6 PCI Slots



Step 1

Install the CPU:

1. Locate the CPU ZIF (Zero Insertion Force) socket on the upper-right sector of your mainboard (between the back-panel connectors and the DIMM memory banks).
2. Pull the CPU ZIF socket lever slightly sideways away from the socket to unlock the lever, then bring it to an upward vertical position.
3. Place your PGA 370 Celeron processor in the ZIF socket. Note that the CPU's edges have been purposely designed non-symmetrical to prevent from inserting the processor in the wrong direction. The following diagram demonstrates the correct placement of the CPU in the ZIF socket. You can see that the two blunt-edged corners should face towards the socket-lever.



4. Slightly push the CPU into the socket without applying excessive force while making sure there is no gap between CPU and socket. Then lower the socket-lever all the way down to its horizontal position and lock it to secure the CPU in place.
5. The PGA 370 CPU requires a set of heatsink/fan to ensure proper cooling of the processor. If not already mounted on your CPU, you must purchase the heatsink/fan separately and have it installed. Plug the cable from the heatsink/fan to the CPU fan power connector located at the immediate right of the ZIF socket. Note that there are several types of CPU fan connectors. Normally, if your mainboard supports the hardware monitoring function, a 3-pin fan power connector should allow your system to detect the CPU fan's speed. The CPU fan can also run with a 2-pin fan power connector, however, detection of CPU fan's speed is not supported. Another type of CPU fan may feature a large 4-pin fan power connector, which does not support CPU fan's speed detection and must connect directly to the system's power supply unit. Please refer to the following diagram.

Step 2.

Set Jumpers

This mainboard is jumperless! The default jumper settings have been set for the common usage standard of this mainboard. Therefore, you do not need to reset the jumpers unless you require special adjustments as in any of the following cases:

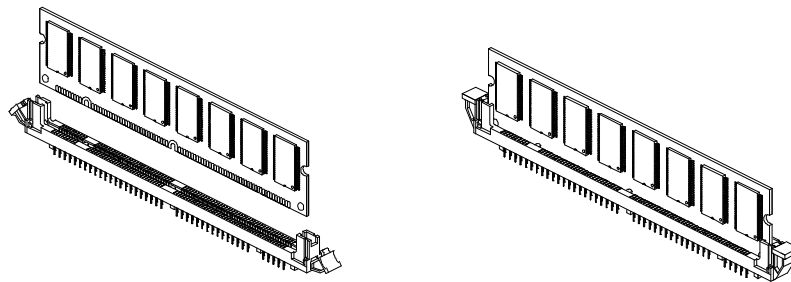
1. Over-clock your CPU
2. Disable the onboard audio before installing an add-on sound card
3. Clear CMOS
4. Clear system password
5. Set the wake up function by keyboard/PS2 mouse

For first-time DIY system builders, we recommend that you do not change the default jumper settings if you are not totally familiar with mainboard configuration procedures. The factory-set default settings are tuned for optimum system performance. For the advanced users who wish to customize their system, section **3.2 Jumper Settings** will provide detailed information on how to configure your mainboard manually.

Step 3

Install SDRAM System Memory

To install memory, insert SDRAM memory module(s) in any one or two DIMM banks. Note that SDRAM modules are directional and will not go in the DIMM slots unless properly oriented. After the module is fully inserted into the DIMM socket, lift the clips of both sides of the DIMM bank to lock the module in place.



Step 4

Install Internal Peripherals in System Case

Before you install and connect the mainboard into your system case, we recommend that you first assemble all the internal peripheral devices into the computer housing, including but not limited to the hard disk drive (IDE/HDD), floppy disk drive (FDD), CD-ROM drive, and ATX power supply unit. This will greatly facilitate in making the connections to the mainboard described below.

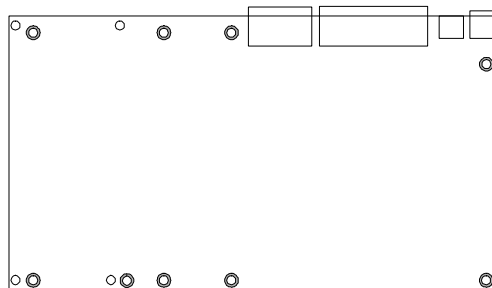
To install IDE & FDD drives, follow this procedure:

1. Set the required jumpers on each device according to the instructions provided by the manufacturer. (IDE devices, HDD and CD-ROM, have to set jumpers to Master or Slave mode depending on whether you install more than one device of each kind.)
2. Connect IDE cable and FDD cable on the back-panel of the internal peripheral devices. Note that the cable should be oriented with its colored stripe (usually red or magenta) connected to pin#1 both on the mainboard IDE or FDD connector and on the device as well.
3. Connect an available power cable from your system power supply unit to the back-panel of each peripheral device. Note that the power cable is directional and cannot fit in if not properly positioned.

Step 5

Mount the Mainboard on the Computer Chassis

1. You may find that there are a lot of different mounting hole positions both on your computer chassis and on the mainboard. To choose a correct mounting hole, the key point is to keep the back-panel of the mainboard in a close fit with your system case, as shown below.



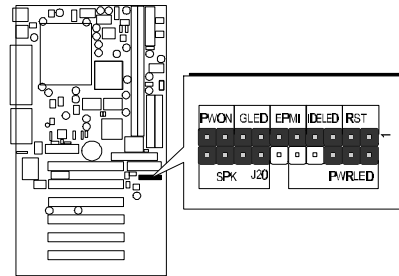
2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system chassis and the mainboard, in order to avoid any electrical shorts between the board and the metal frame of the chassis. (If your computer case is already equipped with mounting studs, you will need to tighten screws to attach the mainboard.)

Note: In most computer housings, you will be able to find 4 or more attachment points to install mounting studs and fix the mainboard. If there aren't enough matching holes, then make sure to install at least 3 mounting studs to ensure proper attachment of the mainboard.

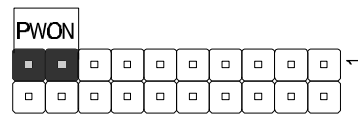
Step 6

Connect Front Panel Switches/LEDs/Speaker

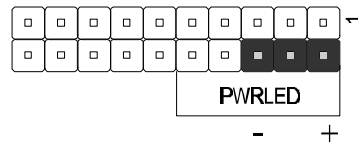
You can find there are several different cables already existing in the system case and originating from the computer's front-panel devices (HDD LED, Power LED, Reset Switch, PC Speaker, etc.) These cables serve to connect the front-panel switches and LEDs to the mainboard's front-panel connectors group (J20), as shown below.



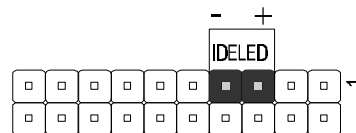
1. ATX Soft Power On/Off



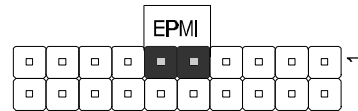
2. Power-LED



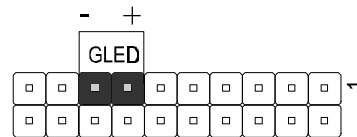
3. HDD-LED



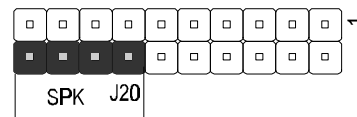
4. EPMI
(Hardware System Management
Interface)



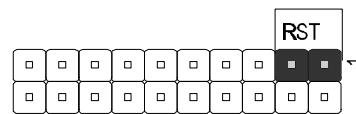
5. Green-LED



6. PC Speaker



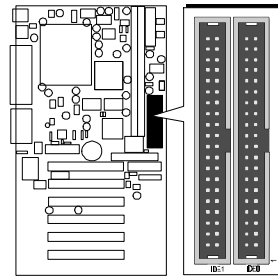
7. Hardware Reset Switch



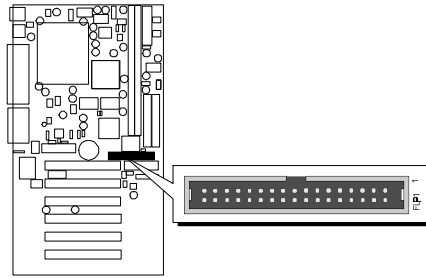
Step 7

Connect IDE & Floppy Disk Drives

1. IDE cable connector



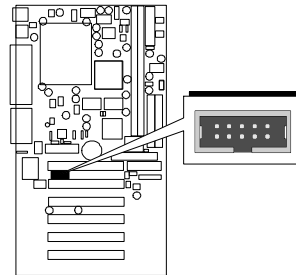
2. FDD cable connector



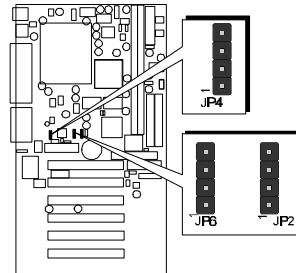
Step 8

Connect Other Internal Peripherals

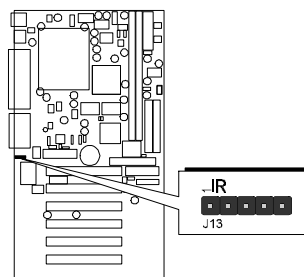
1. COM 2 cable connector



2. CD-IN, AUX-IN, TAD-IN connectors



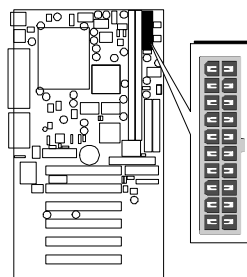
3. SIR/CIR connector



Step 9

Connect the Power Supply

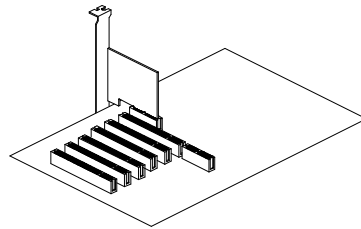
1. System power connector



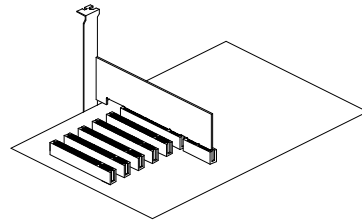
Step 10

Install Add-on Cards in Expansion Slots

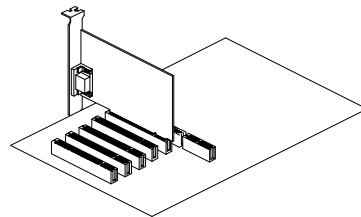
1. Audio Modem Riser (AMR) Card



2. USB -Panellink-TV out (UPT) Card



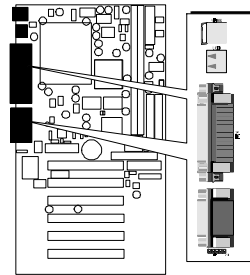
3. PCI Card



Step 11

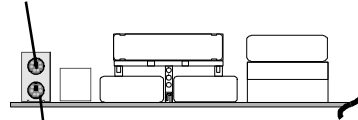
Connect External Peripherals to Back Panel

You are now ready to put the computer case back together and get on to the external peripherals connections to your system's back-panel.



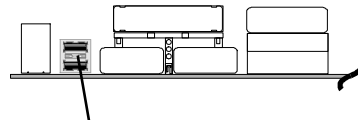
1. PS/2 Mouse and Keyboard

PS/2 Mouse



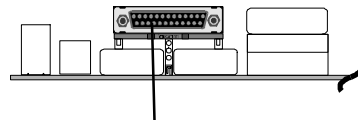
PS/2 keyboard

2. USB Devices



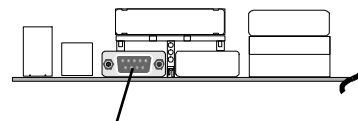
USB1 & USB2

3. Parallel Port



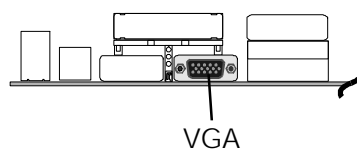
Parallel Port

4. COM Port

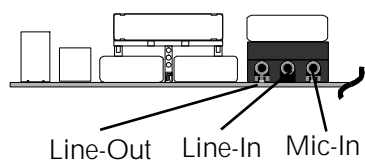


COM1

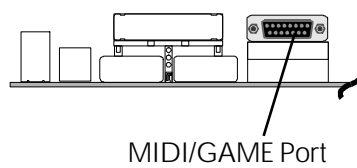
5. VGA connector



6. Audio Line-out / Line-in / Mic-in



7. MIDI/Game Port



Step 12

First Time System Boot Up

To assure the completeness and correctness of your system installation, you may check the above installation steps once again before you boot up your system for the first time.

1. Insert a bootable system floppy disk (DOS 6.2x, Windows 95/98/NT, or others) which contains FDISK and FORMAT utilities into the FDD.
2. Turn on the system power.
3. First, you must use the FDISK utility to create a primary partition of the hard disk. You can also add an extended partition if your primary partition does not use all of the available hard disk space. If you choose to add an extended partition, you will have to create one or more logical partitions to occupy all the space available to the extended partition. The FDISK utility will assign a drive letter (i.e., C:, D:, E:,...) to each partition which will be shown in the FDISK program. After FDISK procedure, reboot your system by using the same system floppy disk.

Note: DOS 6.2x and Windows 95A can only support up to 2.1GB of HDD partition. If you use the FDISK utility with one of the operating systems mentioned above, you can only divide your HDD into partitions no larger than 2.1GB each.

4. Now, use the FORMAT utility to format all the partitions you've created. When formatting the primary partition (C:), make sure to use the `FORMAT C: /S` command.

Note: `FORMAT C: /S` can transfer all the necessary system files into the primary partition of your hard disk. Then, your HDD will become a bootable drive.

5. Install all the necessary drivers for CD-ROM, Mouse, etc.
6. Setup the complete operating system according to your OS installation guide.

Step 13

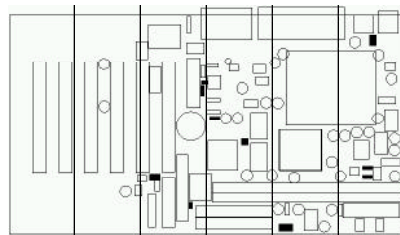
Install Drivers & Software Components

Please note that all the system utilities and drivers are designed for Win 9x operating systems only. Make sure your Windows 9x operating system is already installed before running the drivers installation CD-ROM programs.

1. Insert the AE14 bundled CD-ROM into your CD-ROM drive. The auto-run program will display the drivers main installation window on screen.
2. Select the select the Video related program.
3. Install the video driver.
4. Return to the main installation window and select the Audio related program.
5. Install the AD1881 driver.
6. Return to the main installation window and select the Select the Mainboard related program.
7. Install the INF driver for Win9x.
8. Install the System Manager for Win9x.

3.2 Jumper Settings

Several hardware settings are made through the use of jumper caps to connect jumper pins on the mainboard. Pin #1 is located on the top or on the left when holding the mainboard with the keyboard connector or other back-panel connectors opposite from you, as shown below.





3-pin and multi (> 3) pin jumpers show as follows:

Pin #1 on the left:



Pin #1 on the top:



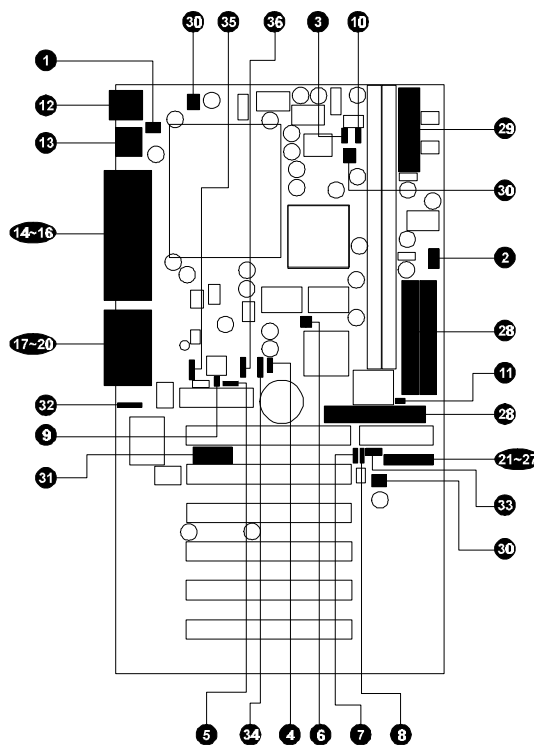
Jumpers with two pins are shown as  for Close [On] or  for Open [Off]. To Short jumper pins, simply place a plastic jumper cap over the desired pair of pins.

Caution!

1. Do not remove the mainboard from its antistatic protective packaging until you are ready to install it.
2. Carefully hold the mainboard by its edges and avoid touching its components. When putting the mainboard down, place it on top of its original packaging film, on an even surface, and components side up.
3. Wear an antistatic wrist strap or take other suitable measures to prevent electrostatic discharge (ESD) whenever handling this equipment.

Jumpers & Connectors Guide

Use the mainboard layout on page 11 to locate CPU socket, memory banks, expansion slots, jumpers and connectors on the mainboard during the installation. The following list will help you identify jumpers, slots, and connectors along with their assigned functions:



CPU/Memory/Expansion Slots

- Socket 370 : CPU Socket for PGA 370 Celeron processors
- J4, J5 : Two DIMM Sockets for 8, 16, 32, 64, 128, 256 MB 3.3V SDRAM
- AMR : AMR Expansion Slot for Audio / Modem Riser Cards
- UPT : USB Hub / Panel Link / TV-out Expansion Slot for CV11, CV12
- PCI : Five or Six 32-bit PCI Expansion Slots
- ISA : Two Optional 16-bit ISA Expansion Slots

Jumpers

- ① J1 : Keyboard & PS/2 Mouse Power-On
(requires to always set J1 jumper in order to enable either or both KB & PS/2 mouse power-on functions. In addition, you need to set Power On Function in BIOS setup.)
- ② J8 : CPU Host frequency setting
- ③ J24 : Core CPU Voltage setting
- ④ J25 : ICH Voltage setting
- ⑤ J9 : AMR Slot Setting
- ⑥ J10A & J26 : Over-Clocking the CPU
- ⑦ J12 : Clear CMOS
- ⑧ J15 : Clear Password
- ⑨ J18 : Factory Reserved
- ⑩ J23 : Suspend To RAM
- ⑪ J16 : Boot-Block Protection

Back Panel Connectors

- ⑫ KB : PS/2 Keyboard
- ⑫ MS : PS/2 Mouse
- ⑬ USB : 2 × USB (Universal Serial Bus)
- ⑭ COM1 : Serial Port 1 (DB9 male)
- ⑮ VGA : VGA Port 2 (DB15 female)
- ⑯ PRINTER : Parallel Port (DB25 female)
- ⑰ LINE-OUT : Line-Out Port
- ⑱ LINE-IN : Line-In Port
- ⑲ MIC-IN : Mic-In Port
- ⑳ MIDI/GAME : MIDI/Game Port

Front Panel Connectors (J20)

- ⑳ PWON : ATX Power On/Off Momentary Type Switch
- ㉑ GLED : Green LED (ON when system in power savings mode)
- ㉒ EPMI : Hardware System Management Interface Momentary Type switch.
- ㉓ IDE LED : IDE Drive Active LED

-
- 25 RST : Hardware Reset Switch
 - 26 SPK : Housing Internal Speaker
 - 27 PWR : System Power LED

Internal Peripherals Connectors

- 28 FDD : Floppy Disk Drive Interface
- 28 IDE1 : IDE Primary Interface (Dual-channel)
- 28 IDE2 : IDE Secondary Interface (Dual-channel)

Other Connectors:

- 29 JWR1 : ATX Power (20-pin header)
- 30 FAN1 : CPU Cooling Fan Power
- 30 FAN2 : Housing Cooling Fan Power
- 30 FAN3 : Housing Cooling Fan Power
- 31 COM2 : COM2 Connector
- 32 J13 : SIR/CIR Connector
- 33 J19 : Wake-On-LAN Connector
- 34 JP2 : AUX in
- 35 JP4 : TAD in
- 36 JP6 : CD Audio in

① Set Keyboard & PS/2 Mouse Power-On (J1)

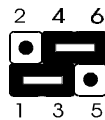
AE14 mainboard provides an easy power-on by keyboard and PS/2 mouse.

Note: When you enable Keyboard Power-On, you also need to configure the proper hot-key combination < Ctrl > + < function key F1 ~ F12 > in BIOS setup program.

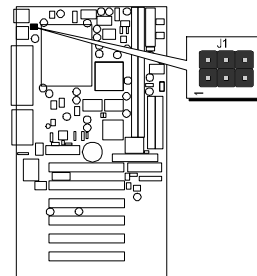
To Power on the system by keyboard, simply strike the proper hot-key. (A hot-key is the combination of < Ctrl > + < configured function key F1 ~ F12 >)

To power on the system by PS/2 mouse, you only need to double-click with the mouse. (Note that power-on by serial mouse is not supported)

To enable/disable either or both keyboard and PS/2 mouse power-on functions, follow the steps outlined below:



J1 1-3, 4-6 (default)



Step 1. Adjust the jumper group J1 as shown in the following table.

K/B & PS/2 Mouse Power-On - J1		
Keyboard & PS/2 Mouse Power-On Disabled	Keyboard Power-On Enabled	PS/2 Mouse Power-On Enabled

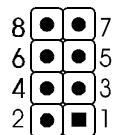
Step 2. Set the Power On field to the proper value (Hot-key or PS/2 Mouse) in Integrated Peripherals menu of BIOS setup.

② CPU Host Frequency Setting (J8)

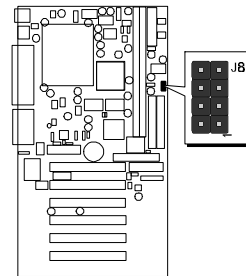
The default CPU host frequency setting is 66MHz. It is defined according to Intel Celeron CPU specification. We strongly advise novice users not to modify the original setting of the CPU host frequency, for setting an incorrect value may damage your CPU.

For experienced users, the AE14 mainboard provides an alternative Hard-Configure function to adjust your CPU host frequency manually.

Note: Before you adjust your CPU host frequency by jumper, you need to set CPU Host/PCI Clock to **default** in frequency/voltage control of BIOS setup program.



(Default)



Insert mini-jumper caps properly on J8 to reach desired CPU Host Frequency, as shown in the following table.

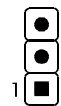
J8- (1, 2)	J8- (3, 4)	J8- (5, 6)	J8-(7, 8)	MHz	Power On Default
OFF	OFF	OFF	OFF	66MHz	66MHz
ON	OFF	OFF	OFF	70MHz	
ON	ON	ON	ON	75MHz	
ON	ON	ON	OFF	83MHz	

Note: 75, 83 MHz are for over-clock usage only. However, over-clocking is not a recommended practice.

3 Core CPU Voltage Setting (J24)

The CPU voltage setting is jumperless. This means that your AE14 mainboard can detect the CPU core voltage automatically; therefore, you do not need to configure any voltage jumper.

But, AE14 provide an extra 3pin jumper to increase CPU core voltage for overspeed usage.



Default



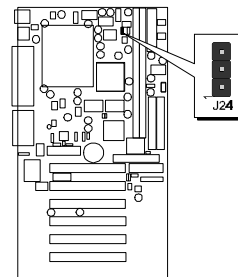
Pin 1-2

(CPU core voltage increase 2%)



Pin 2-3

(CPU core voltage increase 5%)



4 ICH Voltage Setting (J25)

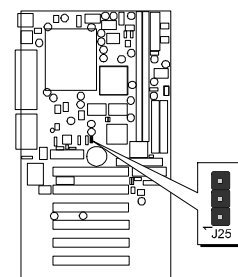
This jumper allows you to select the voltage supplied to the Intel 82801 (ICH). The default voltage should be used unless some IDE devices need more voltage supplied.



Pin 1-2 (3.3V) default



Pin 2-3 (3.9V)



5 AMR Slot Setting (J9)

The slot supports a specially designed audio and/or modem card called an AMR. Main processing is done through software and controlled by the motherboard's Intel Controller Hub (ICH). There are two types of AMR, one defined as primary and another defined as secondary. This motherboard uses the primary channel so that a secondary AMR can coexist. The onboard CODEC must be disabled when using a primary AMR.

NOTE: If the user need to disabled onboard CODEC, please enter the BIOS setup program Integrated Peripherals groups, to disabled the AC97 Audio item.

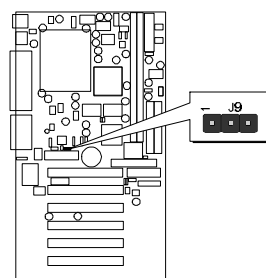
NOTE: An AMR is not included with this motherboard.



Pin 1-2
Secondary (default)



Pin 2-3
Primary



6 Over-Clocking the CPU (J10A & J26 For Reference Only)

Warning : Over-clocking is not a recommended practice for it may damage both the mainboard and the processor.

AE14 mainboard provides a special jumper J10A to over-clock your 66MHz-based Celeron processor up to 100MHz and J26 to over-clock your 100MHz-based Celeron processor up to 133MHz when CPU configuration performed by hard-configure.

J10A



Close (default)



Open (over-clock to 100MHz)

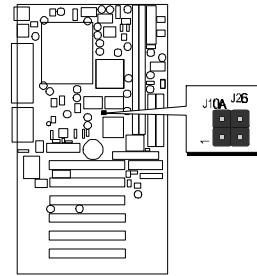
J26



Close (default)



Open (over-clock to 133MHz)



When you set *J10/J26* for 100/133MHz over-clocking, you also "must" set **J8** according to the following table.

J8- (1, 2)	J8- (3, 4)	J8- (5, 6)	J8-(7, 8)	MHz	Power On Default
ON	ON	OFF	ON	90MHz	100MHz
ON	ON	OFF	OFF	95MHz	
OFF	OFF	ON	OFF	100MHz	
OFF	OFF	OFF	ON	105MHz	
ON	OFF	OFF	ON	114MHz	
OFF	ON	ON	OFF	124MHz	
OFF	ON	OFF	ON	133MHz	
BIOS SETTING ONLY				140MHz	133MHz
BIOS SETTING ONLY				150MHz	

Normally, CPU host clocks of 100 ~ 133MHz are not accessible to 66MHz based processors whether CPU configuration is performed by Soft-Configure or by Hard-Configure method.

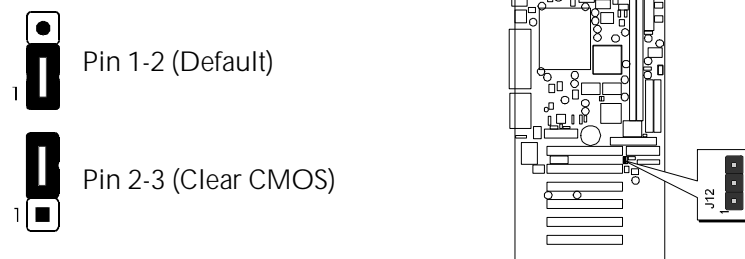
However, when J10A and J8 is set as the table, the user can Hard-Configure the CPU host clock to over-clock the 66MHz-based processor from 66MHz up to 100MHz. This way, a standard 300MHz (66MHz × 4.5) Celeron processor can be over-clocked to 450MHz (100MHz × 4.5) or higher, as an example.

When J26 is set to open, the user can Hard-Configure the CPU host clock to over-clock the 100MHz-based processor from 100MHz up to 133MHz.

Please keep in mind that, although over clocking is technically feasible with this mainboard, however, it is not a recommended practice for this may cause severe damage to the system.

7 Clear the CMOS (J12)

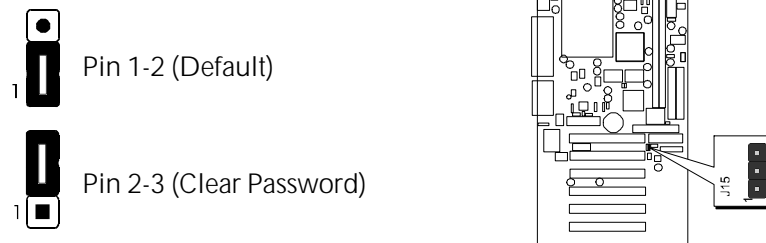
J12 is used to clear the CMOS data. Clearing the CMOS will result in permanently erasing the previous system configuration settings and restoring the original (factory-set) system settings.



- Step 1. Turn off the system power (PC-> Off)
- Step 2. Remove jumper cap from J12 pins 1-2
- Step 3. Place the jumper cap on J12 pin 2-3 for a few seconds
- Step 4. Return the jumper cap to pin 1-2
- Step 5. Turn on the system power (PC-> On)

8 Clear Password (J15)

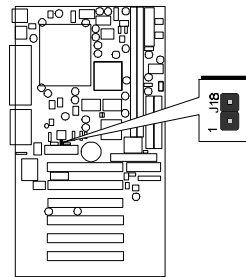
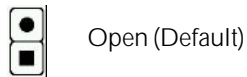
J15 is used to clear the system Password which you set in the BIOS. Clearing the Password will result in permanently erasing the previous system password settings and restoring the original (none password) system settings. You will find this function is very useful when you forget your system password setting.



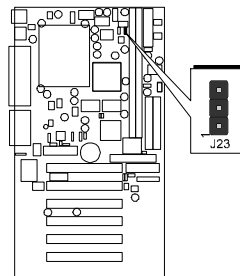
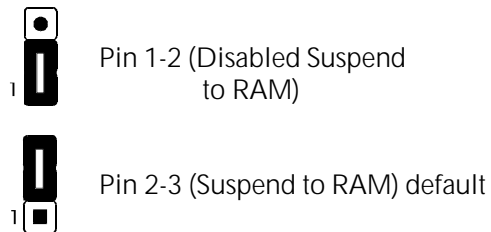
- Step 1. Turn off the system power (PC -> Off)
- Step 2. Remove jumper cap from J15 pins 1-2

-
- Step 3. Place the jumper cap on J15 pins 2-3 for a few seconds
 - Step 4. Return the jumper cap to pin 1-2
 - Step 5. Turn on the system power (PC-> On)

9 Factory Reserved (J18)



10 Suspend to RAM (J23)

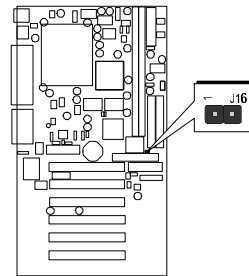


Note : Please enter BIOS setup program-power management setup to select ACPI suspend type (S3) if you need to enabled STR function.

11 Boot-Block Protection (J16)

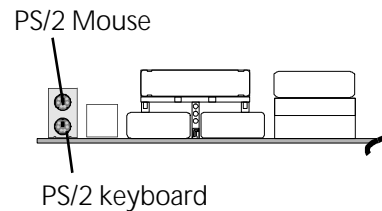
J16 is used to protect the Boot-Block in BIOS. If the virus infects the Boot-Block section, your system will not be able to boot forever. You may choose to open the jumper for Boot-Block protection; however, please close the jumper if you need to reflash the BIOS. A protected Boot-Block may cause your BIOS reflash failed.

 Close (Default)



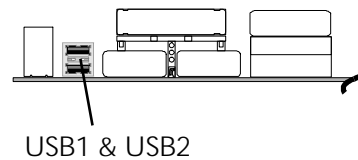
12 PS/2 Keyboard & PS/2 Mouse Connectors

Two 6-pin female PS/2 keyboard & Mouse connectors are located at the rear panel of the mainboard. Depending on the computer housing you use (desktop or minitower), the PS/2 Mouse connector is situated at the top of the PS/2 Keyboard connector when the mainboard is laid into a desktop, as opposed to a minitower where the PS/2 Mouse connector is located at the right of the PS/2 Keyboard's. Plug the PS/2 keyboard and mouse jacks into their corresponding connectors.



13 USB1/USB2 Port Connectors

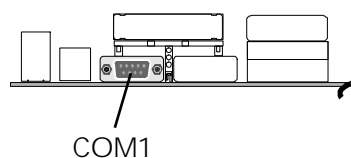
Two female connectors USB1/USB2 share the same USB (Universal Serial Bus) bracket at the rear panel of your mainboard. Plug each USB device jack into an available USB1/USB2 connector.



14 COM1 Connector

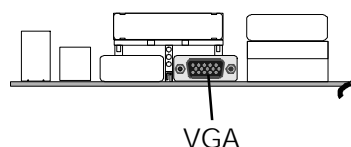
This mainboard can accommodate one serial device on COM1 .

Attach a serial device cable to the DB9 serial port COM1 at the back panel of your computer.



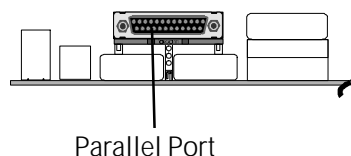
15 VGA Connector

One 15-pin VGA connector is located at the rear panel of the mainboard.



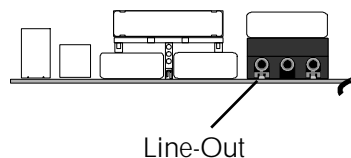
16 Parallel Port Connector

One DB25 female parallel connector is located at the rear panel of the mainboard. Plug the connection panel cable from your parallel device (printer, scanner, etc.) into this connector.



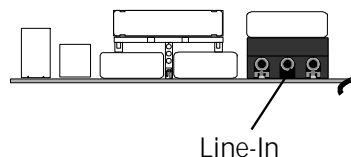
17 Line-Out

Line-Out is a stereo output port through which the combined signal of all internal and external audio sources on the board is output. It can be connected to 1/8-inch TRS stereo headphones or to amplified speakers.



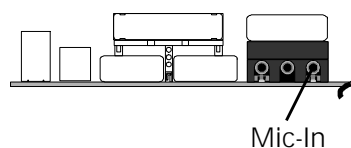
18 Line-In

Line-In is a stereo line-level input port that accepts a 1/8-inch TRS stereo plug. It can be used as a source for digital sound recording, a source to be mixed with the output, or both.



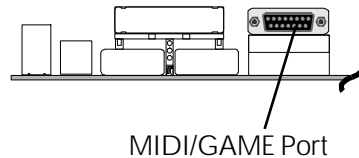
19 Mic-In

Mic-In is a 1/8-inch jack that provides a mono input. It can use a dynamic mono or stereo microphone with a resistance of not more than 600 Ohms.



20 MIDI/GAME Port

The MIDI/GAME port is a 15-pin female connector. This port can be connected to any IBM PC compatible game with a 15-pin D-sub connector.

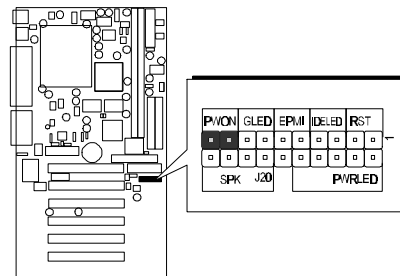


MIDI Instrument Connection

You will need a MIDI adapter to connect a MIDI compatible instrument to the sound card. The MIDI adapter can in turn be connected to the Joystick/MIDE port. You will also need the MIDI sequencing software to run MIDI instruments with your computer.

21 ATX Power On/Off Switch Connector (PWON)

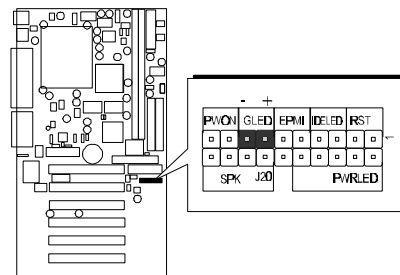
The Power On/Off Switch is a momentary type switch used for turning on or off the system's ATX power supply. Attach the connector cable from the Power Switch to the 2-pin PWON header on the mainboard.



Note : Please notice the Speaker and all the LED connector is directional. If your chassis's LED does not light during running, please simply change to the opposite direction.

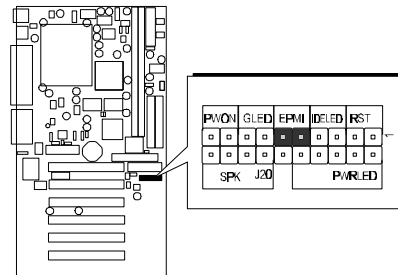
22 Green LED Connector (GLED)

The Green LED (GLED) indicates that the system is currently in one of the power savings mode (Doze/Standby/Suspend). When the system resumes to normal operation, mode, the Green LED will go off. Attach a 2-pin Green LED cable to GLED header.



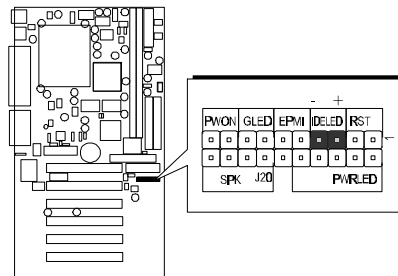
23 EPMI Connector (EPMI)

Hardware System Management Interface (EPMI) header may attach to a 2-pin momentary switch. Press the EPMI switch to force the system into power savings mode; press again to resume normal operation.



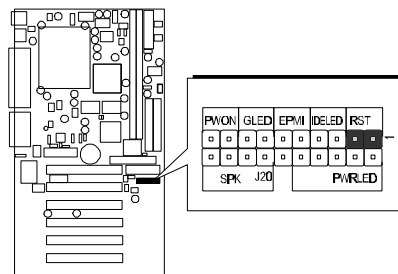
24 HDD LED Connector (IDE LED)

Attach the connector cable from the IDE device LED to the 2-pin HDD LED header. The HDD LED lights up whenever an IDE device is active.



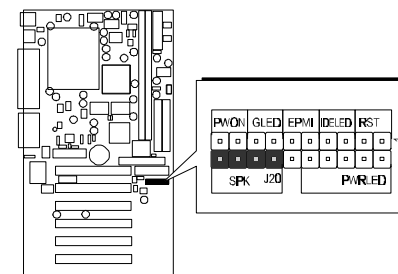
25 Hardware Reset Connector (RST)

Attach the 2-pin hardware reset switch cable to the RST header. Pressing the reset switch causes the system to restart.



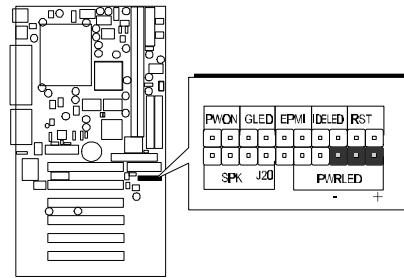
26 Speaker Connector (SPK)

Attach the PC speaker cable from the case to the 4-pin speaker connector (SPK).



27 PWR LED Connector (PWR)

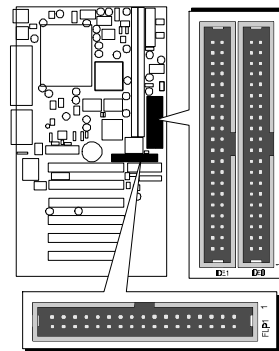
Attach the 3-pin Power-LED connector cable from the housing front panel to the PWR header on the mainboard. The power LED stays lit while the system is running.



28 Enhanced IDE Ports and Floppy Connectors

The AE14 mainboard features two 40-pin dual-channel IDE device connectors (IDE1/IDE0) providing support for up to four IDE devices, such as CD-ROM and Hard Disk Drives (H.D.D.). This mainboard also includes one 34-pin floppy disk controller (FDC) to accommodate the Floppy Disk Drive (F.D.D.). Moreover, this mainboard comes with one 80pinATA66 ribbon cable to connect to IDE H.D.D. and one 34-pin ribbon cable for F.D.D. connection.

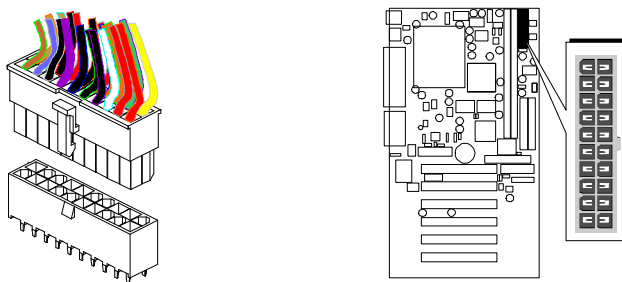
Note : Please connect your system H.D.D. on IDE 0



Important: Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE0 or FDC connector on the mainboard.

29 ATX Power Supply Connector (JWR1)

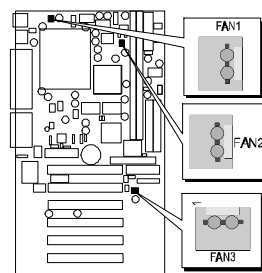
Locate the 20-pin male header ATX power connector (JWR1) on your mainboard. Plug the power cable from the ATX power supply unit directly into JWR1 ATX power supply connector.



- Note 1:** The ATX power connector is directional and will not go in unless the guides match perfectly making sure that pin#1 is properly positioned.
- Note 2:** Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.
- Note 3:** This mainboard requires an ATX power supply of at least 200 watts with power good signal.

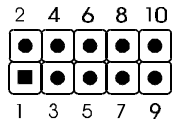
30 Cooling Fan Connectors for CPU (FAN1), Chassis (FAN2), & (FAN3)

The mainboard provides three onboard 12V cooling fan power connectors to support CPU (FAN1), Chassis (FAN2), and (FAN3) cooling fans.



- Note:** Both cable wiring and type of plug may vary depending on the fan maker. Keep in mind that the red wire should always be connected to the +12V header and the black wire to the ground (GND) header.

31 COM2 Connector



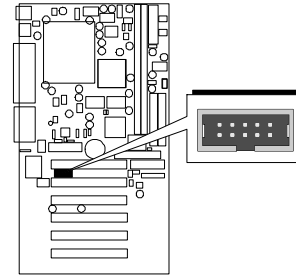
Pin Assignments:

1=DCD- 2=RX 3=TX

4=DTR- 5=Ground

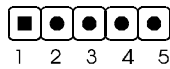
6=DSR- 7=RTS- 8=CTS-

9=RI- 10=NC



32 SIR/CIR Connector (J13)

If you have an Infrared device, this mainboard can implement SIR (Standard IR) and CIR (Cirsumer IR) transfer function. To enable the IR transfer function, follow these steps:



SIR Pin Assignments:

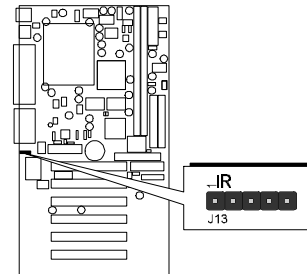
1=VCC 2=VCC 3=IRRX

4=Ground 5=IRTX

CIR Pin Assignments:

1=VCC 2=CIRRX 3=NC

4=Ground 5=NC

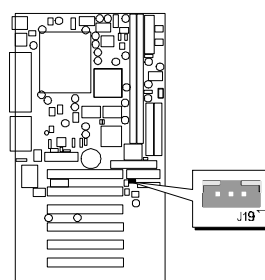


Step 1. Attach the 5-pin infrared device cable to J13 connector. (Refer to the above diagram for IR pin assignment.)

Step2. Configure the Infrared transfer mode in the UR2 Mode field of Integrated Peripherals menu in BIOS Setup. This mainboard supports IrDA, ASKIR, Normal and SCR transfer modes.

33 Wake-on LAN Connector (J19)

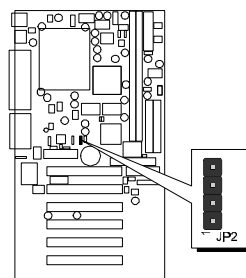
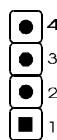
Attach a 3-pin connector from the LAN card which supports the Wake-On-LAN (WOL) function. This function lets users wake up the connected system through the LAN card.



34 Audio Connector AUX-In (JP2)

Port JP2 can be used to connect a stereo audio input from such as CD-ROM, TV-tuner or MPEG card.

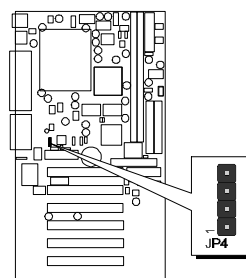
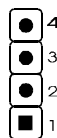
Pin Assignments:
1=AUX_L 2=Ground
3=Ground 4=AUX_R



35 Audio Connector TAD-In (JP4)

Port JP4 can be used to connect a modem audio line to AE14 mainboard. Typically, you would use this connector when running the voice mail software on your system for audio input and output.

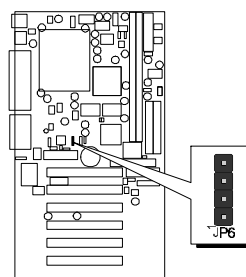
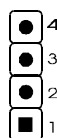
Pin Assignments:
1=PHONE 2=Ground
3=Ground 4=MONO



36 Audio Connector CD-In (JP6)

Port JP6 is used to attach an audio connector cable from the CD-ROM drive.

Pin Assignments:
1=Right Channel 2=Ground
3=Left Channel 4=Ground



3.3 System Memory Configuration

The AE14 mainboard has two 168-pin DIMM sockets that allow you to install from 16MB up to 512MB of system memory with SDRAM (Synchronous DRAM). Each DIMM (Dual In-line Memory Module) socket can accommodate 16MB, 32MB, 64MB, 128MB, and 256MB 3.3V single or double side SDRAM modules. DIMM sockets are arranged in two banks, each memory bank made of one socket and providing a 64 bit wide data path.

Install Memory:

Install memory in any or all of the banks and in any combination, as follows.

DIMM Socket	Memory Modules	Module Quantity
DIMM 1	16MB, 32MB, 64MB, 128MB, 256MB 168-pin 3.3V SDRAM DIMM	x 1
DIMM 2	16MB, 32MB, 64MB, 128MB, 256MB 168-pin 3.3V SDRAM DIMM	x 1

Note: You do not need to set any jumper to configure memory since the BIOS utility can detect the system memory automatically. You can check the total system memory value in the BIOS Standard CMOS Setup menu.

Upgrade Memory:

You can easily upgrade the system memory by inserting additional SDRAM modules in available DIMM banks. The total system memory is calculated by simply adding up the memory in all DIMM banks. After upgrade, the new system memory value will automatically be computed and displayed by the BIOS Standard CMOS Setup menu.

4 Software Utility

4.1 AE14 Mainboard CD Overview

Note: The AE14 mainboard attachment CD contents are subject to change without notice.

To start your mainboard CD disc, just insert it into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click or run D:\Autorun.exe (assuming that your CD-ROM drive is drive D:)

Navigation Bar Description:

Install Mainboard Software - Installing INF driver for Windows 95/98, System Manager for Windows 95/98.

Install Display Adaptor Driver Software - Installing Intel 82810 Integrated VGA driver.

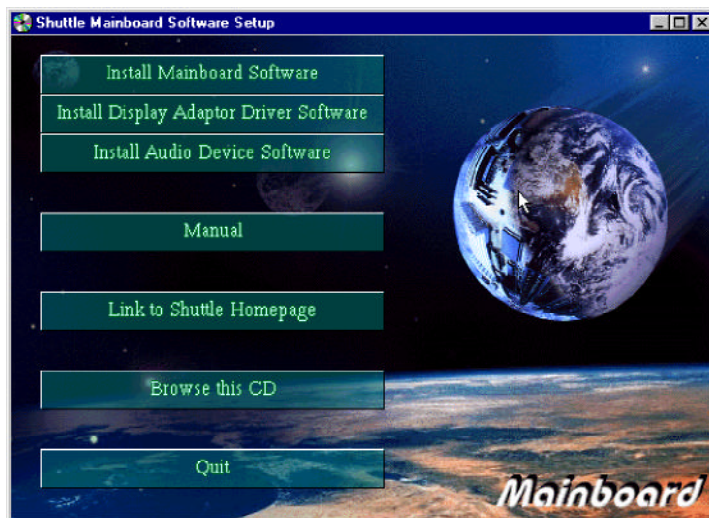
Install Audio Device Software - Installing onboard AD1881 CODEC audio driver.

Manual - AE14 series mainboard user's manual in PDF format.

Link to Shuttle Homepage - Link to shuttle website homepage.

Browse this CD - Allows you to see the contents of this CD.

Quit - Close this CD.



4.2 Install Display Adaptor Driver Software

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the "Install Display Adaptor Driver Software" bar.



Then Display Adaptor Driver Installation windows will appear on your screen. Click on the "Install Intel 810 Driver" bar.



Once you made your selection, a Setup window which automatically runs the installation.

When the files are done copying make sure you **reboot** the system to insure that the files are installed correctly.

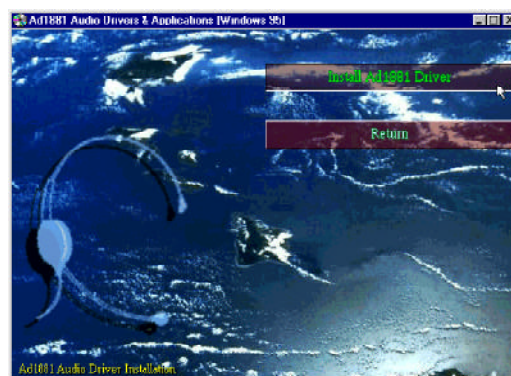
4.3 Install Audio Device Software

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the “Install Audio Device Software” bar.



Then Ad1881 Audio Driver windows will appear on your screen. Click on the “Install Ad1881 Driver” bar.



Once you made your selection, a Setup window which automatically runs the installation.

When the files are done copying make sure you **reboot** the system to insure that the files are installed correctly.

4.4 Install INF Driver

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the “Install Mainboard Software” bar.



Then Mainboard Drivers & Utilities windows will appear on your screen. Click on the “Install INF Files for Intel Chipsets Driver” bar.

Once you made your selection, a Setup window which automatically runs the installation.



When the files are done copying make sure you **reboot** the system to insure that the files are installed correctly.

Note : When the Windows 95/98 first reboot after Intel INF drivers installed, some new hardware devices will be found and added. For those new hardware devices, related software driver will be searched for installing. The user may find the software drivers retain on directory C:\windows\system if some of software drivers could not be found during searching.

4.5 Install System Manager

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in **My Computer** to bring up **Shuttle Mainboard Software Setup** screen.

Select using your pointing device (e.g. mouse) on the “**Install Mainboard Software**” bar.



Then **Mainboard Drivers & Utilities** windows will appear on your screen. Click on the “**Install System Manager**” bar.



Once you made your selection, a Setup window which automatically runs the installation.
When the files are done copying make sure you **reboot** the system to insure that the files are installed correctly.

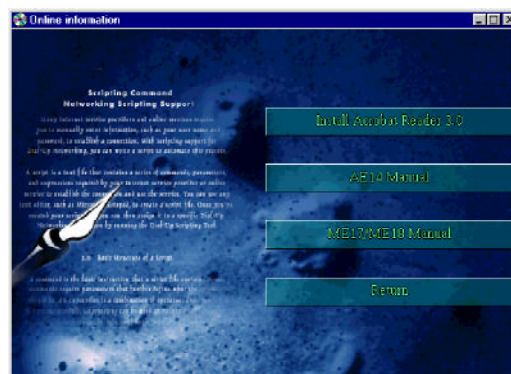
4.6 To View the User's Manual

Insert the attachment CD into your CD-ROM drive and the CD AutoRun screen should appear. If the AutoRun screen does not appear, double click on Autorun icon in My Computer to bring up Shuttle Mainboard Software Setup screen.

Select using your pointing device (e.g. mouse) on the "Manual" bar.



Then Online Information windows will appear on your screen. Click on the "Install Acrobat Reader 3.0" bar if you need to install acrobe reader.



Then click on "AE14 Manual" bar to view AE14 user's manual.

5 BIOS SETUP

AE14 BIOS ROM has a built-in Setup program that allows users to modify the basic system configuration. This information is stored in battery-backed RAM so that it retains the Setup information even if the system power is turned off.

The system BIOS is managing and executing a variety of hardware related functions in the system, including:

System date and time

Hardware execution sequence

Power management functions

Allocation of system resources

5.1 Entering BIOS

To enter the BIOS (Basic Input / Output System) utility, follow these steps:

- Step 1.** Power on the computer and the system will perform its POST (Power-On Self Test) routine checks.

- Step 2.** Press < Del > key immediately or at the following message:
"Press DEL to enter SETUP"
or simultaneously press < Ctrl > , < Alt > , < Esc > keys

Note 1. If you miss the train (the message disappears before you can respond) and you still wish to enter BIOS Setup, restart the system and try again by turning the computer OFF and ON again or by pressing the < RESET > switch located at the computer's front panel. You may also reboot by simultaneously pressing the < Ctrl > , < Alt > , < Del > keys.

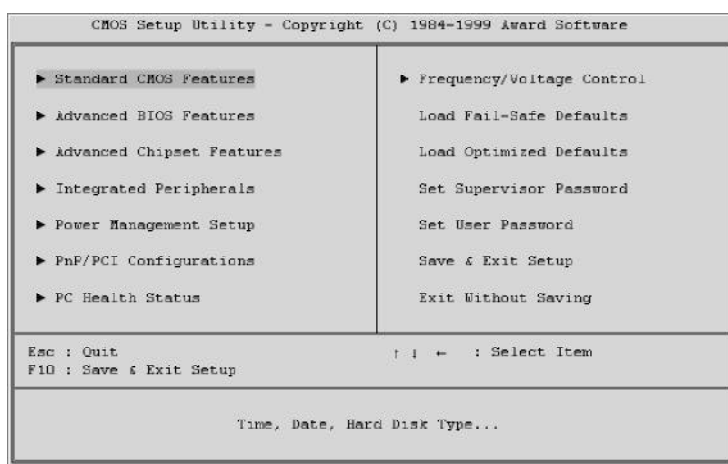
Note 2. If you do not press the keys in time and system does not boot, the screen will prompt an error message and you will be given the following options:

"Press F1 to Continue, DEL to Enter Setup"

Step 3. As you enter the BIOS program, the CMOS Setup Utility will prompt you the Main Menu, as shown in the next section.

5.2 The Main Menu

Once you enter the AwardBIOS(tm) CMOS Setup Utility, the Main Menu will appear on the screen. The Main Menu allows you to select from several setup functions and two exit choices. Use the arrow keys to select among the items and press < Enter > to accept and enter the sub-menu.



Note that a brief description of each highlighted selection appears at the bottom of the screen.

Setup Items

The main menu includes the following main setup categories. Recall that some systems may not include all entries.

Standard CMOS Features

Use this menu for basic system configuration.

Advanced BIOS Features

Use this menu to set the Advanced Features available on your system.

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 Configuration

This entry appears if your system supports PnP / PCI.

PC Health Status

This entry shows the current system temperature, Voltage and FAN speed.

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 for your system to operate.

Load Optimized Defaults

Use this menu to load the BIOS default values that are factory settings for optimal performance system operations. While Award has designed the custom BIOS to maximize performance, the factory has the right to change these defaults to meet their needs.

Supervisor / User Password

Use this menu to set User and Supervisor Passwords.

Save & Exit Setup

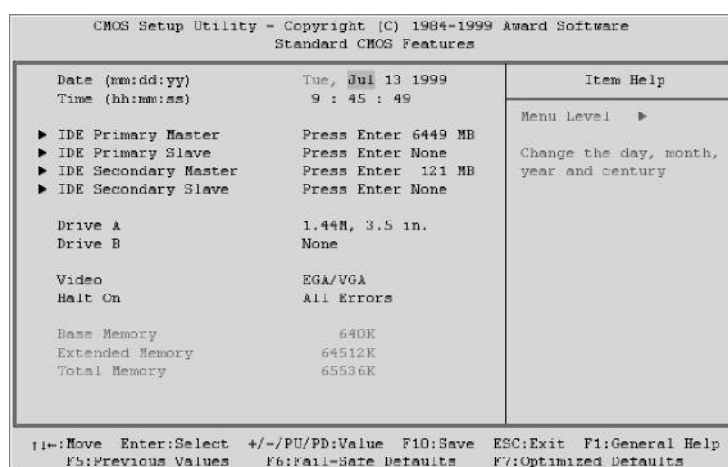
Save CMOS value changes to CMOS and exit setup.

Exit Without Save

Abandon all CMOS value changes and exit setup.

Standard CMOS Setup

The items in Standard CMOS Setup Menu are divided into 10 categories. Each category includes no, one or more than one setup items. Use the arrow keys to highlight the item and then use the < PgUp > or < PgDn > keys to select the value you want in each item.



Date

< Month > < DD > < YYYY >

Set the system date. Note that the 'Day' automatically changes when you set the date.

Time

< HH : MM : SS >

Set the system time.

IDE Primary Master

Options are in its sub menu.

Press < Enter > to enter the sub menu of detailed options.

IDE Primary Slave

Options are in its sub menu.

Press < Enter > to enter the sub menu of detailed options.

IDE Secondary Master

Options are in its sub menu.

Press < Enter > to enter the sub menu of detailed options.

IDE Secondary Slave

Options are in its sub menu.

Press < Enter > to enter the sub menu of detailed options.

Drive A/Drive B

Select the type of floppy disk drive installed in your system.

- The choice: None, 360K, 5.25 in, 1.2M, 5.25 in, 720K, 3.5 in, 1.44M, 3.5 in, 2.88M, 3.5 in

Video

Select the default video device.

- The choice: EGA/VGA, CGA 40, CGA 80, MONO

Halt On

Select the situation in which you want the BIOS to stop the POST process and notify you.

- The choice: All Errors, No Errors, All, but Keyboard, All, but Diskette, All, but Disk/Key

Base Memory

Displays the amount of conventional memory detected during boot up.

- The choice: N/A

Extended Memory

Displays the amount of extended memory detected during boot up.

- The choice: N/A

Total Memory

Displays the total memory available in the system.

- The choice: N/A

IDE Adapters

The IDE adapters control the hard disk drive. Use a separate sub menu to configure each hard disk drive.

IDE HDD Auto-detection

Press Enter to auto-detect the HDD on this channel. If detection is successful, it fills the remaining fields on this menu.

- Press Enter

IDE Primary Master

Selecting 'manual' lets you set the remaining fields on this screen. Selects the type of fixed disk. "User Type" will let you select the number of cylinders, heads, etc. Note: PRECOMP = 65535 means NONE !

- The choice: None, Auto, Manual.

Access Mode

Choose the access mode for this hard disk.

- The choice: Normal, LBA, Large, Auto.

Capacity

Disk drive capacity (Approximated). Note that this size is usually slightly greater than the size of a formatted disk given by a disk checking program.

- Auto Display your disk drive size.

The following options are selectable only if the 'IDE Primary Master' item is set to 'Manual'

Cylinder

Set the number of cylinders for this hard disk.

- Min = 0, Max = 65535

Head

Set the number of read/write heads.

- Min = 0, Max = 255



Precomp

Warning: Setting a value of 65535 means no hard disk.

➤ Min = 0, Max = 65535

Landing zone

Set the Landing zone size.

➤ Min = 0, Max = 65535

Sector

Number of sectors per track.

➤ Min = 0, Max = 255



First/Second/Third/Other Boot Device

The BIOS attempts to load the operating system from the devices in the sequence selected in these items.

- The Choice: Floppy, LS/ZIP, HDD, SCSI, CDROM, LAN, Disabled.

Swap Floppy Drive

If the system has two floppy drives, you can swap the logical drive name assignments.

- The choice: Enabled, Disabled.

Boot Up Floppy Seek

Seeks disk drives during boot up. Disabling speeds boot up.

- The choice: Enabled, Disabled.

Boot Up NumLock Status

Select power on state for NumLock.

- The choice: Off, On.

Typematic Rate Setting

Key strokes repeat at a rate determined by the keyboard controller. When enabled, the typematic rate and typematic delay can be selected.

- The choice: Enabled, Disabled.

Typematic Rate (Chars/Sec)

Sets the number of times a second to repeat a key stroke when you hold the key down.

- The choice: 6, 8, 10, 12, 15, 20, 24, 30.

Typematic Delay (Msec)

Sets the delay time after the key is held down before it begins to repeat the keystroke.

- The choice: 250, 500, 750, 1000.

Security Option

Select whether the password is required every time the system boots or only when you enter setup.

System The system will not boot and access to Setup will be denied if the correct password is not entered at the prompt.

Setup The system will boot, but access to Setup will be denied if the correct password is not entered at the prompt.

➤ The choice: System, Setup.

Note: To disable security, select PASSWORD SETTING at Main Menu and then you will be asked to enter password. Do not type anything and just press < Enter > , it will disable security. Once the security is disabled, the system will boot and you can enter Setup freely.

OS Select For DRAM > 64MB

Select the operating system that is running with greater than 64MB of RAM on the system.

➤ The choice: Non-OS2, OS2.

Report No FDD For Win 95

Whether report no FDD for Win 95 or not.

➤ The choice: Yes, No.

Video BIOS shadow (with 5 PCI Slots and 2 ISA Slots)

Determines whether video BIOS will be copied to RAM. However, it is optional depending on chipset design. Video Shadow will increase the video speed.

➤ The choice: Enabled, Disabled.

C8000-CBFFF Shadow/D0000-D3FFF Shadow (with 5 PCI Slots and 2 ISA Slots)

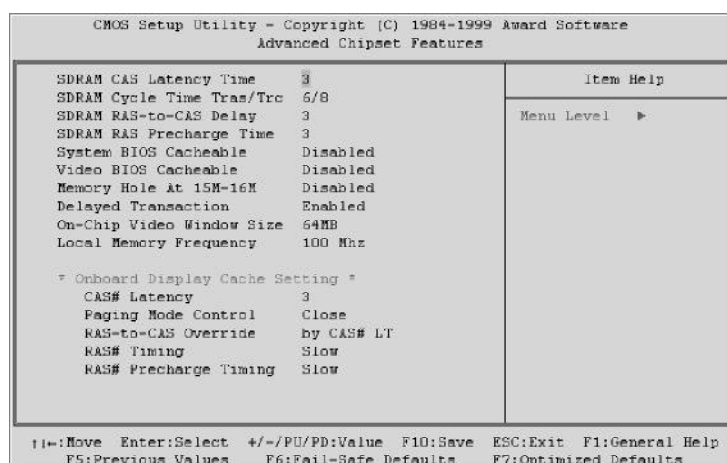
These categories determine whether option ROMs will be copied to RAM. An example of such option ROM would be support of SCSI Add-on card.

➤ The choice: Enabled, Disabled.

Advanced Chipset Features

This section allows you to configure the system based on the specific features of the installed chipset. This chipset manages bus speeds and access to system memory resources, such as DRAM and the external cache. It also coordinates communications between the conventional ISA bus and the PCI bus. It must be stated that these items should never need to be altered.

The default settings have been chosen because they provide the best operating conditions for your system. The only time you might consider making any changes would be if you discovered that data was being lost while using your system.



DRAM Settings

The first chipset settings deal with CPU access to dynamic random access memory (DRAM).

The default timings have been carefully chosen and should only be altered if data is being lost.

Such a scenario might well occur if your system had mixed speed DRAM chips installed so that greater delays may be required to preserve the integrity of the data held in the slower memory chips.

SDRAM CAS Latency Time

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

- The Choice: 2, 3

SDRAM Cycle Time Tras/Trc

Select the number of SCLKs for an access cycle.

- The Choice: 5/7, 6/8.

SDRAM RAS-to-CAS Delay

This field lets you insert a timing delay between the CAS and RAS strobe signals, used when DRAM is written to, read from, or refreshed. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

- The Choice: 2, 3.

SDRAM RAS Precharge Time

If an insufficient number of cycles is allowed for the RAS to accumulate its charge before DRAM refresh, the refresh may be incomplete and the DRAM may fail to retain data. Fast gives faster performance; and Slow gives more stable performance. This field applies only when synchronous DRAM is installed in the system.

- The Choice: 2, 3.

System BIOS Cacheable

Selecting Enabled allows caching of the system BIOS ROM at F0000h-FFFFFh, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

- The choice: Enabled, Disabled.

Video BIOS Cacheable

Select Enabled allows caching of the video BIOS, resulting in better system performance. However, if any program writes to this memory area, a system error may result.

- The Choice: Enabled, Disabled.

Memory Hole At 15M-16M

You can reserve this area of system memory for ISA adapter ROM. When this area is reserved, it cannot be cached. The user information of peripherals that need to use this area of system memory usually discusses their memory requirements.

- The Choice: Enabled, Disabled.

Delay Transaction

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

- The Choice: Enabled, Disabled.

On-Chip Video Window Size

Select the on-chip video window size for VGA drive use.

- The Choice: 32MB, 64MB, Disabled.

Local Memory Frequency

Select the memory frequency.

- The choice: 100MHz, 133MHz.

*** **Onboard Display Cache Setting** ***

Setting the onboard display cache timing.

CAS # Latency

Select the local memory clock periods.

- The Choice: 2, 3

Paging Mode Control

Select the paging mode control.

- The Choice: Close, Open.

RAS-to-CAS Override

Select the display cache clock periods control.

- The Choice: by CAS# LT, Override(2).

RAS# Timing

This item controls RAS# active to Protegra, and refresh to RAS# active delay (in local memory clocks).

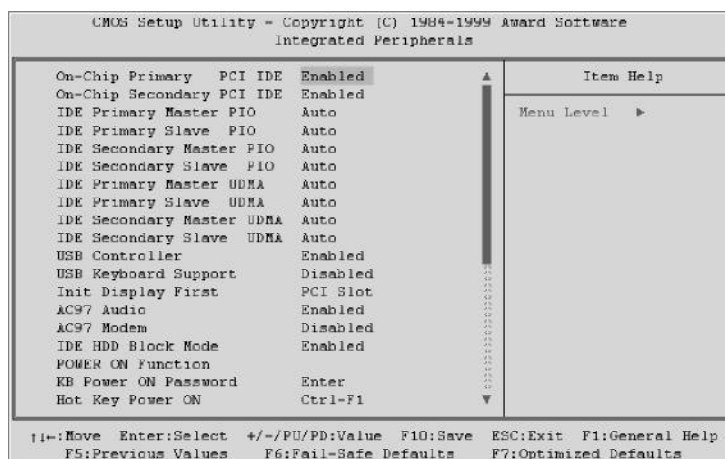
- The Choice: Fast, Slow.

RAS# Precharge Timing

This item controls RAS# precharge (in local memory clocks).

➤ The choice: Fast, Slow.

Integrated Peripherals



OnChip Primary/Secondary PCI IDE

The integrated peripheral controller contains an IDE interface with support for two IDE channels. Select Enabled to activate each channel separately.

- The choice: Enabled, Disabled.

IDE Primary/Secondary Master/Slave PIO

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

- The choice: Auto, Mode 0, Mode 1, Mode 2, Mode 3, Mode 4.

IDE Primary/Secondary Master/Slave UDMA

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

- The Choice: Auto, Disabled.

USB Controller

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have USB peripherals.

- The choice: Enabled, Disabled.

USB Keyboard Support

Select Enabled if your system contains a Universal Serial Bus (USB) controller and you have a USB keyboard.

- The choice: Enabled, Disabled.

Init Display First

This item allows you to decide to active whether PCI Slot or on-chip VGA first.

- The choice: PCI Slot, Onboard .

AC97 Audio/Modem

This item allows you to decide to enable/disable the 810 chipset family to support AC97 Audio/Modem.

- The choice: Enabled, Disabled.

IDE HDD Block Mode

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

- The choice: Enabled, Disabled

POWER ON Function

This item is used to defined Keyboard & PS/2 mouse power-on function enabled or disabled. The options are Button Only, HOT-Key and PS/2 Mouse.

Button Only - Only soft-on/off button on the front panel is available.

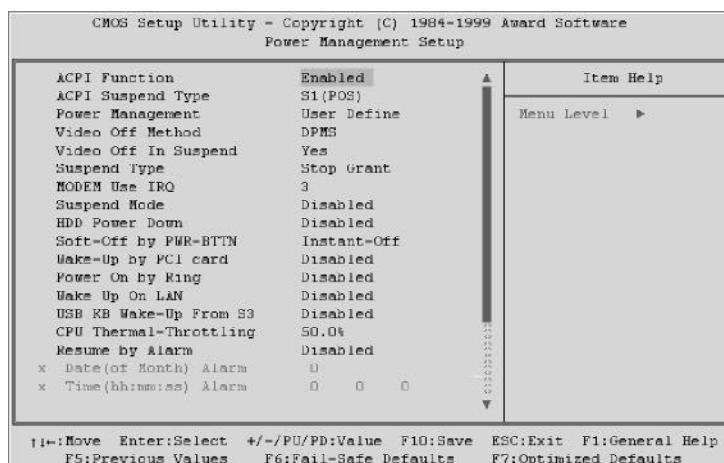
KB Power ON Password

This item set the keyboard power-on password. When using keyboard to power on , just Enter the password.

Hot Key Power ON

Power-on by soft-on/off button and keyboard are available. The user may set power-on hot-key from < Ctrl > < F1 > to < Ctrl > < F12 > .

Power Management Setup



The Power Management Setup allows you to configure your system to most effectively save energy while operating in a manner consistent with your own style of computer use.

ACPI Function

This item allows you to enable/disable the Advanced Configuration and Power Management (ACPI).

- The choice: Enabled, Disabled.

ACPI Suspend Type

This item allows you to select sleep state when suspend.

- The choice: S1(POS), S3(STR).

Power Management

This category allows you to select the type (or degree) of power saving and is directly related to the following modes: HDD Power Down, Doze Mode, Suspend Mode

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

-
- Max. Power Saving** Maximum power management -- ONLY AVAILABLE FOR SL CPU's. Doze Mode = 1 min., Standby Mode = 1 min., Suspend Mode = 1 min., and HDD Power Down = 1 min.
 - User Defined** Allows you to set each mode individually. When not disabled, each of the ranges are from 1 min. to 1 hr. except for HDD Power Down which ranges from 1 min. to 15 min. and disable.

➤ The choice: Min Saving, Max Saving, User Define.

Video Off Method

This determines the manner in which the monitor is blanked.

- V/H SYNC + Blank** This selection will cause the system to turn off the vertical and horizontal synchronization ports and write blanks to the video buffer.
- Blank Screen** This option only writes blanks to the video buffer.
- DPMS** Initial display power management signaling.

➤ The choice: V/H SYNC + Blank, Blank Screen, DPMS

Video Off In Suspend

This determines the manner in which the monitor is blanked.

➤ The choice: Yes, No.

Suspend Type

Select the Suspend Type.

➤ The choice: PwrOn Suspend, Stop Grant.

MODEM Use IRQ

This determines the IRQ in which the MODEM can use.

➤ The choice: 3, 4, 5, 7, 9, 10, 11, NA.

Suspend Mode

When enabled and after the set time of system inactivity, all devices except the CPU will be shut off.

-
- The choice: 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, 1Hour, Disabled.

HDD Power Down

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

- The choice: 1Min, 2Min, 4Min, 8Min, 12Min, 20Min, 30Min, 40Min, 1Hour, Disabled.

Soft-Off by PWR-BTTN

Pressing the power button for more than 4 seconds forces the system to enter the Soft-Off state when the system has "hung."

- The choice: Delay 4 Sec, Instant-Off.

Wake-Up by PCI card

This item Enabled/Disabled PCI card wakeup for PCI Spec 2.2.

- The choice: Enabled, Disabled.

Power ON by Ring

This item determine the system will resume by activating of modem ring.

- The choice: Enabled, Disabled.

Wake Up On LAN

This item determine the system will resume by activity of LAN. If enabled this feature system will power-on itself from power off when the activity of LAN.

Note AE14 support Wake-ON-LAN function with Intel LAN card only.

- The choice: Enabled, Disabled.

USB KB Wake-Up From S3

This item Enabled/Disabled the USB keyboard resume from Suspend to RAM.

- The choice: Enabled, Disabled.

CPU Thermal-Throttling

Select the CPU Thermal-Throttling rate.

- The choice: 12.5%, 25.0%, 37.5%, 50.0%, 62.5%, 75.0%, 87.5%.

Resume by Alarm

This item determine the system will resume by activity of R.T.C. If enabled this feature and enter resume date and time. When date and time expire, system will power-on itself from power off.

- The choice: Enabled, Disabled.

Date (of Month) Alarm

This item select the alarm date.

- Key in a DEC number: Min=0, Max=31.

Time (hh : mm : ss) Alarm

This item select the alarm time.

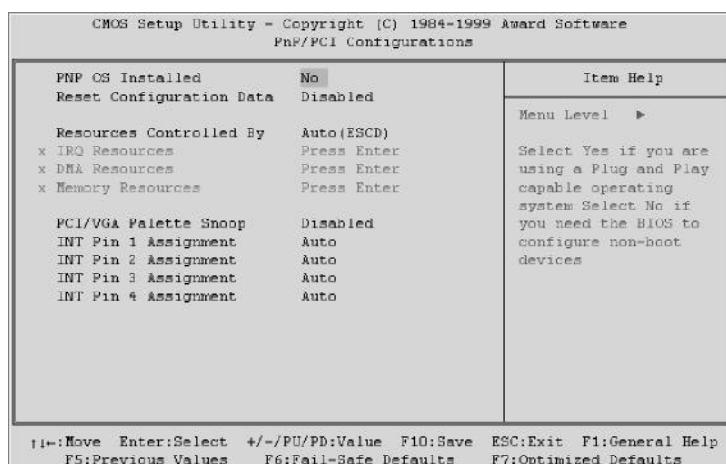
*** *Reload Global Timer Events* ***

If any of these items is set to Disabled, that system activity event will not be monitored to reload global timer.

If these items is set to Enabled, that system activity event will be monitored to reload global timer.

These items include IRQ[3-7, 9-15], NMI, Primary IDE0/1, Secondary IDE 0/1, Floppy Disk, Serial Port and Parallel Port.

PnP/PCI Configuration



This section describes configuring the PCI bus system. PCI, or Personal Computer Interconnect, is a system which allows I/O devices to operate at speeds nearing the speed the CPU itself uses when communicating with its own special components. This section covers some very technical items and it is strongly recommended that only experienced users should make any changes to the default settings.

PNP OS Installed

This item allows you to determine install PnP OS or not.

- The choice: Yes, No.

Reset Configuration Data

Normally, you leave this field Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the operating system can not boot.

- The choice: Enabled, Disabled .

Resource controlled by

The Award Plug and Play BIOS has the capacity to automatically configure all of the boot and Plug and Play compatible devices. However, this capability means absolutely nothing unless you are using a Plug and Play operating system such as Windows 95. If you set this

field to "manual" choose specific resources by going into each of the sub menu that follows this field (a sub menu is preceded by a ">").

- The choice: Auto(ESCD), Manual.

IRQ Resources

When resources are controlled manually, assign each system interrupt a type, depending on the type of device using the interrupt.

IRQ3/4/5/7/9/10/11/12/14/15 assigned to

This item allows you to determine the IRQ assigned to the ISA bus and is not available to any PCI slot. Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

- The Choice: Legacy ISA and PCI/ISA PnP.

DMA Resources (with 5 PCI Slots and 2 ISA Slots)

When resources are controlled manually, assign each system DMA channel a type, depending on the type of device using the DM channel.

DMA 0/1/3/5/6/7 assigned to

Legacy ISA for devices compliant with the original PC AT bus specification, PCI/ISA PnP for devices compliant with the Plug and Play standard whether designed for PCI or ISA bus architecture.

- Choices are Legacy ISA and PCI/ISA PnP.

Memory Resources

This sub menu can let you control the memory resource.

Reserved Memory Base

Reserved a low memory for the legacy device(non-PnP device).

- Choices are C800, CC00, D000, D800, DC00, D400, N/A.

Reserved Memory Length

Reserved a low memory length for the legacy device(non-PnP device).

- Choices are 8K, 16K, 32K, 64K.

PCI/VGA Palette Snoop

Leave this field at Disabled.

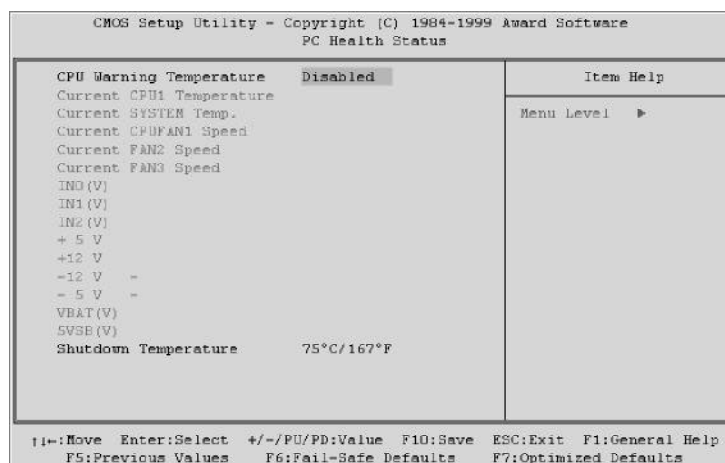
- Choices are Enabled, Disabled.

INT Pin 1/INT Pin 4 Assignment

Select the PCI IRQ assignment for each PCI INT Pin.

- The choice: Auto, 3, 4, 5, 7, 9, 10, 11, 12, 14, 15.

PC Health Status



CPU Warning Temperature

Since the mainboard support CPU temperature monitoring and over-heat alert. This item allows the user to set the threshold of CPU warning temperature. When CPU temperature over the threshold, system will slow down clock to prevent CPU damage.

- The choice: 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, 70°C/158°F.

Current CPU1 Temperature

Since the mainboard support CPU temperature monitoring and over-heat alert. This item indicate the current Processor temperature.

Current System Temp

Since the mainboard support System temperature monitoring and over-heat alert. This item indicate the current main board temperature.

Current CPUFAN1/2/3 Speed

The mainboard can detect three fans rotation speed for CPU cooler and system.

VBAT(V)

Battery voltage.

5VSB(V)

5V standby voltage by ATX power.

IN0(V) ~ IN2(V), +5V ~ -5V

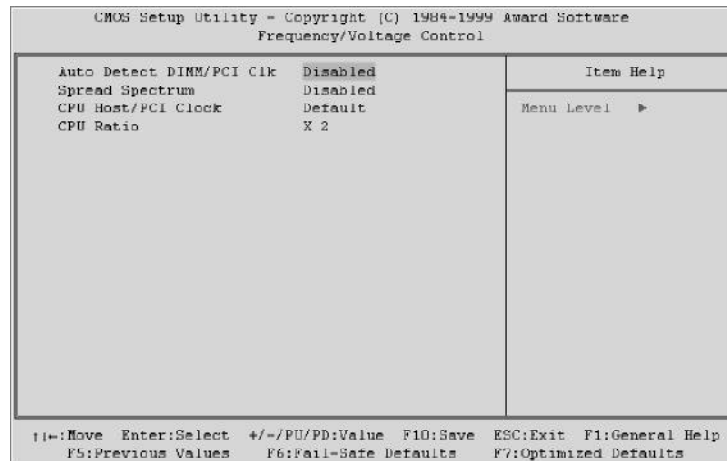
The mainboard support CPU and mainboard voltages monitoring. The onboard hardware monitor is able to detect the voltages output of the voltage regulators and power supply.

Shutdown Temperature

Select the combination of lower and upper limits for the system shutdown temperature, if your computer contains an environmental monitoring system. If the temperature extends beyond either limit, the system shuts down.

➤ The choice: 60°C/140°F, 65°C/149°F, 70°C/158°F, 75°C/167°F.

Frequency/Voltage Control



Auto Detect DIMM/PCI Clk

This item allows you to enable/disable auto detect DIMM/PCI Clock.

- The choice: Enabled, Disabled.

Spread Spectrum

This item allows you to enable/disable the spread spectrum modulate.

- The choice: Disabled, 0.25%(Cntr), 0.5%(Down).

CPU Host/PCI Clock

- The choice: Default, 66/33MHz, 75/37MHz, 83/41MHz, 95/31MHz, 100/33MHz, 124/41MHz, 133/33MHz, 140/35MHz, 150/37MHz,

CPU Ratio

This item allows you to select the CPU ratio.

- The choice: 2X, 2.5X, 3X, 3.5X, 4X, 4.5X, 5X, 5.5X, 6X, 6.5X, 7X, 7.5X, 8X.

Load Fail-Safe Defaults

When you press < Enter > on this item you get a confirmation dialog box with a message similar to:

Load Fail-Safe Defaults (Y/N) ? N

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

Load Optimized Defaults

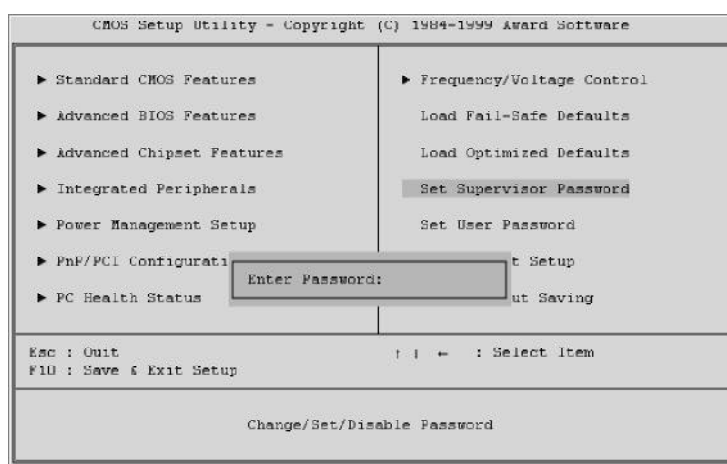
When you press < Enter > on this item you get a confirmation dialog box with a message similar to:

Load Optimized Defaults (Y/N) ? N

Pressing 'Y' loads the default values that are factory settings for optimal performance system operations.

Supervisor/User Password Setting

You can set either supervisor or user password, or both of them. The differences between are:



Supervisor Password and User Password

The options on the Password screen menu make it possible to restrict access to the Setup program by enabling you to set passwords for two different access modes: Supervisor mode and User mode.

In general, Supervisor mode has full access to the Setup options, whereas User mode has restricted access to the options. By setting separate Supervisor and User password, a system supervisor can limit who can change critical Setup values.

Enter Password

Type the password, up to eight characters, and press < Enter > . The password typed now will clear any previously entered password from CMOS memory. You will be asked to confirm the password. Type the password again and press < Enter > . You may also press < Esc > to abort the selection and not enter a password.

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

Password Disable

If you select System at Security Option of BIOS Features Setup Menu, you will be prompted for the password every time the system is rebooted or any time you try to enter Setup. If you select Setup at Security Option of BIOS Features Setup Menu, you will be prompted only when you try to enter Setup.

Warning : Retain a record of your password in a safe place. If you forget the password, the only way to access the system is to clear Password, please refer to page 35 "Clear Password".

Save & Exit Setup

Pressing < Enter > on this item asks for confirmation:

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

Pressing "Y" stores the selections made in the menus in CMOS - a special section of memory that stays on after you turn your system off. The next time you boot your computer, the BIOS configures your system according to the Setup selections stored in CMOS. After saving the values the system is restarted again.

Exit Without Saving

Pressing < Enter > on this item asks for confirmation:

Quit without saving (Y/N)? Y

This allows you to exit Setup without storing in CMOS any change. The previous selections remain in effect. This exits the Setup utility and restarts your computer.