AI61

AMD K7 processor

Based AGP MAIN BOARD

User's Manual

AI61

AMD K7 processor based AGPset Mainboard
Manual Version 1.1

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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 AI61 mainboard.

Experienced DIY User

Congratulations on your purchase of the AI61 mainboard. You will find that installing your new AI61 mainboard is just that easy. Bundled with an array of onboard functions, the highly-integrated AI61 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 Software Utility 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 AI61 to construct your system. AI61 incorporates all the state-of-the-art technology of the AMD-751 and AMD-756 chipset from AMD. 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 Software Utility for an in-depth view of system construction.

1.2 Item Checklist

Check all items you received with your AI61 mainboard to make sure nothing is missing. The complete package should include:

✸ One AI61 Mainboard
(with onboard *Slot A*, built-in AMD-751 chipset, ATX form factor, including 2xUSB, 2xSerial, and 1xParallel ports, plus 1xPS/2 Keyboard, and 1xPS/2 Mouse connectors.)
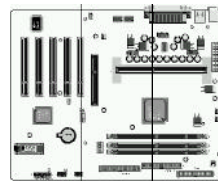
✸ One ATA/66 Ribbon Cable

✸ One Floppy Ribbon Cable

✸ One set of Universal Retention Mechanism
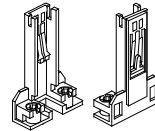
✸ This AI61 User's Manual

✸ One CD-ROM containing:
  ➢ The AI61 user's manual on PDF format
  ➢ The IDE Bus Master Drivers
  ➢ The AGP and IRQ Miniport Drivers
  ➢ The Award Flashing Utility

2 FEATURES

The AI61 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

AMD K7 processor 500 ~ 750+MHz

✴ Chipset

Features AMD-751and AMD-756 AGPset with I/O subsystems.

✴ Jumperless CPU Configuration

Auto-detect CPU voltage

Soft-configure CPU Speed (The CPU operating speed is software configurable in the Category of Frequency/Voltage Control of the BIOS Setup utility.)

✴ Versatile Memory Support

Equipped with three DIMM banks of PC100 compliant SDRAM to provide up to 768MB of system memory.

✴ AGP Slots

Supports Accelerated Graphics Port cards for high-performance, component level interconnect directed at 3D graphical display applications.

✴ PCI Expansion Slots

Provides five 32-bit PCI slots.

✴ 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
- ➢ 4 × USB connectors

- 2 × DB9 Serial connectors 16550 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 (SPP), Enhanced Parallel Port (EPP), and Extended Capabilities Port (ECP) data transmission schemes.

✱ 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: Snoop, Suspend to RAM, Suspend to Disk, and 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 V4.51PG BIOS on 2MB Flash EEPROM. Supports Green PC and Desktop Management Interface (DMI).

✱ ATX Form Factor

System board conforms to the ATX specification. Board dimensions: 305mm × 244mm

✸ 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.

✸ Optional 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 AI61 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

Accessories Of AI61
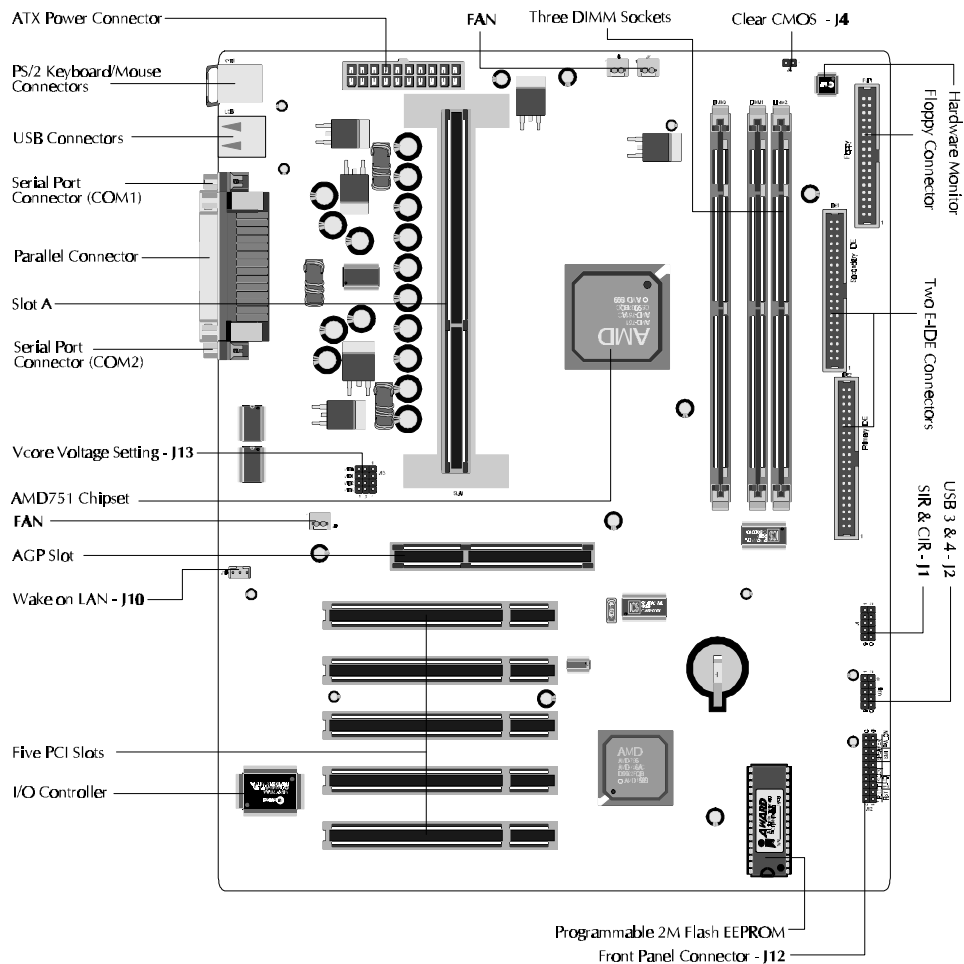
Step 1

Install the CPU

1. Mark your CPU Frequency

   Checking the working frequency of your cpu that should be clearly marked on the CPU cover or write your own combination in the space provided.

2. AMD K7 Processor Installation

   < Locate the Retention Mechanism >

   To install a CPU, first turn off your system and remove its cover.
   - ✧ Insert two Retention Mechanism **(1)** on opposite side of Slot A.
   - ✧ Fix **(1)** by inserting Attach Mounts **(1.2)** up through holes **(A1...A4)** in the bottom of the mainboard, and screw the four captive nuts **(1.1)**.
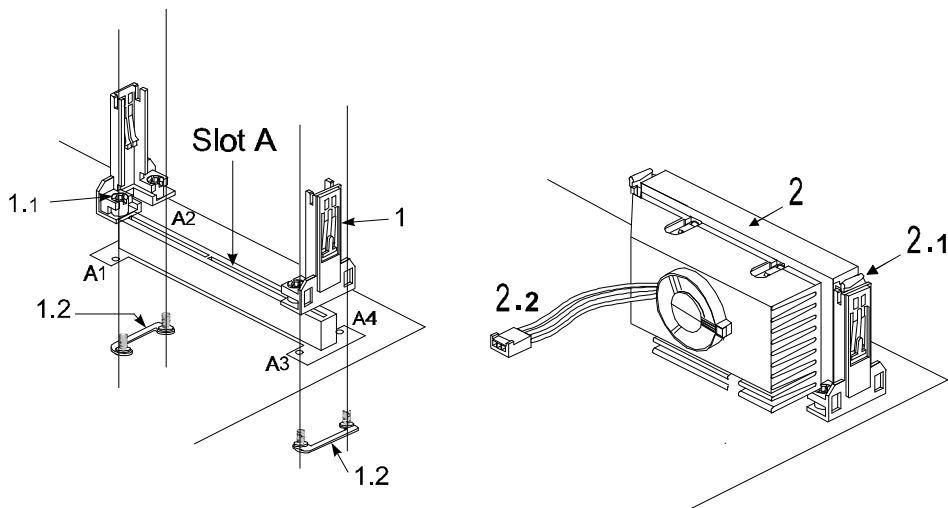
   < Install the CPU >

   - ✧ Insert CPU **(2)** into the Retention Mechanism **(1)**.
   - ✧ Ensure that the alignment notch in the processor fits over the plug, then push processor down firmly until it is seated.
   - ✧ Push the latches **(2.1)** on the processor outward until they click into place.
   - ✧ Connect power cable **(2.2)** of Fan/Heat Sink.

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 clear CMOS.

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, two or three 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.
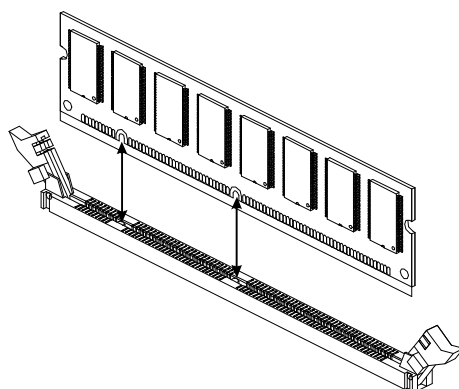
Step 4

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.
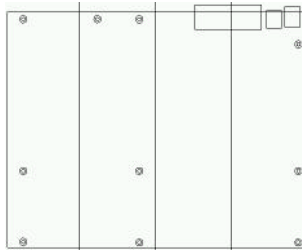
2. After deciding on the proper mounting holes, position the studs between the frame of the chassis and the mainboard. The studs are used to fix the mainboard and to keep a certain distance between the system chassis and the mainboard, in order to avoid any electrical shorts between the board and the 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 and USB connectors to the mainboard's front-panel connectors group, (J12 and J2) as shown below.
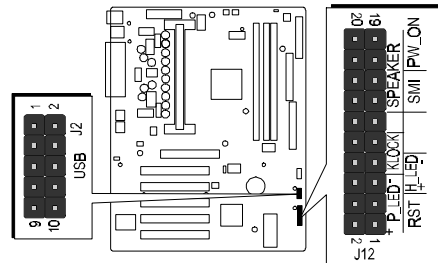
1. ATX Soft Power On/Off
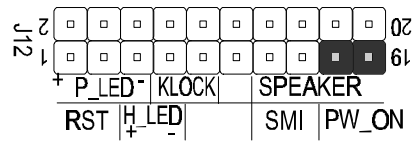
2. SMI

(Hardware System Management Interface)
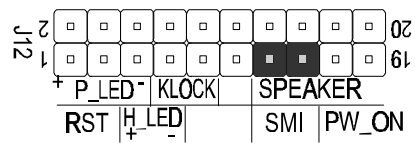
3. HDD-LED
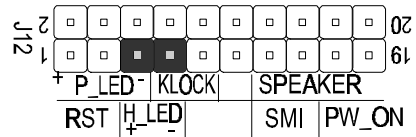
4. Power-LED / G-LED
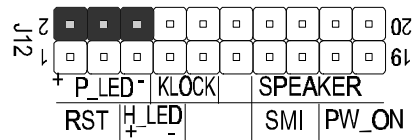
5. PC Speaker
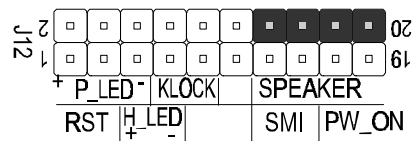
6. Keylock
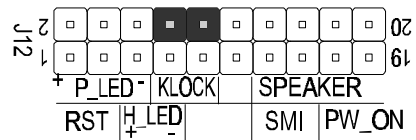
7. Hardware Reset Switch
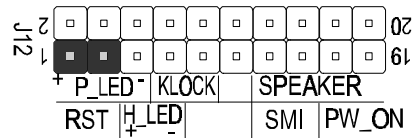
8. Front panel USB conneting header
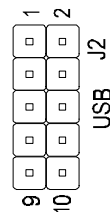
Step 7

Connect IDE & Floppy Disk Drives

1. IDE cable connector
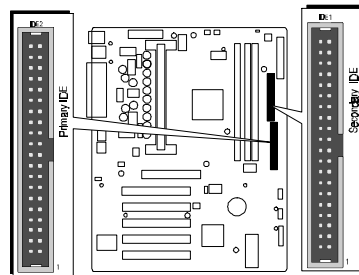
2. FDD cable connector
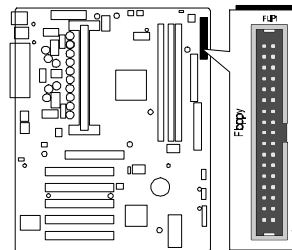
Step 8

Connect Other Internal Peripherals

1. SIR/CIR connector
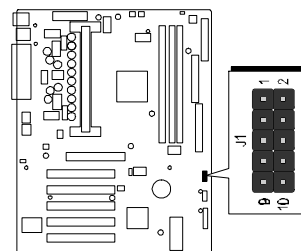
Step 9

Connect the Power Supply

1. System power connector
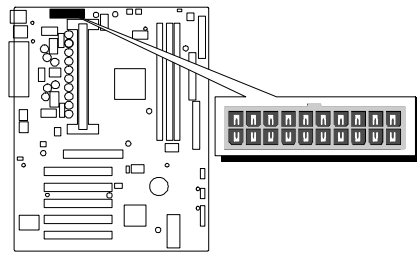
Step 10

Install Add-on Cards in Expansion Slots

1. Accelerated Graphics Port (AGP) Card
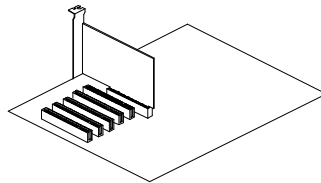
2. PCI Card
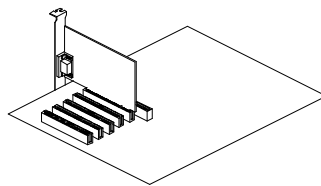
Step 11

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.
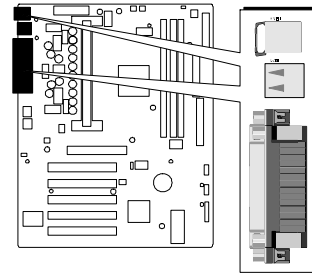
1. PS/2 Mouse and Keyboard

PS/2 Mouse

PS/2 keyboard

2. USB Devices

USB1 & USB2

3. COM Ports

COM1   COM2
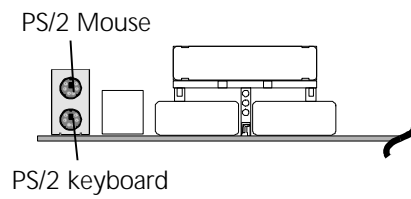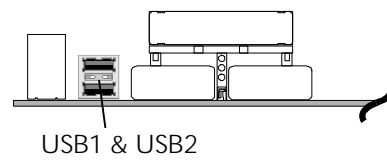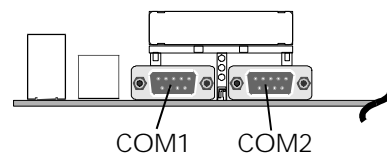
4. Parallel Port

Parallel Port
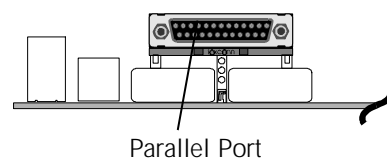
Step 12

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 device 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 AI61 bundled CD-ROM into your CD-ROM drive. The auto-run program will display the drivers main installation window on screen.

2. Select the Mainboard related program.

3. Install AI61 Driver for Win9x/Win NT.

4. Return to the main installation window and select the Miniport related program.

5. Install AGP and IRQ Mninport Driver.

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 bottom or on the left when holding the mainboard with the keyboard connector or other back-panel connectors opposite from you, as shown below.
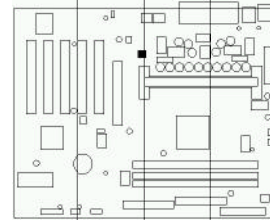
3-pin and multi (> 3) pin jumpers show as follows:
Pin #1 on the bottom:
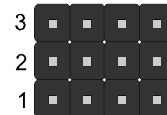
Jumpers with two pins are shown as ▬▬ for Close [On] or ▣● for Open [Off]. To Short jumper pins, simply place a plastic jumper cap over the desired pair of pins.

> *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 10 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:
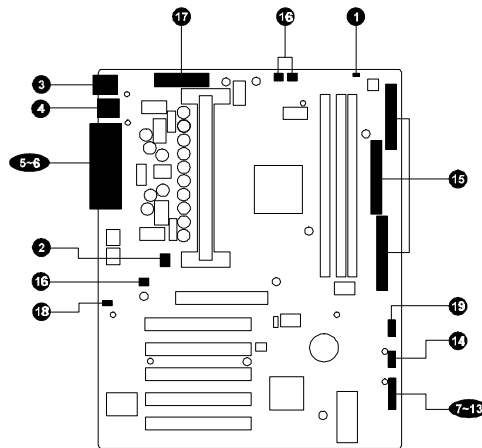
CPU/Memory/Expansion Slots

Slot A : CPU Slot for AMD K7 processors

DIM1/2/3 : Three DIMM Sockets for 8,16,32,64,128,256MB 3.3V SDRAM

AGP : One AGP (Accelerated Graphics Port) Slot

PCI : Five 32-bit PCI Expansion Slots

Jumpers

❶ J4 : Clear CMOS

❷ J13 : Vcore Voltage Setting

Back Panel Connectors

❸ KB : PS/2 Keyboard

❸ MS : PS/2 Mouse

❹ USB : 2 × USB (Universal Serial Bus)

❺ COM1 : Serial Port 1 (DB9 male)

❺ COM2 : Serial Port 2 (DB9 male)

❻ PRINTER : Parallel Port (DB25 female)

Front Panel Connectors (J12)

❼ PW_ON : ATX Power On/Off Momentary Type Switch

❽ SMI : Hardware System Management Interface Momentary Type switch.

❾ H_LED : IDE Drive Active LED

❿ P_LED/G_LED : System Power LED/Green LED

⓫ SPEAKER : Housing Internal Speaker

⓬ KLOCK : KEYLOCK

⓭ RST : Hardware Reset Switch

⓮ USB3/4 : Front Panel USB Connector Header (J2)

Internal Peripherals Connectors

⓯ FDD : Floppy Disk Drive Interface

⓯ IDE1 : IDE Primary Interface (Dual-channel)

⓯ IDE2 : IDE Secondary Interface (Dual-channel)

Other Connectors:

⓰ FAN(J8) : Housing Cooling Fan Power

⓰ FAN (J7) : Housing Cooling Fan Power

⓰ FAN (J9) : Housing Cooling Fan Power

⓱ : ATX Power (20-pin header)

⓲ J10 : Wake-On-LAN Connector

⓳ J1 : SIR/CIR Connector

❶ Clear CMOS (J4)

J4 is used to clear CMOS data. Clearing CMOS will result in permanently erasing the previous system configuration settings and restoring the original (factory-set) system settings.

[●|■] 1	Pin 1-2 OFF (Default)
[▬▬] 1	Pin 1-2 ON (Clear CMOS)
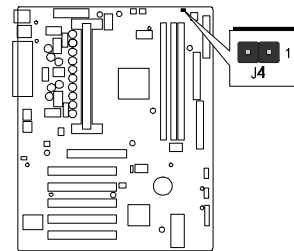
Step 1. Turn off the system power (PC-> Off)
Step 2. Insert jumper cap to J4 for a few seconds
Step 3. Remove jumper from to J4
Step 4. Turn on the system power (PC-> On)

❷ Vcore Voltage Setting (J13)

J13 is used to adjust voltages. Futher more, AI61 Mainboard provide intelligent CPU Voltages detecting and auto-adjusting function.

Vcore Voltage Setting - J13						
AUTO	1.30V	1.50V	1.55V	1.60V	1.65V	1.70V
1.75V	1.80V	1.85V	1.90V	1.95V	2.0V	

❸ 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.

PS/2 Mouse

PS/2 keyboard
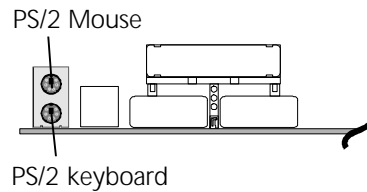
❹ USB1/USB2 Port Connectors

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.

USB1 & USB2
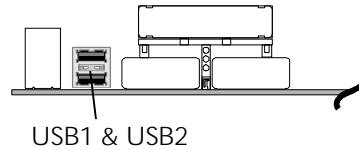
❺ COM1 / COM2 Connector

This mainboard can accommodate two serial device on COM1/COM2 .

Attach a serial device cable to the DB9 serial port COM1/COM2 at the back panel of your computer.

COM1   COM2
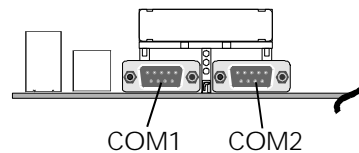
❻ Parallel Port Connector

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

Parallel Port
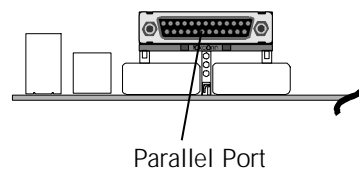
❼ ATX Power On/Off Switch Connector (PW_ON)

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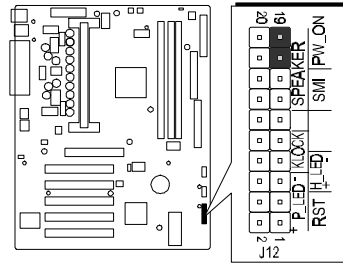
Note : Please notice the Speaker and all the LED connector is directional. If your chassis's LED does not light during running, please simply change to the opposite direction.

❽ SMI Connector (SMI)

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.
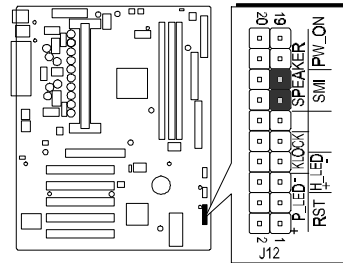
❾ HDD LED Connector (H_LED)

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.
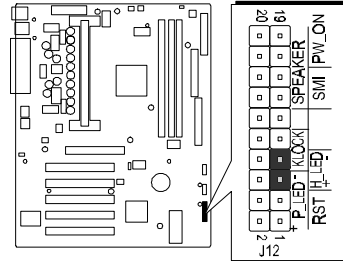
❿ PWR LED/Green LED Connector (P_LED)

Attach the 2-pin Power-LED connector cable from the housing front panel to the PWR header on the mainboard. The power LED stays lit while system is running or it will go flashing while system in suspend mode.
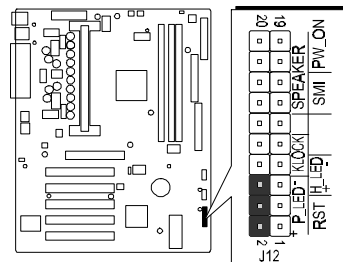
⓫ Speaker Connector (SPEAKER)

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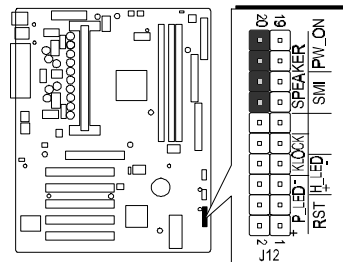
⓬ Keylock Connector (KLOCK)

Attach the 2-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.
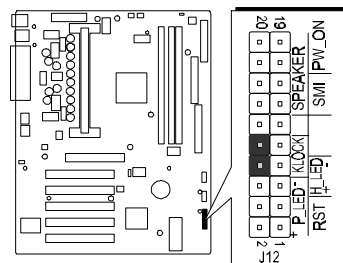
⓭ Hardware Reset Connector (RST)

Attach the 2-pin hardware reset switch cable to the RST header. Pressing the reset switch causes the system to restart.
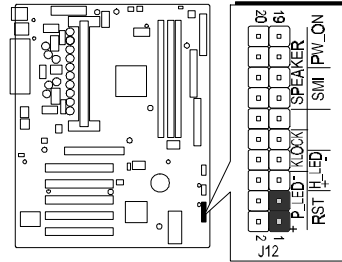
⓮ Front Panel USB Connector Header (J2)

This deader used to connect the cable attached to USB connectors which mounted on front panel.

J2 (USB3/4)

USB3   USB4
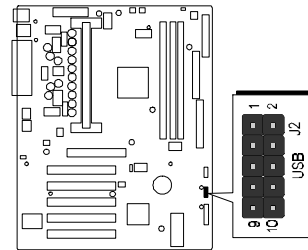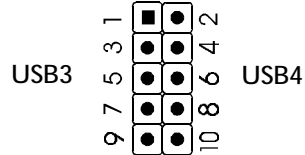
Pin Assignments:

USB3 1=VCC   3=DATA-   5=DATA+   7=GND   9=GND
USB4 2=GND   4=GND   6=DATA+   8=DATA- 10=VCC

⓯ Enhanced IDE Ports and Floppy Connector

The AI61 mainboard features two 40-pin dual-channel IDE device connectors (IDE1/IDE2) 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 40-pin ATA33 (or optional ATA/66) 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 2 (Primary IDE)
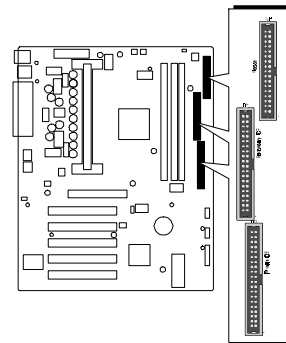
Important: Ribbon cables are directional, therefore, make sure to always connect with the red cable stripe on the same side as pin #1 of the IDE1/IDE2 or FDC connector on the mainboard.

⓰ Chassis Fan connectors - J8, J7, J9

The mainboard provides three onboard 12V cooling fan power connectors to support Chassis (J8), (J7) and (J9) 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.
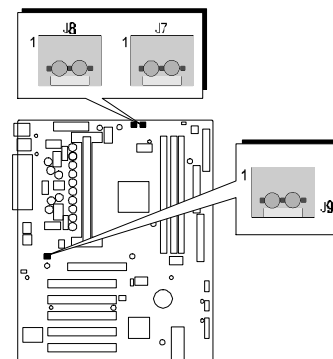
⓱ ATX Power Supply Connector

Locate the 20-pin male header ATX power connector on your mainboard. Plug the power cable from the ATX power supply unit directly into ATX power supply connector.
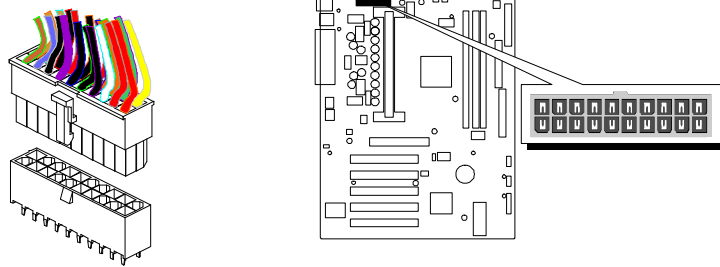
Note 1:	The ATX power connector is directional and will not go in unless the guides match perfectly making sure that pin#1 is properly positioned.
Note 2:	Make sure the latch of the ATX power connector clicks into place to ensure a solid attachment.
Note 3:	This mainboard requires an ATX power supply of at least 200 watts with power good signal.

⓲ Wake-on LAN Connector (J10)

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.
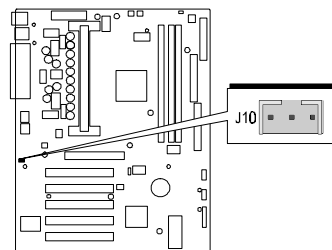
⑲ SIR/CIR Connector (J1)

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:
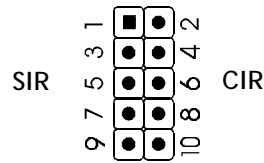
SIR Pin Assignments:
   1＝VCC 3＝RRXH 5＝IRRX
   7＝GND 9＝IRTX

CIR Pin Assignments:
   2＝NC 4＝SR-CIRRX 6＝VCC
   8＝NC 10＝NC
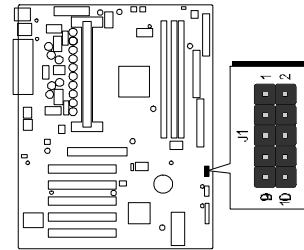
Step 1. Attach the 10-pin infrared device cable to J1 connector. (Refer to the above diagram for IR pin assignment.)

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.

3.3 System Memory Configuration

The AI61 mainboard has three 168-pin DIMM sockets that allow you to install from 16MB up to 768MB 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
DIMM 3	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 AI61 Mainboard CD Overview

Note: The AI61 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 AI61 Mainboard Drivers for Windows.

☞ **Install Miniport Driver Software** - Installing AGP and IRQ Miniport Drivers.

☞ **Manual** - AI61 series mainboard user's manual in PDF format.

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

☞ **Quit** - Close this CD.
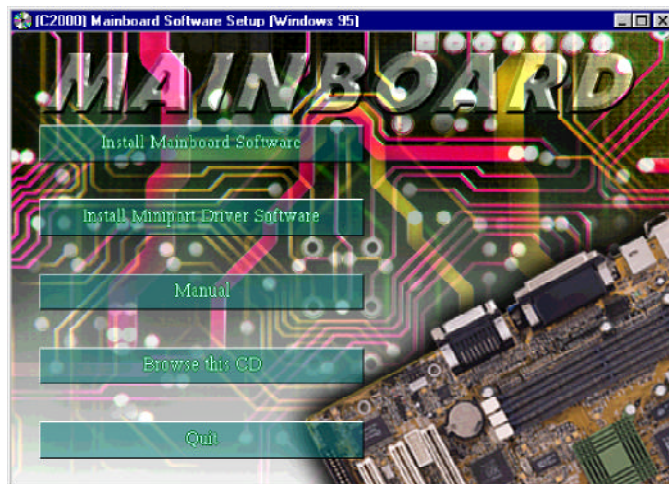
4.2 Install Mainboard Driver

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 **Mainboard Software Setup** screen.

Select using your pointing device (e.g. mouse) on the "**Install Mainboard Software**" 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 AGP and IRQ Miniport 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 **Mainboard Software Setup** screen.

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

Then **Miniport Drivers & Applications** windows will appear on your screen. Click on the "**Install AGP Miniport Driver Software**" bar to install AGP Minioprt Driver.
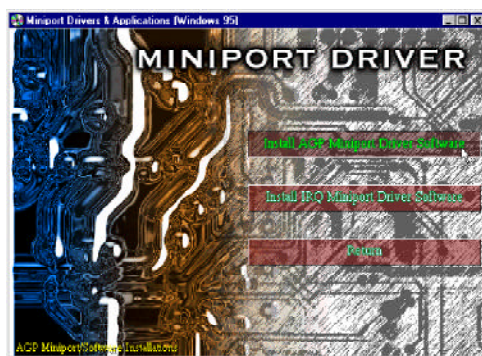
Then click on "**Install IRQ Miniport Driver Software**" bar to install IRQ Miniport Driver.

Once you made your each 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 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 **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 Acrobe Reader 3.0**" bar if you need to install acrobe reader.
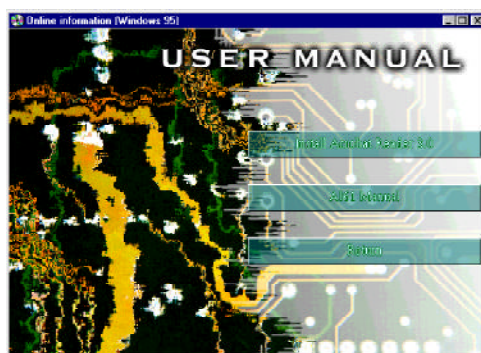
Then click on "**AI61 Manual**" bar to view AI61 user's manual.

5 BIOS SETUP

AI61 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.

```
         CMOS Setup Utility   Copyright (C) 1984 1999 Award Software

   ► Standard CMOS Features           ► Frequency/Voltage Control

   ► Advanced BIOS Features             Load Fail-Safe Defaults

   ► Advanced Chipset Features          Load Optimized Defaults

   ► Integrated Peripherals             Set Supervisor Password

   ► Power Management Setup             Set User Password

   ► PnP/PCI Configurations            Save & Exit Setup

   ► PC Health Status                  Exit Without Saving

   Esc : Quit      F9 : Menu in BIOS        ↑ ↓ → ←  : Select Item
   F10 : Save & Exit Setup

                   Time, Date, Hard Disk Type...
```

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 Saving

Abandon all CMOS value changes and exit setup.

✎ *Standard CMOS Setup*

The items in Standard CMOS Setup Menu are divided into 10 catego-
ries. 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.


```
           CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                              Standard CMOS Features

     Date (mm:dd:yy)          Mon, Jan 17 2000          Item Help

     Time (hh:mm:ss)          17 . 20 . 27
                                                   Menu Level   ▶
   ▶ IDE Primary Master       Press Enter None
   ▶ IDE Primary Slave        Press Enter None       Change the day, month,
   ▶ IDE Secondary Master     Press Enter None       year and century
   ▶ IDE Secondary Slave      Press Enter None

     Drive A                  1.44M, 3.5 in.
     Drive B                  None

     Video                    EGA/VGA
     Halt On                  All,But Keyboard

     Base Memory                    640K
     Extended Memory              65472K
     Total Memory                  1024K

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

Date

< 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 Dis kette, 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
****

✍ *Advanced BIOS Features*

This section allows you to configure your system for basic operation. You have the opportunity to select the system's default speed, boot-up sequence, keyboard operation, shadowing and security.

```
         CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          Advanced BIOS Features
┌─────────────────────────────────────────────┬──────────────────────┐
│  Virus Warning             Disabled          │      Item Help       │
│  CPU Internal Cache        Enabled           ├──────────────────────┤
│  External Cache            Enabled           │  Menu Level    ►     │
│  Quick Power On Self Test  Disabled          │                      │
│  First Boot Device         Floppy            │  Allows you to choose│
│  Second Boot Device        HDD-0             │  the VIRUS warning   │
│  Third Boot Device         LS/ZIP            │  feature for IDE Hard│
│  Boot Other Device         Enabled           │  Disk boot sector    │
│  Swap Floppy Drive         Disabled          │  protection. If this │
│  Boot Up Floppy Seek       Enabled           │  function is enabled │
│  Boot Up NumLock Status    On                │  and someone attempt │
│  Gate A20 Option           Fast              │  to write data into  │
│  Typematic Rate Setting    Disabled          │  this area, BIOS will│
│  x Typematic Rate (Chars/Sec) 6              │  show a warning      │
│  x Typematic Delay (Msec)  250               │  message on screen   │
│  Security Option           Setup             │  and alarm beep      │
│  OS Select For DRAM > 64MB Non-OS2           │                      │
│                                              │                      │
├──────────────────────────────────────────────┴──────────────────────┤
│  ↑↓←→:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
│     F5:Previous Values     F6:Fail-Safe Defaults    F7:Optimized Defaults │
└──────────────────────────────────────────────────────────────────────┘
```

Virus Warning

Allows you to choose the VIRUS Warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep.

Enabled   Activates automatically when the system boots up causing a warning message to appear when anything attempts to access the boot sector or hard disk partition table.

Disabled   No warning message will appear when anything attempts to access the boot sector or hard disk partition table.

➢ The choice: Enabled, Disabled.

CPU Internal Cache

This item enables CPU internal cache to speed up memory access.

➢ The choice: Enabled, Disabled.

External Cache

This item enables CPU secondary cache to speed up memory access.

➢ The choice: Enabled, Disabled.

Quick Power On Self Test

This item speeds up Power On Self Test (POST) after you power on the computer. If it is set to Enabled, BIOS will shorten or skip some check items during POST.

➢ The choice: Enabled, Disabled.

First/Second/Third 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-0, SCSI, CDROM, HDD-1, HDD-2, HDD-3, LAN, Disabled.

Boot Other Device

Select Your Boot Device Priority.

➢ The Choice: Enabled, 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.

Gate A20 Option

This entry allows you to select how the gate A20 is handled. The gate A20 is a device used to address memory above 1 MByte. Initially, the gate A20 was handled via a pin on the keyboard. Today, while keyboards still provide this support, it is more common, and much faster, set to Fast for the system chipset to provide support for gate A20.

➤ The choice: Normal, Fast.

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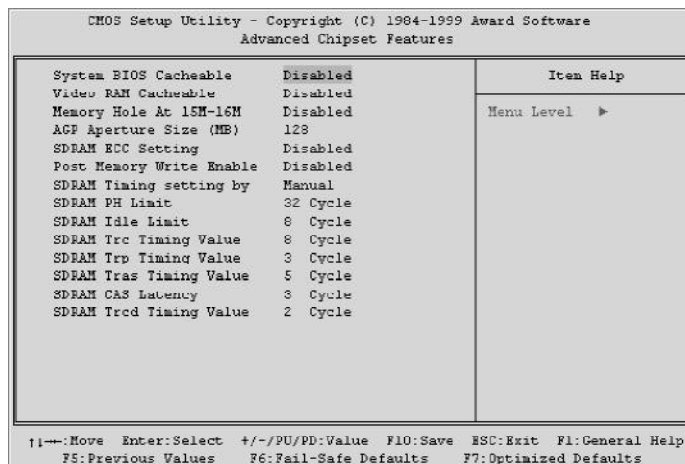
Select the operating system that is running with greater than 64MB of
RAM on the system.

➢ The choice: Non-OS2, OS2.

✍ *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.

```
        CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          Advanced Chipset Features

    System BIOS Cacheable      Disabled              Item Help
    Video RAM Cacheable        Disabled
    Memory Hole At 15M-16M     Disabled         Menu Level    ▶
    AGP Aperture Size (MB)     128
    SDRAM ECC Setting          Disabled
    Post Memory Write Enable   Disabled
    SDRAM Timing setting by     Manual
    SDRAM PH Limit             32  Cycle
    SDRAM Idle Limit           8   Cycle
    SDRAM Trc Timing Value     8   Cycle
    SDRAM Trp Timing Value     3   Cycle
    SDRAM Tras Timing Value    5   Cycle
    SDRAM CAS Latency          3   Cycle
    SDRAM Trcd Timing Value    2   Cycle



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

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 RAM Cacheable

This is a new cache technology for the video memory of the processor. It can greatly improve the display speed by caching the display data. You must leave this on the default setting of *Disabled* if your display card cannot support this feature or else your system may not boot.

➢ 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.

AGP Aperture Size (MB)

This item allows the user to set memory-mapped, graphics data structures can reside in Graphics Aperture.

➢ The choice: 32, 64, 128, 256.

SDRAM ECC Setting

This item set SDRAM ECC Mode Disabled or Enabled.

➢ The choice: Enabled, Disabled.

Post Memory Write Enable

Disabled The PCI targets state machine waits until the cycle is complete before passing ready back to the PCI bus.

Enabled The one-DWORD write buffer from PCI target writes to the ISA bus is enabled. This buffer is only used for memory writes.

➢ The choice: Enabled, Disabled.

SDRAM Timing setting by

This item to set Trp, Tras, CAS Latency and Trcd detecting by SPD or by User.

➢ The choice: Auto, Manual

SDRAM PH Limit

This item set the number of consecutive page-hit requests to allow before choosing a non-page-hit request.

➢ The choice: 1 Cycle, 4 Cycle, 32 Cycle, 64 Cycle,

SDRAM Idle Limit

This item set the number of idle cycles to wait before precharging an idle bank.

➢ The choice: 0 Cycle, 8 Cycle, 12 Cycle, 16 Cycle, 24 Cycle, 32 Cycle, 48 Cycle.

SDRAM Trc Timing Value

This item set the minimum time from activate to activate of the same bank.

➢ The choice: 3 Cycle, 4 Cycle, 5 Cycle, 6 Cycle, 7 Cycle, 8 Cycle.

SDRAM Trp Timing Value

This item set the delay from precharge command to activate command.

➢ The choice: 2 Cycle, 3 Cycle.

SDRAM Tras Timing Value

This item set the mimimum bank active time.

➢ The choice: 2 Cycle, 3 Cycle, 4 Cycle, 5 Cycle, 6 Cycle, 7 Cycle.

SDRAM CAS Latency

This item set the delay from SCAS to data valid.

➢ The choice: 2 Cycle, 3 Cycle.

SDRAM Trcd Timing Value

This item set the delay from the activation of a bank to the time that a read or write command is accepted.

➢ The choice: 1 Cycle, 2 Cycle, 3 Cycle, 4 Cycle.

❧ *Integrated Peripherals*

```
           CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                           Integrated Peripherals

    IDE Read/Write Prefetch      Disabled       ▲          Item Help
    IDE Primary Master PIO       Auto
    IDE Primary Slave  PIO       Auto              Menu Level   ▶
    IDE Secondary Master PIO     Auto
    IDE Secondary Slave  PIO     Auto
    IDE Primary Master UDMA      Auto
    IDE Primary Slave  UDMA      Auto
    IDE Secondary Master UDMA    Auto
    IDE Secondary Slave  UDMA    Auto
    On-Chip Primary   PCI IDE    Enabled
    On-Chip Secondary PCI IDE    Enabled
    USB Host Controller          Enabled
    USB Keyboard Support         Disabled
    Init Display First           PCI Slot
    IDE HDD Block Mode           Enabled        ‡
    Onboard FDC Controller       Enabled        ‡
    Onboard Serial Port 1        3F8/IRQ4       ‡
    Onboard Serial Port 2                       ‡
    UART Mode Select                            ▼

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

IDE Read/Write Prefetch

Enabled/Disabled IDE Read/Write Prefetch buffer.

➢ 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 DMA33/66 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 DMA33/66, select Auto to enable BIOS support.

➢ The Choice: Auto, Disabled.

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.

USB Host 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, AGP .

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.

Onboard FDC Controller

This item specifies onboard floppy disk drive controller. This setting allows you to connect your floppy disk drives to the onboard floppy connector. Choose the "*Disabled*" settings if you have a separate control card.

➤ The choice: Enabled, Disabled.

Onboard Serial Port 1

This item is used to define onboard serial port 1.

➢ The choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

Onboard Serial Port 2

This item is used to define onboard serial port 2.

➢ The choice: 3F8/IRQ4, 2F8/IRQ3, 3E8/IRQ4, 2E8/IRQ3, Auto, Disabled.

UART Mode Select

The main board support IrDA(HPSIR) and Amplitudes Shift Keyed IR(ASKIR) infrared through COM 2 port.

➢ The choice: IrDA, ASKIR, Normal.

UART2 Duplex Mode

This item specifies onboard infrared transfer mode to full-duplex. This item will not show up when IrDA, ASKIR or MIR UR2 modes are selected.

➢ The choice: Half, Full.

RxD , TxD Active

This item specifies the Active level for RxD & TxD signal.

➢ The choice: Hi,Lo, Lo,Hi,   Lo,Lo, Hi,Hi.

IR Transmittion delay

This item enable/disable the delay of the IR state change from Rx to Tx mode or Tx to Rx mode.

➢ The choice: Enabled, Disabled

Onboard Parallel Port

This item specifies onboard parallel port address to *378H, 278H, 3BCH* or *Disabled.*

➢ The choice: 378H, 278H, 3BCH, Disabled.

Parallel Port Mode

This item specifies onboard parallel port mode. The options are *SPP* (Standard Parallel Port), *EPP*(Enhanced Parallel Port), *ECP* (Extended Capabilities Port), and *EPP+ECP.*

➢ The choice: SPP, EPP, ECP, EPP+ECP.

ECP Mode Use DMA

This item specifies *DMA* (Direct Memory Access) channel when ECP device is in use. The options are *DMA 1* and *DMA 3.* This item will not show up when SPP and EPP printer mode is selected.

➢ The choice: 1, 3

EPP Mode Select

This item select the EPP Mode.

➢ The choice: EPP1.9, EPP1.7

✍ *Power Management Setup*

```
      CMOS Setup Utility   Copyright (C) 1904 1999 Award Software
                       Power Management Setup

    ACPI function            Enabled         ▲        Item Help
    Power Management         User Define
    Video Off Method         DPMS Support          Menu Level  ▶
    Suspend Type             PwrOn Suspend
    Standby Mode             Disabled
    HDD Power Down           Disabled
    HDD Down In Suspend      Disabled
    Soft-Off by PBTN         Instant-Off
    Wake Up by PCI card      Disabled
    RI Resume/WOL            Disabled
    MODEM Use IRQ            3
    RTC Resume               Disabled
  x  Date(of Month) Alarm       0
  x  Time(hh:mm:ss) Alarm       0    0    0
    Primary IDE 0            Enabled
    Primary IDE 1            Enabled
    Secondary IDE 0          Enabled
    Secondary IDE 1          Enabled
    Parallel Port            Disabled        ▼

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

The Power Management Setup allows you to configure you 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.

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 = 1hr., 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 Support.

Suspend Type

Select the Suspend Type.

➢ The choice: PwrOn Suspend, Stop Grant.

Standby Mode

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

➢ The choice: Disabled, 30 Sec, 1 Min, 4 Min, 10 Min, 20 Min, 30 Min, 1 Hour.

HDD Power Down

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

➢ The choice: 1 Min, 2 Min, 3 Min, 4 Min, 5 Min, 6 Min, 7 Min, 8 Min, 9 Min, 10 Min, 11 Min, 12 Min, 13 Min, 14 Min, 15 Min, Disabled.

HDD Down In Suspend

When enabled and after the set time of system inactivity, the hard disk drive will be poweved down while all o ther device remain active

➢ The choice: Enabled, Disabled.

Soft-Off by PBTN

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.

RI Resume/WOL

This item decermine the system will vesume by active of LAN or Modem. If enabled this feature system will power-on itself from power off when the activity of LAN or Modem.

➢ The choice: Enabled, Disabled.

MODEM Use IRQ

This decermines the IRQ in which the Modem can Use.

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

RTC Resume

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[3-15], NMI, Primary IDE0/1, Secondary IDE 0/1, Floppy Disk, Serial Port and Parallel Port.

❧ *PnP/PCI Configuration*

```
          CMOS Setup Utility   Copyright (C) 1984 1999 Award Software
                           PnP/PCI Configurations

        PNP OS Installed          No                    Item Help
        Reset Configuration Data  Disabled
                                                  Menu Level   ▶
        Resources Controlled By   Auto(ESCD)
      x IRQ Resources             Press Enter         Select Yes if you are
                                                      using a Plug and Play
        PCI/VGA Palette Snoop     Disabled            capable operating
        PCI Latency Timer(CLK)     32                 system Select No if
                                                      you need the DIOS to
                                                      configure non-boot
                                                      devices




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

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: Reserved, PCI Device.

PCI/VGA Palette Snoop

Leave this field at Disabled.

➢ The Choice: Enabled, Disabled.

PCI Latency Timer (CLK)

The number of clocks programed in the PCI Latency Timer represents the guaranteed time slice allocated to the AMD-751, after which it must complete the current data transfer phase and surrender the bus as soon as its bus grant is removed.

The PCI Latency Timer is used to guarantee to the PCI agents a minimum amount of the sytem resource.

➢ The Choice: 0 ~ 255.

✍ *PC Health Status*

```
          CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                                PC Health Status

    CPU Warning Temperature    Disabled           │        Item Help
    Current CPU Temperature                       │
    Current System Temp.                          │  Menu Level    ▶
    Current System FAN Speed                      │
    Current CPU   FAN Speed                       │
    VCORE                                         │
    +3.3V                                         │
    + 5 V                                         │
    +12 V                                         │
    -12 V                         -               │
    - 5 V                         -               │
    VBAT(V)                                       │
    Shutdown Temperature       Disabled           │

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

CPU Warning Temperature

Since the mainboard support CPU temperature monitoring and over-hear 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 CPU Temperature

Since the mainboard support CPU temperature monitoring and overheat alert. This item indicate the current Processor temperature.

Current System Temp

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

Current System FAN Speed

The mainboard can detect three fans rotation speed for system.

Current CPU FAN Speed

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

VCORE, +3.3V, +5V ~ -5V, +12V ~ -12V

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.

VBAT(V)

Battery voltage.

Shutdown Temperature

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

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

✎ Frequency/Voltage Control

```
          CMOS Setup Utility - Copyright (C) 1984-1999 Award Software
                          Frequency/Voltage Control

    Auto Detect DIMM/PCI Clk   Disabled              Item Help
    Spread Spectrum Modulated  Disabled
    CPU Host/PCI Clock         Default          Menu Level   ▶




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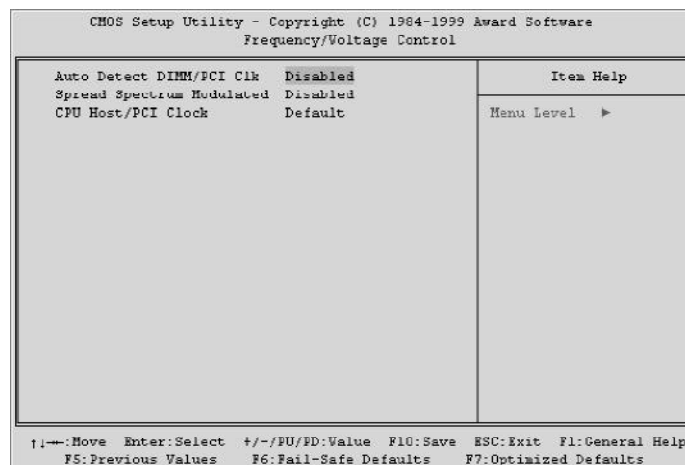
Auto Detect DIMM/PCI Clk

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

➢ The choice: Enabled, Disabled.

Spread Spectrum Modulated

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

➢ The choice: Enabled, Disabled.

CPU Host/PCI Clock

➢ The choice: Default, 50/25MHz, 66/33MHz, 100/33MHz,
133/33MHz.

✑ 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:
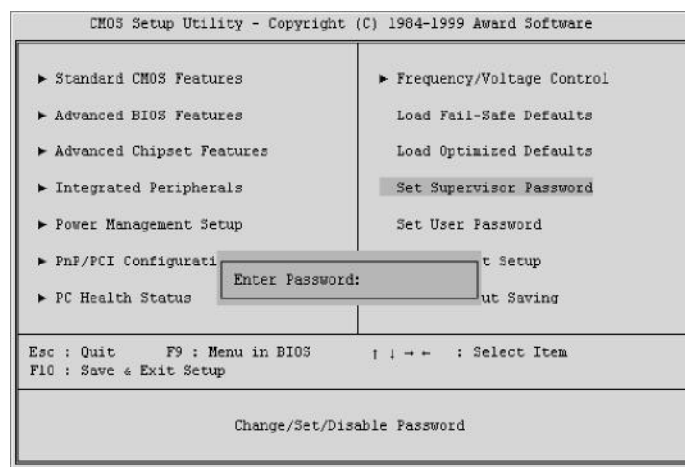
Load Optimized Defaults (Y/N) ? N

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 then. The differences between are:

```
        CMOS Setup Utility - Copyright (C) 1984-1999 Award Software

   ► Standard CMOS Features           ► Frequency/Voltage Control

   ► Advanced BIOS Features              Load Fail-Safe Defaults

   ► Advanced Chipset Features           Load Optimized Defaults

   ► Integrated Peripherals              Set Supervisor Password

   ► Power Management Setup              Set User Password

   ► PnP/PCI Configurati ┌──────────────────┐ t Setup
                         │ Enter Password:  │
   ► PC Health Status    └──────────────────┘ ut Saving

   Esc : Quit      F9 : Menu in BIOS      ↑ ↓ → ←  : Select Item
   F10 : Save & Exit Setup

                    Change/Set/Disable Password
```

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 CMOS, please refer to page 25 "Clear CMOS".

✎ 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.