

# **IWILL MPX2 Motherboard**

## **User's Manual**



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This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment onto an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

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This device complies with part 15 of the FCC rules. Operation is subject to the following conditions:

- This device may not cause harmful interference, and

This device must accept any interference received, including interference that may cause undesired operation.

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**What's In This Chapter:**

Introduction  
Manual Structure  
Manual Features  
Critical Topics  
Packing List  
Pre-Use Checklist

**1: Introduction**

This User's Manual is for the MPX2 motherboard. Please read this chapter before you use your motherboard and identify which parts of the manual you will need to refer to, if any. Please pay particular attention to the Critical Topics section.

**Manual Structure**

This manual has seven chapters covering the following topics:

**Chapter 1: Introduction**

Explains the manual structure and conventions and indicates the most important topics in the manual. In addition, there is a list of what you should find in the motherboard package and some pointers on things to do before you configure or install the board.

**Chapter 2: Key Features & Components**

Details the motherboard's hardware features and important components and indicates their locations. Describes the support software that comes with the board on the Power Installer support CD-ROM disc.

**Chapter 3: Motherboard Configuration**

Lists the motherboard's default configuration and configuration options.

**Chapter 4: Installing The Motherboard**

Has information on how to prepare and install the motherboard. Includes installing a CPU and system memory and housing installation considerations.

## Chapter 5: System Configuration

Covers connecting system peripherals to the motherboard, initial BIOS configuration using the CMOS Setup utility, OS options and software installation.

## Chapter 6: Using The Motherboard

Explains system operation features that derive from the motherboard. Has information on performance optimization and troubleshooting.

## Chapter 7: Technical Information

Lists the motherboard's technical specifications.

## Manual Features

This User's Manual is intended to be useful and informative while also making it easy to quickly find specific information or specifications. The manual has icons and notes in the sidebar to note important topics, indicate warnings or further explain and illustrate points. We suggest that most users review the manual to become familiar with the motherboard. Expert users may want to review topics selectively, as needed.

### If The Motherboard Is Already Installed

You may receive the motherboard installed in a working system. If this is the case, you should still probably review the sections on configuring and using the board, especially if an Operating System is not installed yet.

### If You Need To Install This Motherboard

We recommend that only experienced users and technicians install this motherboard. Otherwise, we suggest having a qualified computer technician install and configure the system. This service is usually provided at a nominal fee by better computer stores and service companies.

## Critical Topics

Many users do not read through the entire User's Manual. While this may not be necessary for experienced users or if the motherboard is already installed, there are some topics which are particularly important and deserve your specific attention. These topics cover information critical to the proper installation and use of the motherboard.

For this motherboard, please review the sections on the following topics:

- Jumper Configuration  
Please see Chapter 3.
- CPU installation  
Please see Chapter 4.
- System memory installation  
Please see Chapter 4.
- AGP card installation  
Please see Chapter 5.
- Required BIOS configuration  
Please see Chapter 5.
- Support software installation  
Please see Chapter 5.

## Packing List

The MPX2 motherboard package includes the following items:

- MPX2 motherboard
- ATA-66 40-pin IDE connector cable  
Connects IDE devices to one of the onboard IDE connectors.
- Floppy Disk Drive connector cable  
Connects floppy disk drives to the onboard floppy disk connector.
- 3 Jumper Caps  
Extra caps in case original caps are lost.
- Power Installer support CD-ROM disc  
Includes support software, drivers and bundled software utilities.
- User's Manual
- Quick Installation Guide

## Pre-Use Checklist

Before you install and use the motherboard, please do the following:

- Check Package Contents  
Please compare the package contents to the Packing List on the previous page and confirm that all items are present and undamaged.
- Missing or Damaged Accessories  
If anything is missing, please contact your vendor.
- Motherboard Damage  
If the motherboard has been visibly damaged, return the complete package to your vendor with proof of purchase.

### Prepare Minimum System Components

If you are installing the board in a new system, you'll need at least the following internal components;

- One AMD Athlon or Duron processor or two Athlon MP processors
- One DDR DIMM memory module, PC2100 for 133MHz Frontside Bus or PC1600 for 100MHz Frontside Bus
- 2X, 4X or AGP Pro AGP video display card
- Desired storage devices (hard disk, CD-ROM, etc.)

You may want to install an audio card and a Network Interface Card of your choice, as well as any other expansion cards you require. You will also need whatever external system peripherals you intend to use, which will normally include at least a keyboard, a pointing device and a video display monitor.



**Chapter Topics:**

Hardware Features

Motherboard Layout

Key Features &amp; Components

Software Features

Driver Software

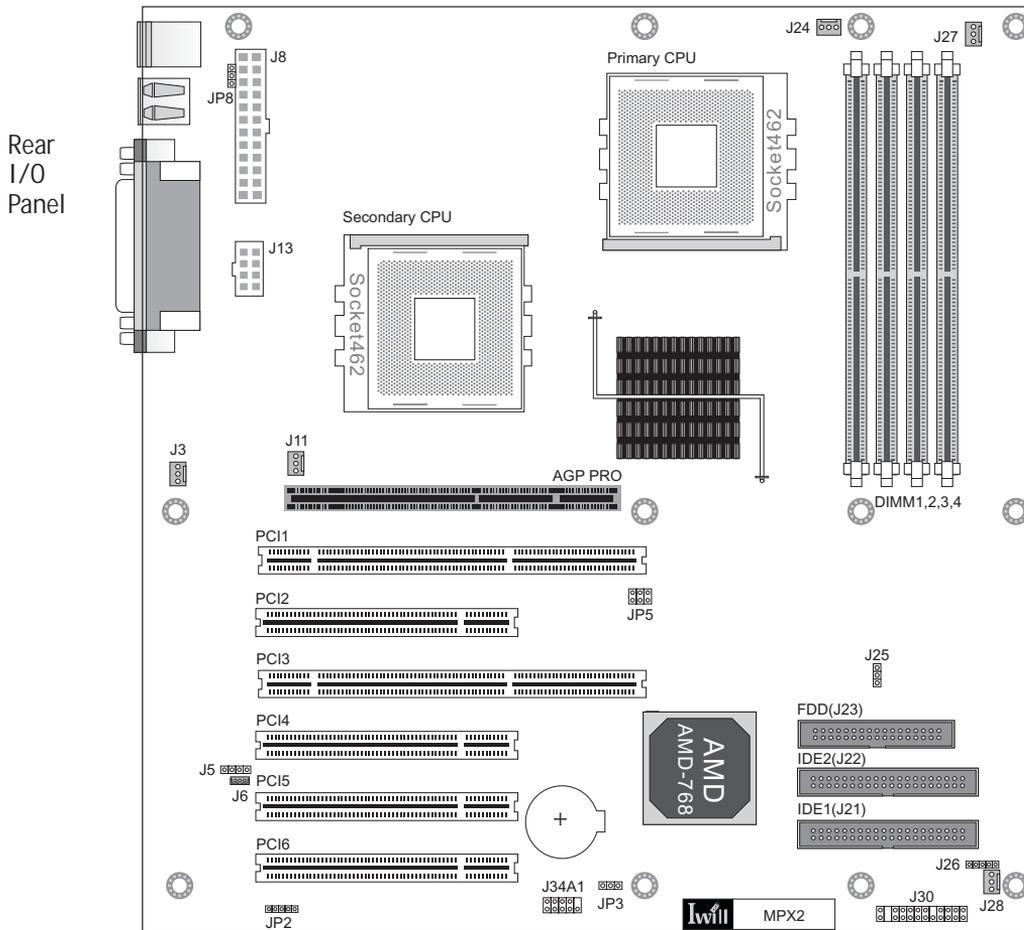
Utility Software

**2: Key Features & Components**

This chapter explains the location and function of this motherboard's key features and components. In addition, it details the software that comes on the Power Installer support CD-ROM disc. Please review this chapter if you are installing the motherboard. It is also useful for reference regarding feature functions after the board is installed in a working system.

### Motherboard Layout

The diagram and key on these two pages shows the location of key components on the motherboard.



## Motherboard Layout Key

### Component

CPU	Socket 462 "Socket A" CPU socket
J8, J13	Power connectors for EPS or ATX 12V power supply
DIMM1, 2, 3, 4	DIMM memory sockets for DDR memory modules
AGP Pro	Universal AGP connector for AGP 2X or 4X display card
PCI 1-6	32-bit PCI 2.2 and 64-bit PCI expansion slots

### Function

### Connectors

IDE1, IDE2	Primary & Secondary ATA-100 or slower drive connectors
FDD	Floppy disk drive connector
J11, J24	CPU cooling fan connectors
J28	Primary housing cooling fan connector
J27, J3	Auxilliary housing cooling fan connectors
J30	Housing front panel feature connector
JP2	IR port module connector
J5	WOR – Wake-On-Ring connector
J6	WOL – Wake-On-LAN connector
J26	SMBus connector

### Jumpers

JP3	Clear CMOS jumper
JP5	Fronstside Bus Speed jumper
J8	Keyboard Power On jumper
JP25	VIO Overvoltage jumper

Rear panel I/O ports	See figure on next page
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## Rear I/O Panel Ports:

This figure show the ports on the rear I/O panel. The ports include, from top to bottom:

PS/2 ports

Two USB ports

Parallel & Serial ports

The ports have standard color-coding as follows:

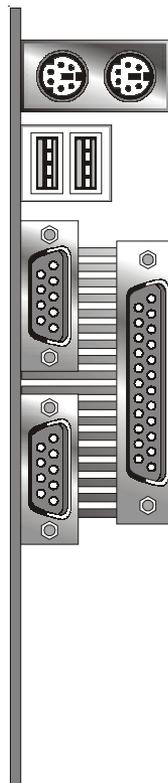
PS/2 Keyboard: Purple

PS/2 Mouse: Green

USB Ports: Black

Serial Ports: Teal

Parallel Port: Burgundy



PS/2 Keyboard, PS/2 Mouse

USB2, USB1

Serial 1 (COM1)

Parallel

Serial 2 (COM2)

## Key Features & Components

This section explains the function and use of key features and components on the motherboard. It also indicates where to look in the manual for additional information on configuring and using them.

This motherboard uses an ATX form factor PCB in a design that integrates many features onto the board including several external ports.

*AMD 760MPX Chipset*

This motherboard uses the AMD 760MPX Chipset. It is a multi-function chipset for higher-end performance and mainstream systems. The 760MPX components include the following devices mounted on the board:

- AMD762 North Bridge
- AMD768 South Bridge

The chipset provides host bus, DDR memory, AGP, and I/O interfaces and supports a Frontside Bus speed of 266MHz.

## CPU Sockets

**Function:** System CPUs install in these two sockets.

**Description:** The Socket 462 or “Socket A” CPU sockets support the AMD Athlon MP CPU in a dual CPU configuration.

You can install either one or two CPUs on the motherboard. In a single CPU configuration, you can also use other AMD Athlon and Duron CPUs that use this socket including the Athlon XP.

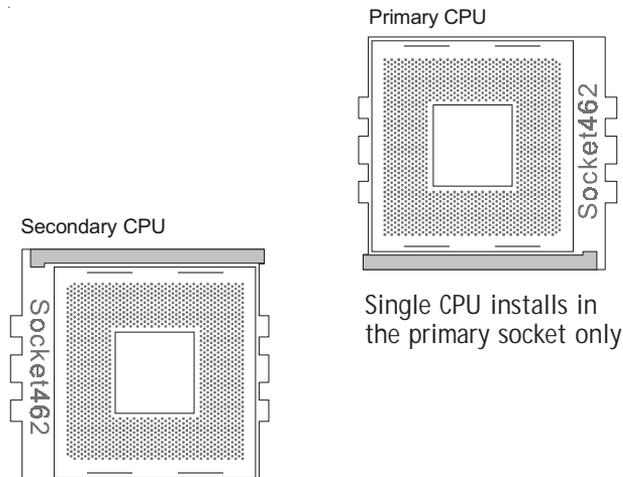
**More Information:** See the section in Chapter 4 on “Installing CPUs” for information supported CPUs and their installation procedure. Technical specifications are listed in Chapter 7.

 **Note:**

The CPU settings are automatically detected by the system BIOS.

**Socket 462 - “Socket A”:**

This motherboard uses AMD Athlon MP CPUs only in the dual CPU configuration.



### System Memory Sockets

**Function:** The DIMM system memory sockets are for installing DDR SDRAM system memory modules.

**Description:** There are four DIMM memory module sockets on the motherboard. These sockets are for installing DDR SDRAM memory modules. The sockets function independently, allowing a variety of memory configurations up to a total of 3.5GB using Registered DDR DIMMs or 2GB using unbuffered DDR memory (using DIMM1 & 2 sockets only). Both PC1600 and PC2100 memory are supported.

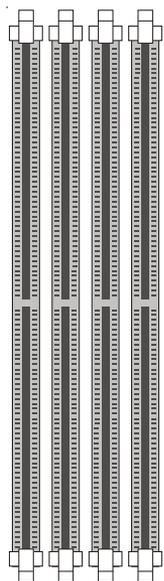
**More Information:** See the section on Installing System Memory in Chapter 4 for configuration specifications and installation instructions. Technical specifications are listed in Chapter 7.

#### DIMM Sockets:

System memory sockets support PC1600 (DDR200) and PC2100 (DDR266) DDR SDRAM modules.

Athlon MP CPUs use a 266MHz Frontside Bus (2 x 133MHz) and require PC2100 memory (266MHz modules).

See Chapter 4 for important installation information.



DIMM1,2,3,4

### The AGP Slot

**Function:** The AGP slot is for installing an AGP interface video display card.

**Description:** The AGP slot is a high-speed slot exclusively designed for an AGP video display card. The chipset supports the following types of AGP card:

- AGP 2X – maximum 528MB/second data transfer
- AGP 4X – maximum 1GB/second data transfer
- AGP Pro

The slot supports both 1.5V and 3.3V devices.

**More Information:** See the section “Connecting & Installing Internal Peripherals” in Chapter 4. Technical specifications are listed in Chapter 7. Also, see the Advanced Chipset Features section of “Configuring the CMOS Setup Utility” in Chapter 5 for information on AGP settings.

#### AGP Slot:

For AGP 2X, 4X or AGP Pro cards. Both 1.5V and 3.3V cards are supported



AGP Pro is a universal slot for an AGP 2X, 4X or AGP Pro display card

### PCI Expansion Slots

**Function:** The PCI expansion slots are for installing system expansion or “add-on” cards to add additional system hardware.

**Description:** This motherboard has six Bus Master capable PCI expansion slots, including four PCI 2.2 32-bit 33MHz slots and two 3.3V 64-bit 66MHz slots. The slots provide two levels of fast high-bandwidth pathway between the motherboard and expansion cards.

**More Information:** See the section “Connecting & Installing Internal Peripherals” in Chapter 5. Technical specifications are listed in Chapter 7.

### PCI Expansion Slots

All slots are Bus Master capable. The 64-bit slots require 64-bit cards.



### Drive Connectors

There are three drive connectors on the motherboard for connecting IDE and floppy disk drives.

#### *IDE Drive Connectors*

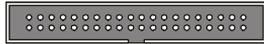
**Function:** The two IDE connectors, marked ‘Primary’ and ‘Secondary’, are for connecting IDE drives to the motherboard.

**Description:** The IDE controller on the motherboard supports IDE devices running in all modes up through ATA-100. There are two IDE drive connectors. Each connector supports two drives, a ‘Master’ and a ‘Slave’ which connect to the motherboard with a ribbon cable. The supplied cable supports transfer modes through ATA-100.

**More Information:** See the section on “Connecting Internal Peripherals” in Chapter 5 for instructions on connecting IDE drives. Technical specifications are listed in Chapter 7.

#### IDE Drive Connectors

The channels are labeled on the board.

Secondary IDE2 

Primary IDE1 

#### *Floppy Disk Drive Connector*

**Function:** The floppy disk drive connector, marked ‘Floppy’, is for connecting one floppy disk drive to the motherboard.

**Description:** The floppy disk drive connector supports connecting one floppy disk drive to the motherboard. The ‘Floppy’ drive connector uses a standard FDD ribbon cable. The floppy disk drive connected to the end of the cable will function as Drive A:. A second drive can be added as Drive B: if required.

**More Information:** See the section on “Connecting Internal Peripherals” in Chapter 4 for instructions on connecting a floppy disk drive. Technical specifications are listed in Chapter 7.

#### Floppy Drive Connector



### Other Internal Connectors

There are several other connectors on the motherboard.

#### Power Connectors

**Function:** Connectors for leads from the system power supply.

**Description:** There are two power connectors on the motherboard. These are for either an ATX or EPS power supply. The power supply leads plug into the connectors. The connector design prevents incorrect orientation. These are not standard ATX connectors. The 24-pin and 8-pin connectors are for both ATX and EPS dual power connector power supplies. The EPS connectors plug into the entire onboard connector. The ATX connectors only plug into part of each connector.

**More Information:** Please refer to Chapter 4, “Installing the Board in a System Housing”. Chapter 7 lists technical specifications.

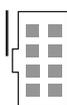
#### Power Connectors:

The power connectors are for use with either an ATX or EPS minimum 350W power supply.

ATX connectors plug into the indicated positions



24-pin EPS/ATX connector  
(ATX uses 20 pins)



EPS/ATX 12V connector  
(ATX uses 4 pins)

#### Cooling Fan Connectors J11, J24, J3, J27, J28

**Function:** Power connectors for CPU and system housing cooling fans.

**Description:** There are three system housing cooling fan connectors (J28 – System, J3, J27 – Aux) and two CPU cooling fan connectors (J11 & J24) on the motherboard. All the connectors are 3-pin headers. The System housing and CPU fan connectors support fan speed monitoring in the PC Health section of the CMOS Setup Utility.

The power to the Auxiliary fans J3 and J27 is turned off by default. You can turn the power to these connectors on in the IWILL Smart Setting section of the Award BIOS CMOS Setup Utility by setting the AUX Fan item to the ON setting.

**More Information:** Please see the PC Health Status and IWILL Smart Setting sections of “Configuring the CMOS Setup Utility” in Chapter 5 for information.

### Cooling Fan Connectors:

The cooling fan power connectors all use the same 3-pin connector.



Fan power connectors  
(orientation varies)



### WOL: Wake On LAN Connector J6

**Function:** A connector for the lead from a Network Interface Card that supports the Wake On LAN feature.

**Description:** This feature enables the system to “wake up” from Suspend mode when it receives a signal over a LAN it is connected to. It works with a PCI NIC that supports this feature by connecting the card to the WOL connector on the motherboard.

**More Information:** Please see the Power Management Setup section of “Configuring the CMOS Setup Utility” in Chapter 5 for information.

### Wake On LAN Connector:

This connector is for an additional NIC. The optional onboard LAN port supports WOL without using this connector.



Wake On LAN connector

## *WOM: Wake On Modem Connector J5*

**Function:** A connector for the lead from a modem that supports the Wake On Modem feature.

**Description:** This feature enables the system to “wake up” from Suspend mode when it receives a ring signal from a modem it is connected to. It works with a modem PCI expansion card that supports the feature by connecting the card to the WOM connector on the motherboard. A signal from the card will wake up the computer only when it is plugged into an AC power source and the system is in a supported sleep state.

**More Information:** Please see the Power Management Setup section of “Configuring the CMOS Setup Utility” in Chapter 5 for information.

## Wake On Modem

### Connector:

This connector is for the lead from a PCI modem card that supports this feature. The lead plugs into the connector.

 Wake On Modem connector

## *IR Connector JP2*

**Function:** Connector for an Infrared (IR) port module.

**Description:** The IR connector supports both IrDA and ASKIR infrared port modules. Follow the module’s instructions to install it.

**More Information:** Please see the Integrated Peripherals section of “Configuring the CMOS Setup Utility” in Chapter 5 for information.

### IR Connector JP2:

The IR connector is for both IrDA and ASKIR port modules. You must configure the Super IO section of the Integrated Peripherals screen in the CMOS Setup Utility to use the IR feature.

 IR connector JP2

*USB Ports 3/4 Connector J34A1*

**Function:** Connector for the additional two USB ports port bracket.

**Description:** Connecting an external 2-port USB port bracket to this connector provides two additional USB ports that function independently from the two external USB ports and have their own Root Hub.

**More Information:** See the “Connecting Internal Peripherals” section of Chapter 5.



J34A1 USB ports 3/4 connector

*Front Panel Connectors*

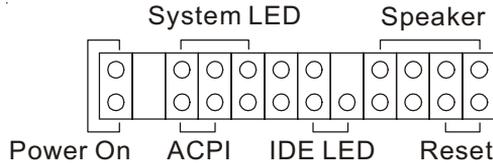
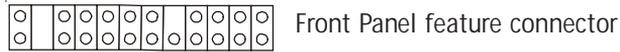
**Function:** Multifunction pin header connector for system housing front panel features.

**Description:** This connector supports the following front panel features:

- Reset Switch
- IDE device activity LED
- System ACPI Suspend switch
- System Power LED
- Housing-mounted speaker

**More Information:** See Chapter 4 “Installing the Board In A System Housing” and Chapter 6, “System Features”.

**Front Panel Connector:**  
Leads from the front panel features connect to this header.



*System Management Bus Connector J26*

**Function:** SMBus connector.

**Description:** A System Management Bus (SMBus) lead connects to this connector.

**More Information:** See the “Connecting Internal Peripherals” section of Chapter 5.

**SMBus:**  
This connector is for a System Management Bus connection.



### *Battery Housing*

**Function:** Housing for system support battery.

**Description:** An external lithium coin-cell battery powers the real-time clock and CMOS memory. When the computer is not plugged into a wall socket, the battery has an estimated life of three years. When the computer is plugged in, the standby current from the power supply extends the life of the battery.

**More Information:** See the Standard CMOS Features section of “Configuring the CMOS Setup Utility” in Chapter 5 to adjust the real-time clock settings.

#### **Battery & Housing:**

The battery is a CR2032 Lithium coin cell.



System support battery

## External I/O Ports

There are several external Input/Output ports on the rear edge of the motherboard and connectors for more on the board. Please refer to the Rear I/O Panel Ports illustration for the port locations. The ports are color-coded for easy identification.

### *PS/2 Ports*

**Function:** Connecting PS/2 devices to the system.

**Description:** The PS/2 ports are for a system keyboard and mouse or other pointing device. Do not connect or disconnect PS/2 devices when the system is turned on.

**More Information:** See the Advanced Boot Options section of “Configuring the CMOS Setup Utility” in Chapter 5 for information on adjusting related settings.

### **PS/2 Ports:**

Do not plug or unplug devices when the system is turned on.



PS/2 Mouse

PS/2 Keyboard

### *USB Ports*

**Function:** Connecting USB 1.1 devices to the system.

**Description:** These four ports are for USB 1.1 devices. The ports are for “Type A” USB cable connectors. You can connect or disconnect USB cables when the system is turned on.

**More Information:** See the Integrated Peripherals section of “Configuring the CMOS Setup Utility” in Chapter 5 for information on adjusting port settings.

### **USB Ports:**

There are two USB ports on the rear panel. Ports 3/4 have a separate root hub and have a connector for a port bracket mounted on the motherboard.



USB ports 1/2

*Parallel Port*

**Function:** Connecting a device with a parallel interface to the system.

**Description:** The parallel port is generally used to connect a printer to the system. The port supports common parallel port modes and allows bidirectional communication. Use an IEEE 1284 compliant cable with the default ECP mode configuration.

**More Information:** See the Integrated Peripherals section of “Configuring the CMOS Setup Utility” in Chapter 5 for information on adjusting port settings.

**Parallel port:**

The default mode is ECP, configured as EPP 1.9, DMA 3. 1284 compliant.



Parallel port

*Serial (COM) Ports*

**Function:** Connecting Serial devices.

The two serial ports have 9-pin connectors. They can operate at speeds up to 115,200bps. You can configure the port speed in the computer’s Operating System. Do not connect or disconnect a serial cable when the system is turned on.

**More Information:** See the Integrated Peripherals section of “Configuring the CMOS Setup Utility” in Chapter 5 for information on adjusting port settings.

**Serial Ports:**

The default configuration is Serial 1 = COM1 and Serial 2 = COM2. Installing an IR port requires disabling COM2.



Serials ports 1 &amp; 2

## Jumpers

There are four jumper switches on this motherboard. Jumpers function like switches to establish a hardware configuration setting.

**JP3 Clear CMOS:**  
Default – Normal



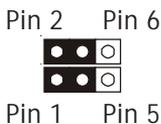
### *JP3 Clear CMOS*

**Function:** Clears the CMOS Setup Utility configuration record stored in the real-time clock's CMOS memory.

**Description:** A 3-pin jumper.

**More Information:** See Chapter 3 for configuration information and the Troubleshooting section in Chapter 6.

**JP5 Frontside Bus Speed:**  
Default – 133MHz



### *JP5 Frontside Bus Speed*

**Function:** Sets the Frontside Bus speed to either 100MHz or 133MHz (default).

**Description:** A 6-pin jumper block.

**More Information:** See Chapter 3 for jumper configuration information and the CPU and memory sections in Chapter 4 for important notes.

**JP8 Keyboard Power On:**  
Default – Normal



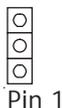
### *JP8 Keyboard Power On*

**Function:** Turns the Microsoft Windows Keyboard Power On feature on and off.

**Description:** A 3-pin jumper.

**More Information:** See Chapter 3 for configuration information and “System Features” in Chapter 6.

**J25 VIO Overvoltage:**  
Default – Normal



### *J25 VIO Overvoltage*

**Function:** Sets the VIO overvoltage setting.

**Description:** A 3-pin jumper.

**More Information:** See Chapter 3 for configuration information and “System Features” in Chapter 6.

### Software Features

This motherboard comes with driver software and bundled utility software on the supplied Power Installer CD-ROM disc. The Installing OS & Support Software section in Chapter 5 explains how to install the software required to support this motherboard and profiles the bundled utilities.

#### Using the Power Installer Disc

You can run the Power Installer CD-ROM install interface under Microsoft Windows 9X, NT 4.0, 2000 or XP. The disc's install interface should load automatically and you then click on the model name of this motherboard.

Power Installer:  
MPX2  
Main installation screen



## Driver Software

This motherboard requires that you install driver software to support the onboard hardware. You will need to install the following:

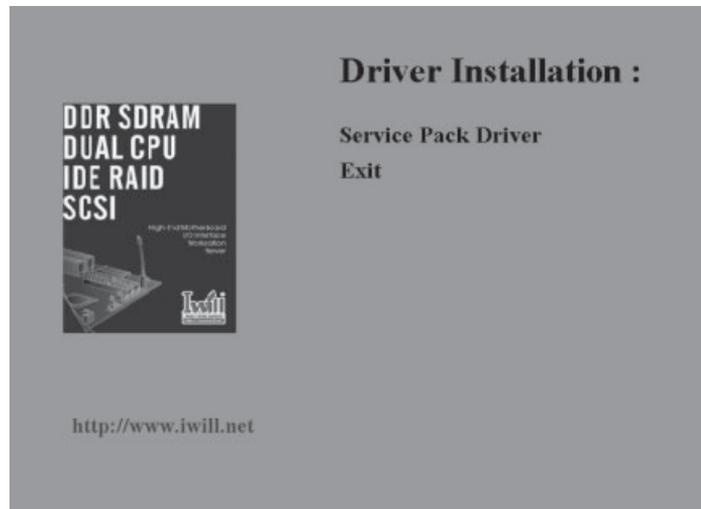
- AMD 760MPX chipset support software  
Driver that supports the AMD chipset.

Please see “Installing OS & Support Software” in Chapter 5 for more information.

## Power Installer:

MPX2

Driver Installation screen



### Utility Software

The Power Installer disc also has several Windows utility programs on it.

- Acrobat Reader

Acrobat Reader allows you to read documents in the Adobe PDF format, including online documents on the Power Installer disc and a wide range of other content. The reader is free and can be upgraded at the Adobe web site – [www.adobe.com](http://www.adobe.com) – when new versions become available.

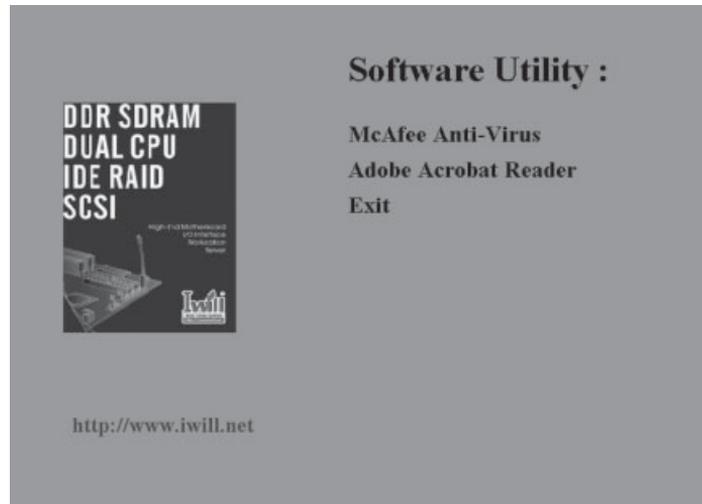
- McAfee Anti-Virus

This is anti-virus software from one of the leading vendors.

**Power Installer :**

MPX2

Utility installation screen





**In This Chapter:**

The Default Configuration

Hardware Configuration: Jumper Settings

Firmware Configuration: The BIOS CMOS Setup Utility

Reconfiguring the Motherboard

Hardware Reconfiguration

Firmware Reconfiguration

**3: Motherboard Configuration**

This chapter details the motherboard's default configuration and configuration options. Please review the contents of this chapter to find out information on the default configuration or alternative configuration options to change the default configuration.

The motherboard will operate properly in the default configuration. Please make certain that any configuration changes you make will not adversely affect system operation.

**The Default Configuration**

The default configuration is set at the time of manufacture. The configuration is comprised of the hardware configuration settings and the default firmware settings in the BIOS CMOS Setup Utility.

**Hardware Configuration: Jumper Settings**

This motherboard is mainly configured in firmware, which simplifies configuration. There are also a few hardware settings. The hardware settings are configured using standard jumper switches. The motherboard has five jumper switches. The first section is about the two BIOS-related jumpers and the second about the three hardware configuration jumpers.

### BIOS-Related Jumpers

#### *Jumper JP3: Clear CMOS Memory*

JP3 is a jumper switch, but it does not set a hardware configuration setting. The BIOS CMOS Setup Utility creates a system configuration record that is stored in CMOS memory in the real-time clock chip. If the configuration record data becomes corrupted or is destroyed, or if the CMOS Setup Utility settings are changed to an unusable configuration, the motherboard may not run properly or at all. JP3 provides a means to delete the configuration data stored in CMOS memory and reset the configuration to the CMOS Setup Utility's Optimized Defaults.

Follow this procedure to clear CMOS memory. The jumper is beside the coin battery. If necessary, refer to the board diagram and key in Chapter 2 for the location of the JP3 jumper.

1. Turn off and unplug the system. Remove the system housing cover (see documentation if necessary).
2. Set JP3 to the Clear CMOS position by placing the jumper cap over pins 2 and 3 for one minute.
3. Return the jumper cap to the Normal position.
4. Replace the system housing cover, plug in the system and turn it on.
5. Run the CMOS Setup utility and load the Optimized Defaults. You can then enter any custom settings you require.
6. Save the settings as you exit the program and restart the computer.

The system should now operate normally.

#### **Important Note:**

Before you perform the Clear CMOS operation, completely turn off your system and, if your system power supply doesn't have a switch on it, unplug the power cord.

#### **JP3: Clear CMOS Memory**

Setting	Function
Short 1-2 	Normal operation [Default]
Short 2-3 	Clear CMOS memory – see instructions

Default – Normal



Pin 1

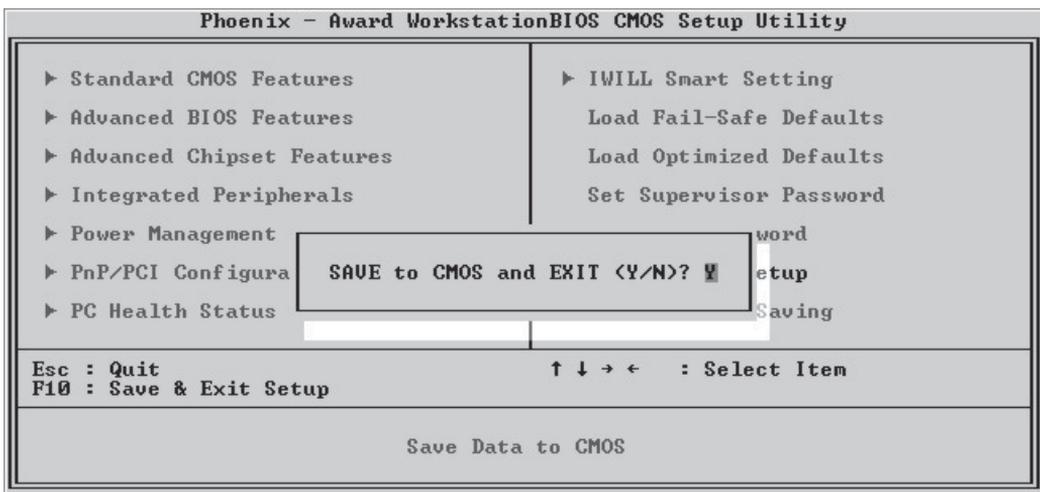
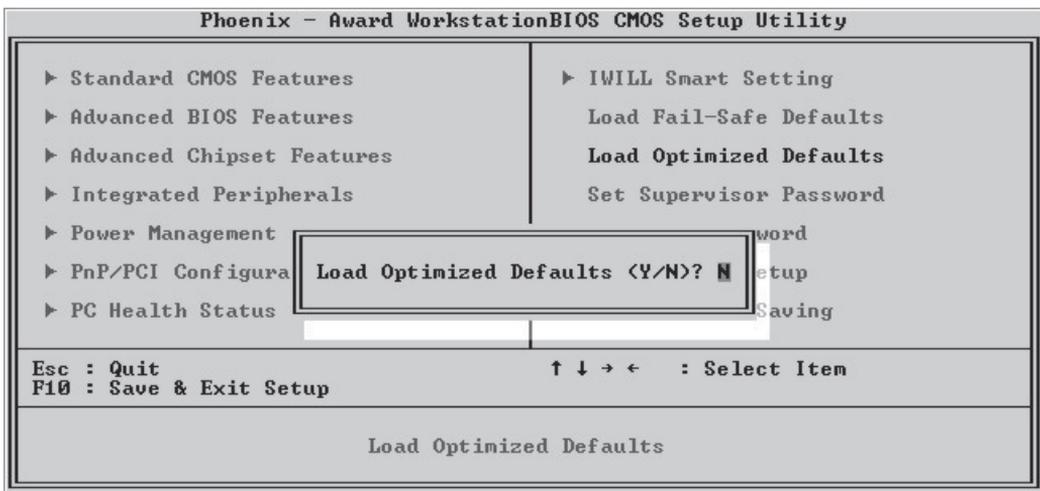
#### BIOS CMOS Setup Utility – Main Screen

The main screen of the CMOS Setup Utility has a Load Optimized Defaults item that loads the default operation settings. After you perform the Clear CMOS procedure, load the defaults as follows:

1. Select Load Optimized Defaults and press the Enter key.
2. A message will appear asking you to confirm.
3. Type a Y to confirm and press the Enter key again.
4. Make other settings you require.
5. Select Save & Exit Setup and press the Enter key.

The system will restart and use the new settings.

See the section on “Configuring the CMOS Setup Utility in Chapter 5 for information on how to use this program.



Hardware Configuration Jumpers

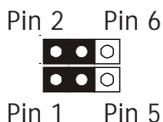
*Jumper JP5: Frontside Bus Speed*

This jumper sets the Frontside Bus (FSB) speed. The default setting is 133MHz. This is compatible with PC2100 memory. If you want to use PC1600 memory, set this jumper to the 100MHz setting. This will slow the CPU down if it uses a 266MHz Frontside Bus.

**JP5: Frontside Bus Speed**

Setting	Function
Short 3 & 5 4 & 6	100MHz - Frontside Bus speed is 100Mhz
Short 1 & 3 2 & 4	133MHz [Default] - Frontside Bus speed is 133Mhz

Default – 133MHz



*Jumper J8: Keyboard Power On*

This jumper controls the Keyboard Power On feature at the hardware level. The default setting is Normal, which does not enable this feature. To use this feature, you must set this jumper to the Power On setting. You can then configure the feature in the Integrated Peripherals section of the CMOS Setup Utility before you use it. See Chapter 5 for more information on this.

**J8: Keyboard Power On**

Setting	Function
Short 1-2	Normal [Default]
Short 2-3	Power On [Enables the use of the KB Power On feature]

Default – Normal



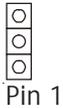
*Jumper J25: VIO Overvoltage*

This jumper allows you to increase the IO voltage by either 5% or 10%. The default setting is Normal, which leaves the IO voltage at its normal level.

**J25: VIO Overvoltage**

Setting		Function
Short	1-2	5% overvoltage
Short	2-3	10% overvoltage
Open		Normal [Default]

Default – Normal



### Firmware Configuration: The CMOS Setup Utility

The BIOS CMOS Setup Utility a configuration record of system settings. This record is based on the “Optimized Defaults that are stored with the utility in Flash memory and can be reloaded at any time.

Many of these settings are either recommended or required for the motherboard to operate properly. Other settings are customizable and can be changed to suit your specific system configuration and operation requirements.

A number of the variable settings, such as CPU and IDE ATA device settings are set to be automatically detected in the default configuration. While these settings can also be established manually, automatic detection is more convenient, safe and reliable. We strongly recommend that you leave all auto-detection settings undisturbed unless you have a specific reason not to and you are certain of what you are doing. Incorrect configuration of the CMOS Setup Utility can result in unreliable operation or a failure of the motherboard to work at all.

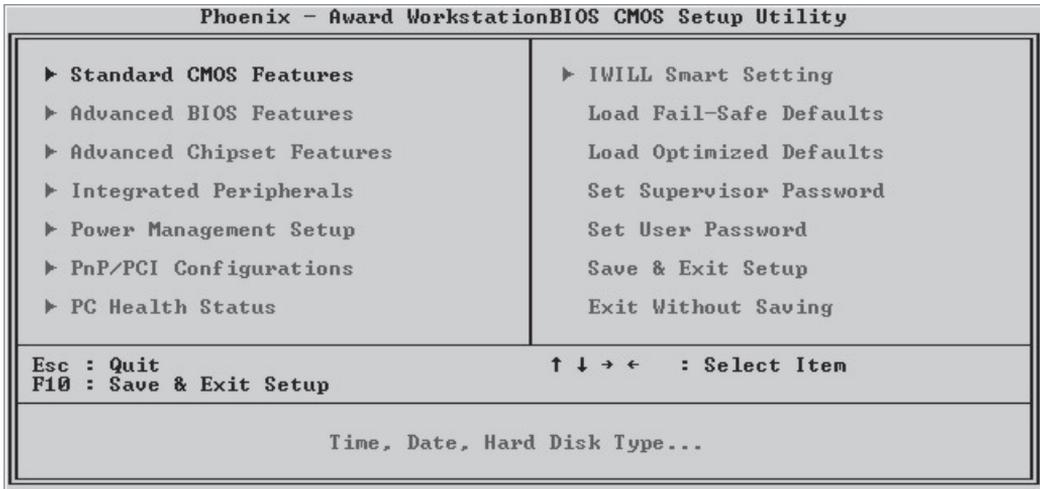
#### *Using the CMOS Setup Utility*

Please refer to the “Configuring the CMOS Setup Utility” section in Chapter 5 for information on using the utility and some settings you might want to customize. The utility does not run under an Operating System. You must load it during the Power On Self Test (POST) while the computer is starting up by press the Delete key or the Del key on the system keyboard’s numeric keypad.

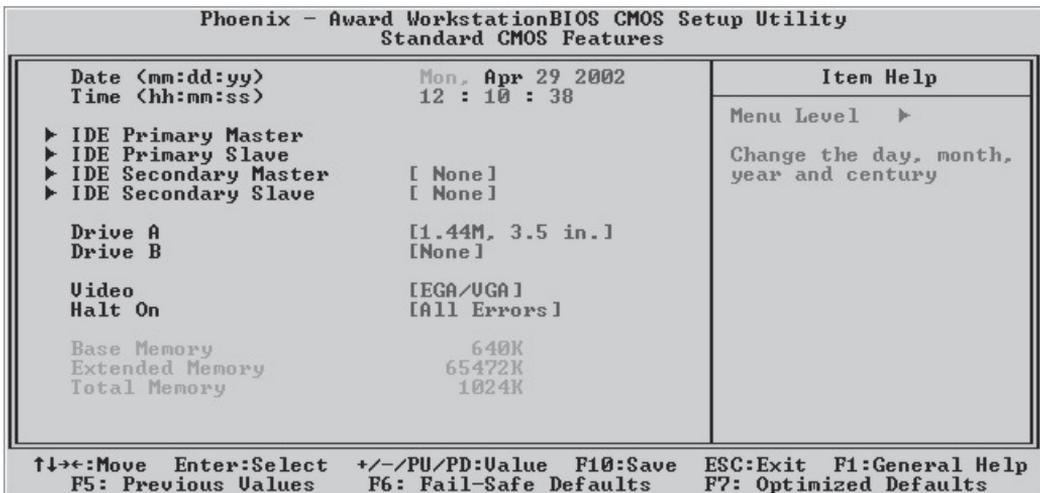
#### BIOS CMOS Setup Utility – Main Screen

Load the CMOS Setup Utility during the POST by pressing the Delete or Del key. The utility interface commands are explained at the bottom of each screen and “General Help” is available by pressing the F1 key. See the section on “Configuring the CMOS Setup Utility in Chapter 5 for information on how to use this program.

The main screen has a basic list command instructions at the bottom of the screen and displays a function description of the highlighted item.



Sections marked by an arrow on the main screen have a list of command instructions at the bottom of each screen.



## Reconfiguring the Motherboard

You can change the default configuration (as shipped) of this motherboard as needed. However, since this motherboard has only a few hardware configuration options and the CMOS Setup Utility configuration is mostly either required, recommended or automatic, there will probably be little reason to do so.

### Hardware Reconfiguration

We recommend leaving the jumper settings at the default settings unless you need to perform the Clear CMOS procedure.

You should set the Frontside Bus Speed jumper JP5 to the 100MHz setting if you are going to use a single CPU configuration and the CPU you are installing has a 200MHz Frontside Bus speed. In a dual CPU configuration, don't change this jumper. The motherboard only supports Athlon MP CPUs in a dual configuration and these use the default jumper setting.

You can change the CPU Overvoltage jumper J25 setting if you want to overclock the CPU, but don't do this unless you really know what you are doing, are willing to void your CPU warranty and understand that IWILL does not assure system performance if you do so.

### Firmware Reconfiguration

You can initially specify or customize the CMOS Setup Utility settings when you first configure the system (as covered in Chapter 5) to meet your requirements. Other than doing this, there should be no need to reconfigure the CMOS Setup Utility unless the system configuration changes or the configuration record stored in CMOS memory becomes corrupted and unusable, which is not common. If you need to completely recreate the system configuration record, follow the Clear CMOS procedure described in this chapter.

**In This Chapter:**

Pre-Installation Preparation

Installing CPUs

Installing System Memory

Installing the Motherboard in a System Housing

Motherboard Installation Procedure

Completing System Configuration

**4: Installing the Motherboard**

This chapter covers preparing the motherboard for installation, installing the board in a system housing or “chassis” and installing or connecting other internal system components.

There are a number of important topics in this chapter and we strongly urge that you review it before attempting to install the motherboard.

**Pre-installation Preparation**

Before you install the motherboard you will need to do the following:

- Install a CPU
- Install DDR system memory modules

Both of these require specific procedures that you must follow precisely to insure that the components are successfully installed and work properly. Please review the instructions in this section in detail and follow them carefully. The procedures are not complex.

### Installing A CPU

To install a CPU on the motherboard it is important to follow the entire procedure for installing both the CPU and its cooling assembly. Failure to do so can result in either improper operation or damage to the CPU and possibly the motherboard.

To install an AMD CPU on this motherboard you will need to do the following:

- Install an AMD processor in the Socket 462 socket
- Install a Cooling Fan/Heatsink assembly

Please follow the procedure detailed below to install the processor on the board. AMD boxed Athlon and Duron processors come with full installation instructions. If you have them, please also read and follow those instructions carefully.

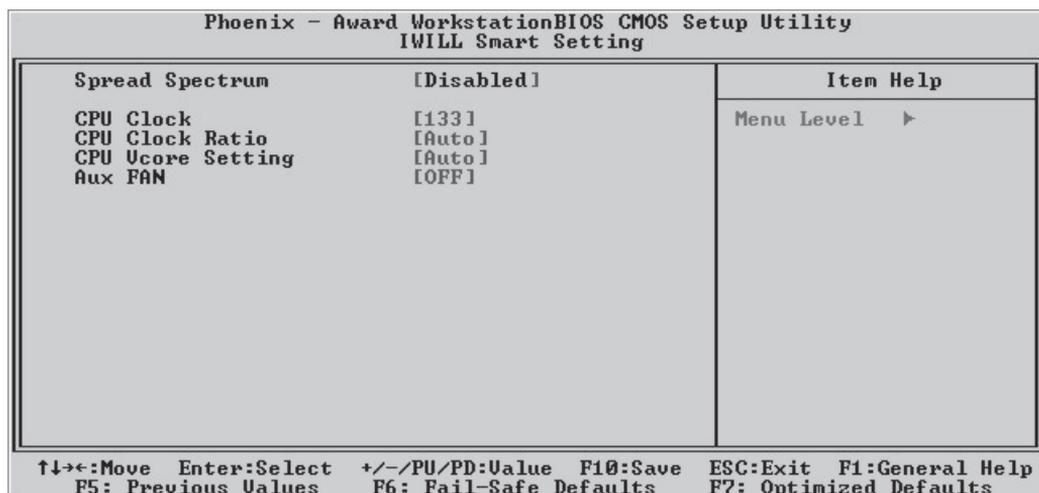
### Processor Selection

This motherboard uses any 462-pin “Socket A” AMD Athlon or Duron processor in a single CPU configuration and Athlon MP processors only in the dual configuration. All current processor speeds are supported. If you will install a dual processor configuration, the two processors should be identical. The BIOS automatically detects the required CPU settings and configures the CMOS Setup Utility accordingly. The settings in the IWILL Smart Setting section control processor configuration settings. For Athlon MP CPUs, you must configure the CPU Clock Ratio setting manually.

### Clock Ratio Setting:

You must set the CPU Clock Ratio setting manually for Athlon MP CPUs. The ratio settings are as follows:

- MP 1500+: x10
- MP 1600+: x10.5
- MP 1700+: x11
- MP 1800+: x11.5
- MP 1900+: x12
- MP 2000+: x12.5



**Note:**

All supported CPUs install the same way.

**Important:**

If you install a CPU that has a 200MHz FSB speed, you must set jumper JP5 to the 100MHz setting. See Chapter 3.

**Important:**

Remove the protective cover from the CPU socket before installing a CPU.

**Step 1:**

Raise the retaining lever

*Installing The Processor*

Installing a processor in the Socket 462 is a simple procedure. It is very important, however, to carefully handle the processor by the edges and always fully observe precautions against electrostatic discharge. We assume here that you are installing a “boxed” processor, that is, one packaged by AMD and sold retail. If you are installing a non-boxed processor, the procedure is the same, but the accessory items may have a different appearance.

Please follow the installation procedure as illustrated on the next two pages. The illustrations are generic and do not specifically represent this motherboard.

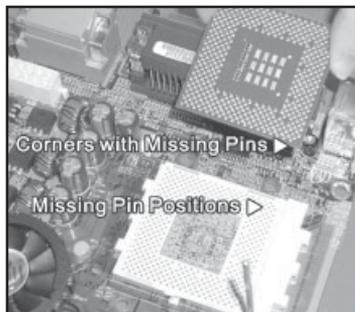
The processor installation procedure is as follows:

1. Raise the locking lever of the processor locking mechanism to a perpendicular position.



Raise the socket lever to the vertical position

2. Align the processor to the socket by matching the beveled Pin 1 corner of the CPU to the Pin 1 corner on the socket, which is located at the corner where the locking arm attaches to the socket.



Two corners have pins missing on the socket and the processor

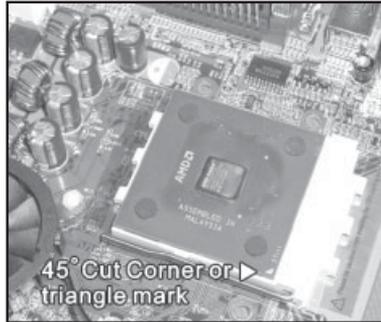
**Step 2:**

Align the CPU so that the two corners with missing pins match the corresponding receptacles in the socket.

- Carefully insert the processor in the socket receptacles, taking care not to bend any pins.

**Step 3:**

Insert the processor in the socket.



Gently press the processor into the socket

There should be minimal resistance

- Lower the locking mechanism's retaining lever and secure it in place to secure the processor in the socket. Grasp the processor by the edges and gently pull upwards to insure it is properly inserted. The processor shouldn't move.

**Step 4:**

Secure the retaining lever

### *Installing the Fan/Heatsink*

Once you have installed the CPU, you must install a Fan/Heatsink assembly. The Fan/Heatsink clips onto to the CPU socket.

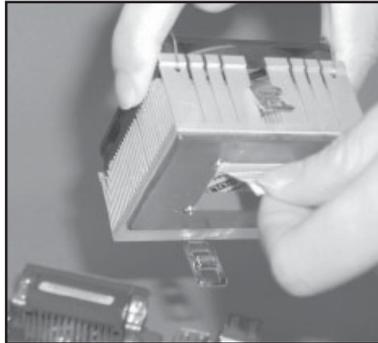
#### Prepare the Heatsink

Before you install the Fan/Heatsink you must prepare the Fan/Heatsink assembly. The heatsink has a patch of thermal interface material on the underside that is covered with protective tape or by a plastic cover that covers the entire bottom of the heatsink. You must remove the tape before you install the Fan/Heatsink assembly. To remove the plastic cover, just pull it off. To remove the tape do as follows:

1. Hold the free end of the tape at a 90° to the surface of the heatsink. Pull the tape off with a smooth quick movement that removes the tape only and not the underlying thermal interface material.

#### **Remove Protective Tape:**

Remove the protective tape covering the thermal interface material on the underside of the heatsink by quickly pulling it off pulling it off at an angle of 90° to the heatsink.



Remove protective tape from the Thermal Interface Material

Next, install the processor Fan/Heatsink assembly as detailed below.

## Install the Fan/Heatsink

To install the processor Fan/Heatsink assembly do as follows:

1. Place the Fan/Heatsink on top of the CPU so that it is sitting evenly on the pads on top of the CPU and it does not contact the socket. The assembly retention clip mechanism should align with the corresponding lug extensions on the socket.

### Step 1:

Place the Fan/Heatsink assembly on top of the CPU, aligning the retaining clip mechanism to the matching socket extensions.

### Important:

Rest the heatsink evenly on the pads on top of the CPU so that the heatsink is not in contact with the socket.

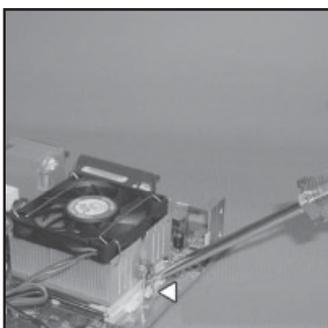


Position the heatsink evenly on the CPU so that one edge hangs over, but does not contact the socket

2. Hold the Fan/Heatsink steady and press one end of the retention clip down over the matching socket lug extension so that the opening in the clip fits over the lug securely and will not slip off.

### Step 2:

Press one end of the retention clip over the matching socket lug.



Press the retention clip over the socket lug with a flathead screwdriver

Insert the tip in the slot in the clip to hold it securely

**Step 3:**

Hold the Heatsink/Fan assembly steady and press the other retention clip end over the other matching lug extension so that it clips on securely.

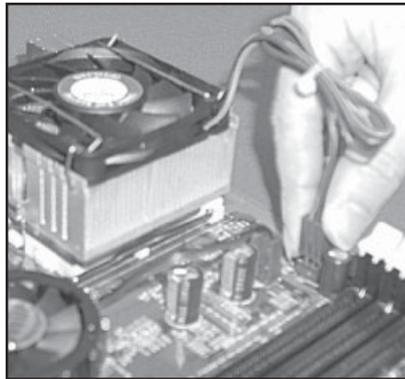
3. Repeat the process on the opposite side. Keep holding the Fan/Heatsink steady. Press the end of the retention clip over the corresponding lug extension so that it snaps over the lug securely. Make sure the Fan/Heatsink assembly is positioned directly over the CPU and is not in contact with the socket.

**Connect Fan/Heatsink Power Lead**

Plug the fan power lead onto the CPU Fan power connector near the CPU socket. When you do this the CPU installation is complete.

**Step 4:**

Plug the Fan power lead onto the CPU fan power connector



Fan power lead plugs onto the closest CPU fan power connector.

If you are installing a dual CPU configuration, repeat this procedure to install a second Athlon MP CPU in the second CPU socket.

## Installing System Memory

This section details the procedure for installing system memory on the motherboard. Correct memory configuration is critical for proper system operation. Please review this section carefully and follow the configuration guidelines precisely.

### *Memory Specifications*

#### **Unbuffered Memory:**

If you install unbuffered DDR memory, the chipset supports upto 2GB total system memory only installed in the DIMM1 & DIMM2 sockets.

The motherboard has four DIMM module sockets. This motherboard uses DDR SDRAM DIMM modules for system memory. The system memory specifications are:

- PC1600 or PC2100 DDR SDRAM DIMM modules.
- Uses 64MB, 128MB, 256MB, 512MB or 1GB DIMMs.
- Maximum 2GB unbuffered and 3.5GB registered total system memory.

### *Memory Configuration Options*

#### **Registered Memory:**

If you install registered DDR memory, the chipset supports upto 3.5GB total system memory. If you install four 1GB modules, the system will only recognize 3.5GB.

This motherboard has flexible memory configuration options. Please note the following:

- Supports any mix of 64MB, 128MB, 256MB, 512MB and 1GB modules.
- Any capacity DIMM may be used in any socket as long as the total memory limit is not exceeded.
- Modules should be the same speed for best system performance.
- Both unbuffered and registered DDR SDRAM are supported.
- Do not mix unbuffered and registered memory.

### *Installing Memory Modules*

Installing DIMM modules is simple. The modules insert in the sockets and are held in place by the socket retaining arms. The edge connectors on the modules are of different widths and there are key notches in each module. These ensure that you can not insert a module incorrectly.

Before you install any modules, you should choose a configuration. You should then prepare the required number and type of DDR modules.

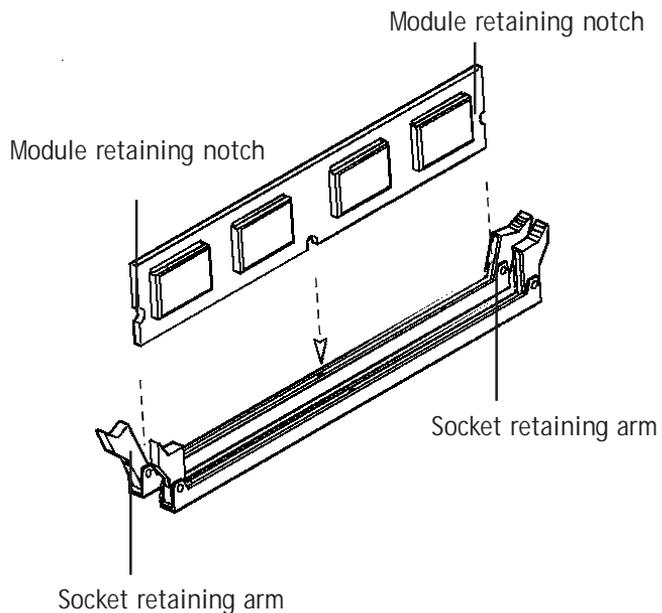
To install either type of module follow this procedure:

1. Align the module to the socket so that the edge connectors on the module match the socket sections.
2. Hold the module perpendicular to the motherboard and press the edge connector into the socket.
3. Press the module fully into the socket so that the socket retaining arms swing up and engage the retention notches at each end of the module.

Following the configuration you have chosen, repeat this procedure if necessary so that all modules are installed. Once the modules are installed, system memory installation is complete.

#### **Module Installation:**

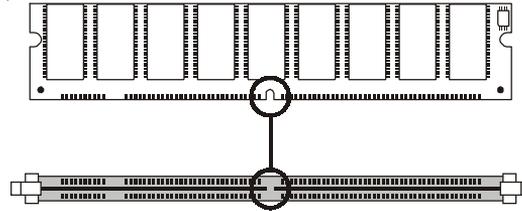
Modules will only insert in one orientation. The width of the two edge connector sections varies slightly and prevents incorrect insertion.



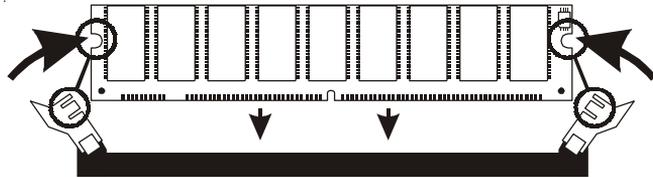
## Module Installation:

All modules insert in the DIMM sockets in the same way:

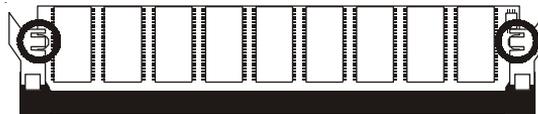
1. Align the module to the socket.



2. The socket retaining arms should rotate up and engage the module's retaining notches as you press it into the socket.



3. The retaining arms must engage for the module to be properly installed.



### *PC1600 Memory Configuration*

Only use PC1600 memory with a single CPU configuration where the CPU has a 200MHz Frontside Bus speed. You must also set jumper JP5 to the 100MHz setting for this configuration.

### *System Memory Recognition*

The BIOS will automatically recognize the installed memory configuration and configure the CMOS Setup Utility. No other action is required to complete system memory installation.

### Installing the Motherboard in a System Housing

This section explains the basic requirements for installing this motherboard in a system housing or “chassis”. Since housing designs vary widely, you will need to consult the housing documentation for specific information.

This motherboard can be installed in any housing that supports the EX-ATX form factor.

To install the motherboard in a system housing you will need to do the following:

- Install a rear I/O panel shield
- Attach the board to the housing
- Connect leads from the housing’s front panel

You can then connect other internal system components as described later in this chapter.

#### *Motherboard Installation Procedure*

This section assumes you are installing the board in a suitable EX-ATX housing. We also assume you have prepared the board for installation as previously described in this manual. If the housing you are using normally stands vertically, place the open housing on it’s side before you start.

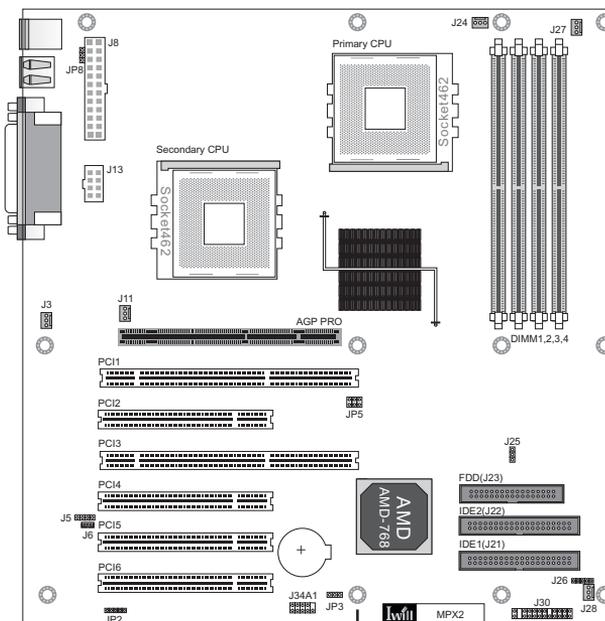
Please follow this procedure to install this motherboard:

1. Review any instructions that came with the system housing and prepare the necessary mounting hardware that came with it.
2. Identify the mounting holes on the board and confirm that the housing has standoffs that match them.
3. Install the rear I/O panel shield that came with the motherboard in the housing’s I/O panel opening. This should fit in the housing.

4. Insert the board in the housing and align the mounting holes to the standoffs on the housing's motherboard mounting plate. Make sure all of the rear I/O ports are properly aligned with the openings in the I/O panel shield.
5. Attach the board to the housing by inserting mounting screws in all the holes and tightening them snugly.

## Mounting Holes

There are 12 mounting holes on the motherboard that should correspond to mounting standoffs on the system housing's motherboard mounting plate.



Mounting holes

## Required Tool:

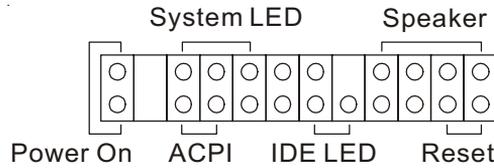
- Philips-head screw driver (Crosshead)

### Connecting Front Panel Components

After the motherboard is installed in the system housing, you should connect whatever front panel components the housing has to the Front Panel feature connector on the motherboard.

The figure below indicates the pin assignments of the connector for your reference.

**Front Panel Connector:**  
Leads from the front panel features connect to this header.

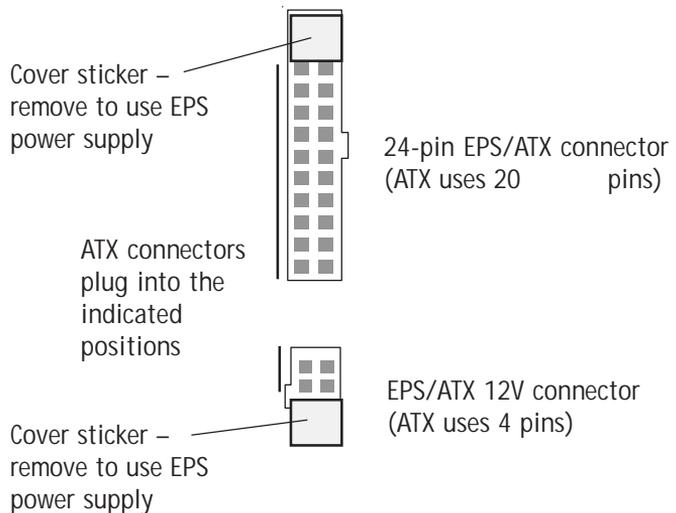


Front Panel feature connector

### Completing System Configuration

Once the motherboard is installed in the system housing, you can proceed to connect or install whatever internal devices you will use to complete the system. These will at least include an AGP display card and disk drives and connecting the housing power supply leads.

**Power Connectors:**  
The power connectors are for use with either an ATX or EPS minimum 350W power supply. Please note that ATX connectors plug into only part of the larger connectors, as noted in the illustration. the motherboard comes with stickers over the unused sections. if you will use an EPS power supply, remove the stickers.



After that, having replaced the system housing cover, you can connect external peripherals to complete the process of preparing the system for use. These will include at least a video display monitor, a keyboard and a pointing device such as a mouse. Please see the next chapter for information on completing these final hardware installation steps and installing Operating System and support software.

**In This Chapter:**

Installing or Connecting Internal Peripherals

    Installing an AGP Card

    Connecting Internal Devices

Connecting External System Peripherals

Configuring the CMOS Setup Utility

Installing an OS & Support Software

## 5: System Configuration

This chapter explains what you need to do to assemble a complete system after you have installed the motherboard in a system housing. This will include installing or connecting internal devices, connecting external system components. Once the system is assembled, you'll need to check and possibly configure the motherboard's CMOS Setup Utility, install an Operating System and install the support software supplied on the Power Installer support CD-ROM disc.

### Installing or Connecting Internal Peripherals

To complete the assembly of a working system you will need to at least install an AGP video display card and connect whatever disk drives you will use in the system.

This section covers what you need to know on the motherboard side to do this. You will also need to consult the documentation that comes with your internal system peripherals for additional installation instructions and information. This section covers the minimum components you will need to connect to the motherboard to create a functioning system. You may plan to add other devices as well.

### Installing an AGP Card

The AGP connector on the board supports AGP 4X 1.5-volt display cards. Follow the instructions that come with the display card for installing the card hardware in the AGP slot.

### AGP Configuration

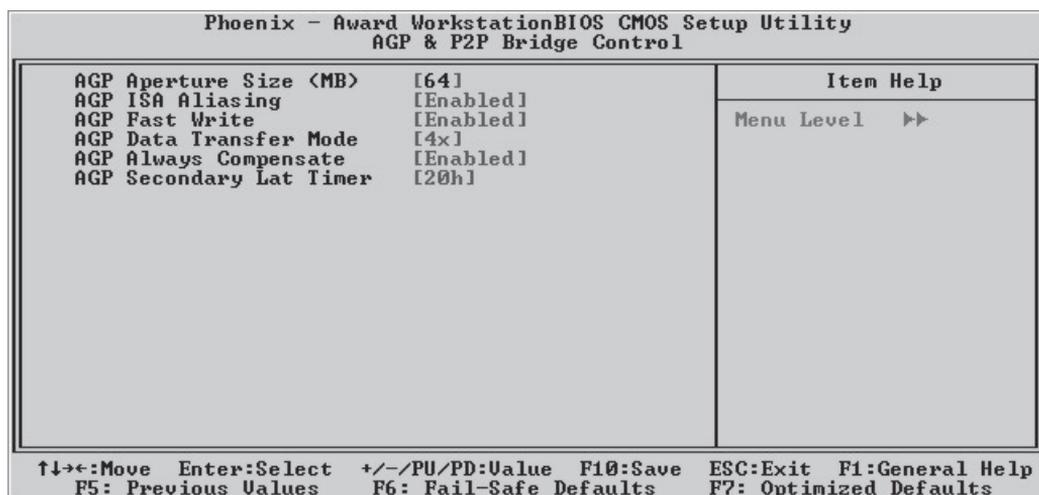
You can configure the amount of system memory the AGP card will use as auxiliary memory by adjusting the AGP Aperture Size setting in the Advanced Chipset Features section of the CMOS Setup Utility. The default aperture setting is 64MB the maximum setting is 256MB, the minimum is 32MB.

### Display Drivers

You should install the display card's display driver software according to the instructions that come with the card after you have completed system assembly and have installed an OS and the support software for this motherboard.

### AGP Aperture Setting

You can set the AGP aperture size in the Advanced Chipset Features AGP & P2P Bridge Control section of the CMOS Setup Utility



### Connecting Internal Devices

To assemble a complete system capable of completing the installation of this motherboard you will need to install and connect the following internal devices:

- Hard Disk Drive
- CD-ROM or other optical drive
- Floppy disk drive

The floppy disk drive is not strictly necessary, but is a standard system component and is needed if you will create driver floppy disks from the Power Installer 2.

We assume here, in the absence of an alternative drive controller that any hard disk or optical drives will be IDE devices connected to the motherboard's IDE channels.

#### *Connecting IDE Devices*

This motherboard supports two IDE channels, Primary and Secondary. It has two IDE device connectors onboard which support IDE devices running in any data transfer mode up to ATA-100. Each IDE connector supports two drives, a Master and a Slave. The drives connect to the motherboard with an IDE ribbon cable. IDE cables have three connectors on them, one that plugs into a drive connector on the board and the other two that connect to IDE devices. The connector at the end of the cable is for the Master drive. The connector in the middle of the cable is for the Slave drive.

There are three types of IDE ribbon cable, supporting transfer modes up through ATA-33, ATA-66 or ATA-100. You must use a cable that supports the transfer mode of the fastest device connected to it. For example, if both an ATA-66 mode and an ATA-100 mode device are connected to the same cable, the cable must support ATA-100 mode to achieve maximum performance.

To install an IDE drive, connect the drive to one of the drive connectors on a suitable ribbon cable. Plug the board end of the cable into one of the IDE connectors on the motherboard.

## IDE Drive Positioning

Normally the system's primary hard disk drive should be in the Primary Master position. If you will use only the supplied ribbon cable, connect a CD-ROM drive to the Primary Slave position.

If you obtain an additional IDE ribbon cable, you can install a second hard disk drive in the Primary Slave position and install the CD-ROM as the Secondary Master. This is a good idea if the CD-ROM drive uses a slower data transfer mode than the hard disk drive.

Follow any instructions that come with the drives to configure and install them. IDE devices generally can be set to one of three operation modes:

- Master
- Slave
- Cable Select

Many drives come set to the Master setting. If you will use the drive in a Slave position, you must reconfigure it as either Slave or use the Cable Select setting to allow the drives position on the cable to define the mode, if the drives support that mode.

## *Connecting a Floppy Disk Drive*

This motherboard has one Floppy Drive connector for connecting one or two floppy disk drives. Most computer systems use one 3.5-inch 1.44MB floppy disk drive. The drive connector is for a standard floppy drive ribbon cable.

To install a floppy disk drive, connect the drive to the end of the cable, which is the Drive A: position. Plug the other end of the cable into the floppy disk drive connector on the motherboard.

## Onboard IDE Connectors

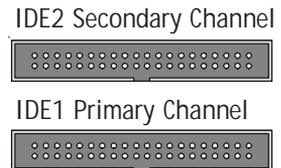
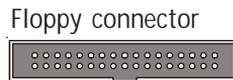
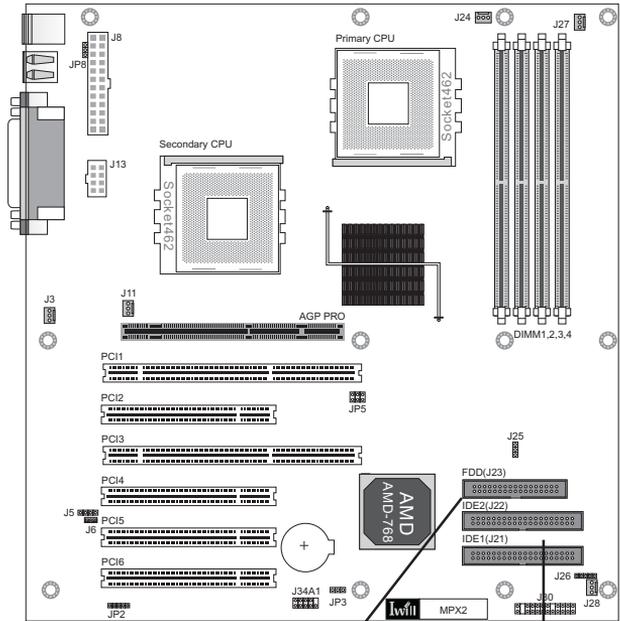
Each channel connector supports one IDE channel with two drives, a Master and a Slave. The Master drive connects to the connector on the end of the ribbon cable. The Slave drive connects to the connector in the middle of the ribbon cable.

### Note:

The ribbon cable used must support the transfer mode of the fastest device connected to it to avoid degraded performance.

## Floppy Drive Connector

The floppy drive connector supports two floppy disk drives. The first drive, Drive A:, connects to the connector on the end of the floppy drive connector cable. A second drive, Drive B:, would connect to the middle connector on the cable although systems now commonly only have one floppy disk drive.



## Connecting External System Peripherals

To complete the assembly of functioning system you will need at minimum to connect the following external system components to the system housing:

- Video Display Monitor
- Keyboard
- Mouse or other Pointing Device

### Connecting a Display Monitor

You can connect any display monitor supported by the AGP display card you installed in the system. This may include either a CRT or LCD monitor, depending on the card's specifications.

Connect the display monitor cable to the appropriate display connector on the AGP card according to the instructions that come with the card and monitor.

### Connecting a Keyboard & Mouse

You can use either PS/2 or USB input devices with this motherboard.

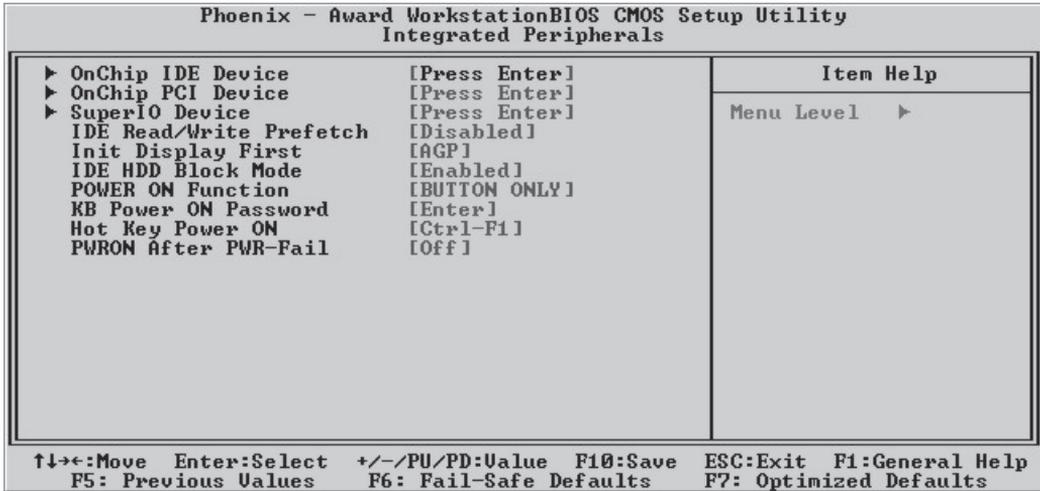
#### Connecting PS/2 Devices

Connect a PS/2 keyboard and mouse to the Keyboard and Mouse PS/2 ports on the rear I/O port panel. Don't connect or disconnect a device while the system is turned on. Doing so can damage the board.

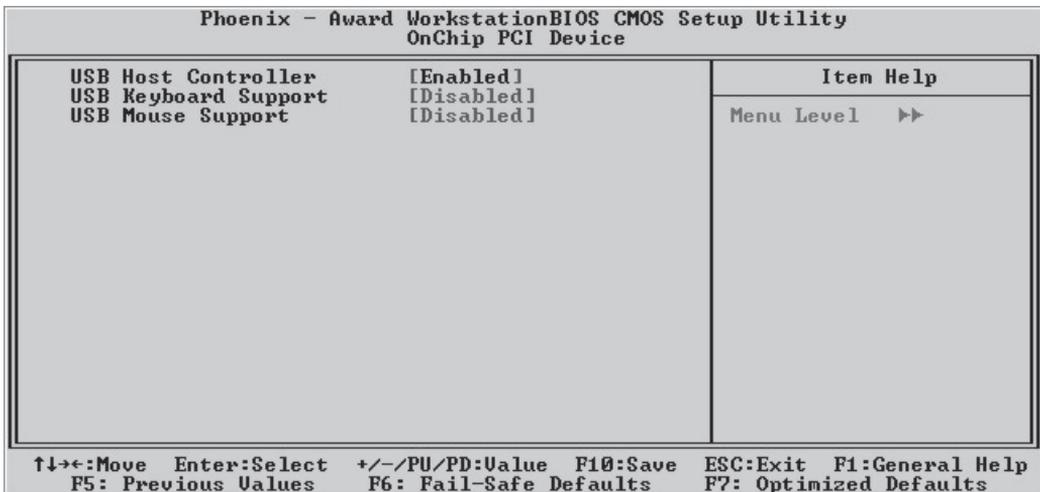
#### Connecting USB Devices

You can use a USB keyboard and mouse with this motherboard. They plug into two of the USB ports. The Operating System you use must support USB to use any USB devices. You can plug and unplug USB devices when the system is turned on.

## CMOS Setup Utility – Integrated Peripherals: OnChip PCI Device



## Integrated Peripherals: OnChip PCI Device



Select OnChip PCI Device and press the Enter key to bring up the OnChip PCI Device screen. The “USB Keyboard Support” and “USB Mouse Support” defaults are Disabled. If you want to use a USB keyboard or pointing device, set the appropriate item to the Enabled setting. The keyboard setting allows you to use a USB keyboard before the operating system loads. Your OS must also support USB to use a USB keyboard with it.

### Configuring the CMOS Setup Utility

The motherboard Award BIOS includes the CMOS Setup Utility that creates a system configuration record that is stored in CMOS memory on the board and is required by the system to operate properly.

Most of the configuration settings are either predefined by the BIOS Optimized Default settings which are stored with the BIOS or are automatically detected and configured without requiring User action. There are a few settings that you may need to change depending on your system configuration.

This section gives a brief profiles of the several sections of the CMOS Setup Utility and indicates settings you might need to change and those which you should not.

#### The CMOS Setup Utility User Interface

The CMOS Setup Utility user interface is simple and largely self evident. The utility can only be operated from the keyboard and all commands are keyboard commands. The utility does not support mouse use. The commands are straightforward and those available for the program section you are in are listed at the bottom of the screen. The main screen has few commands, other sections have more. General Help, which lists the commands and their functions is available at any time by pressing the F1 key.

#### *Running the CMOS Setup Utility*

The CMOS Setup Utility does not require an operating system to run. You run the utility by typing the Del or Delete key when the computer is starting to boot up. The utility's main screen will then appear.



### CMOS Setup Utility Program Sections

The CMOS Setup Utility is divided into several subsections and some top level commands including the following sections:

- Standard CMOS Features
- Advanced BIOS Features
- Advanced Chipset features
- Integrated Peripherals
- Power Management Setup
- PnP/PCI Configurations
- PC Health Status
- IWILL Smart Setting

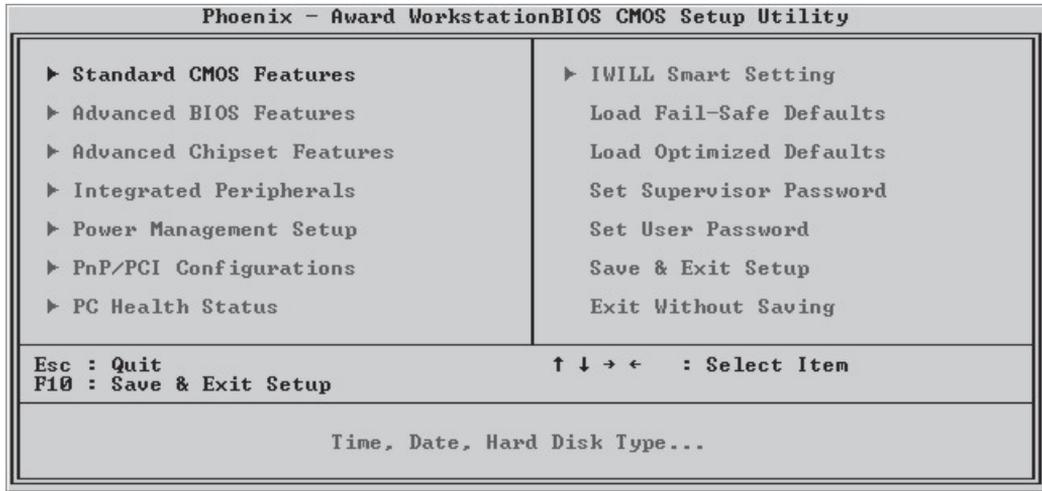
The main screen also has these command options:

- Load Fail-Safe Defaults
- Load Optimized Defaults
- Set Supervisor Password
- Set User Password
- Save & Exit Setup
- Exit Without Saving

Please see the following sections for a brief profile of what each section does, information on settings you might want to change and things to leave alone.

To open one of the program sections, highlight the item you want and press the Enter key. To change a setting, highlight an item and use the “Value” keys indicated to change the setting. Alternatively, press the Enter key and all options for that item will display and you can choose from those listed.

## CMOS Setup Utility – Main Screen



*Standard CMOS Features*

Main Section Functions

This section has the real time clock settings, the IDE and floppy device settings.

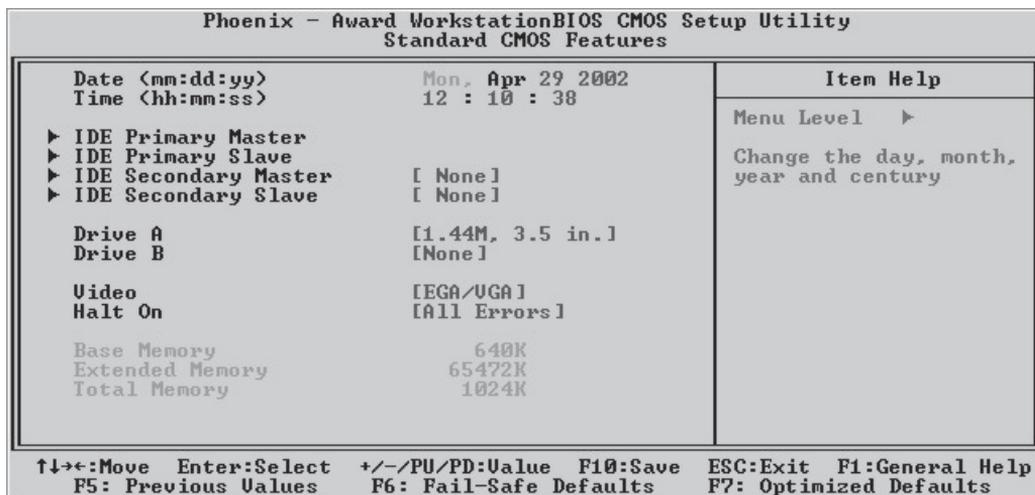
Default & Autodetected Settings

The IDE device settings are autodetected. You shouldn't need to change this. The floppy and other settings are standard defaults.

Setting Options & Constraints

You can reset the time and date settings if they are not correct for your location.

CMOS Setup Utility – Standard CMOS Features



**Note:**

In operation, the screen will display the detected IDE devices

*Advanced BIOS Features*

## Main Section Functions

This section mainly configures boot options including boot devices and their boot order and some power functions. There are also some miscellaneous boot configuration settings.

## Default &amp; Autodetected Settings

The screen illustration shows the default settings. These do not need to be changed. You can customize the settings to suit your purposes if necessary and you know what you're doing.

## Setting Options &amp; Constraints

You can change the boot device assignments and order, the boot options and the power on settings as you like. You can select which security option applies, Setup or System. You must set a password for it at the main level or it will have not effect.

## CMOS Setup Utility – Advanced BIOS Features

Phoenix - Award Workstation BIOS CMOS Setup Utility		
Advanced BIOS Features		
		Item Help
Virus Warning	[Disabled]	
CPU Internal Cache	[Enabled]	
External Cache	[Enabled]	
Quick Power On Self Test	[Enabled]	
First Boot Device	[Floppy]	
Second Boot Device	[HDD-0]	
Third Boot Device	[SCSI]	
Boot Other Device	[Enabled]	
Swap Floppy Drive	[Disabled]	
Boot Up Floppy Seek	[Enabled]	
Boot Up NumLock Status	[On]	
Gate A20 Option	[Fast]	
Typeomatic Rate Setting	[Disabled]	
x Typeomatic Rate (Chars/Sec)	6	
x Typeomatic Delay (Msec)	250	
Security Option	[Setup]	
MPS Version Control For OS	[1.4]	
OS Select For DRAM > 64MB	[Non-OS2]	
Video BIOS Shadow	[Enabled]	
		Menu Level ▶
		Allows you to choose the VIRUS warning feature for IDE Hard Disk boot sector protection. If this function is enabled and someone attempt to write data into this area, BIOS will show a warning message on screen and alarm beep

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

*Advanced Chipset Features*

Main Section Functions

Configures the chipset, BIOS caching and the AGP Aperture size.

Default & Autodetected Settings

Everything on this screen is an optimized default or is autodetected.

Setting Options & Constraints

Don't change the autodetected DRAM settings in the Advanced DRAM Control subsection unless you know what you are doing. Incorrect settings can cause system instability or result in the system not working.

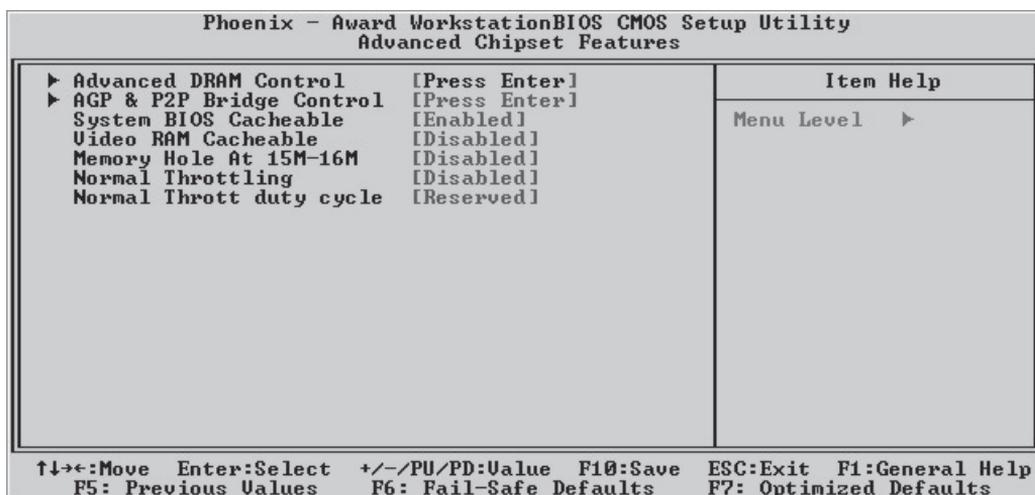
You can the AGP settings in the AGP & P2P Bridge Control subsection. The default mode is 4X. Change it to 1X/2X if your display card isn't a 4X card.

Don't change the Cacheable settings.

Don't chnagne the Memory Hole setting.

Leave the two Throttling settings as they are.

CMOS Setup Utility – Advanced Chipset Features



*Integrated Peripherals*

## Main Section Functions

Configures the peripheral features integrated onto the motherboard.

## Default &amp; Autodetected Settings

Everything on this screen is an optimized default. IDE transfer mode settings are autodetected. The settings in the SuperIO Device subsection are standard PC settings.

## Setting Options &amp; Constraints

You can disable the onboard IDE channels in the OnChip IDE Device subsection and manually configured transfer modes if necessary.

You can change USB settings in the OnChip PCI Device subsection including enabling the use of a USB keyboard and mouse.

The SuperIO Device subsection configures serial parallel and IR ports and enables the Floppy Disk Drive controller. You can change these settings as needed. Set the Parallel Port mode according to the mode supported by your printer. If you install an IR port module, you have to set the UART Mode Select line to the appropriate IR setting.

Most newer ATA (IDE) hard disk drives will support the enabled IDE HDD Block Mode. Disable this if any drive you will use doesn't support this mode.

The last four items control how the power on function works. If you set the Keyboard Power On jumper J8 to Enabled, you can use the alternate Power On features.

## CMOS Setup Utility – Integrated Peripherals

Phoenix - Award WorkstationBIOS CMOS Setup Utility		
Integrated Peripherals		
		Item Help
▶ OnChip IDE Device	[Press Enter]	
▶ OnChip PCI Device	[Press Enter]	
▶ SuperIO Device	[Press Enter]	
IDE Read/Write Prefetch	[Disabled]	Menu Level ▶
Init Display First	[AGP]	
IDE HDD Block Mode	[Enabled]	
POWER ON Function	[BUTTON ONLY]	
KB Power ON Password	[Enter]	
Hot Key Power ON	[Ctrl-F1]	
PWRON after PWR-Fail	[Off]	

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

### Power Management Setup

#### Main Section Functions

Configures power management settings. These are overridden by ACPI power management in Windows when ACPI Function is set to the default, Enabled.

#### Default & Autodetected Settings

Everything on this screen is an optimized default.

#### Setting Options & Constraints

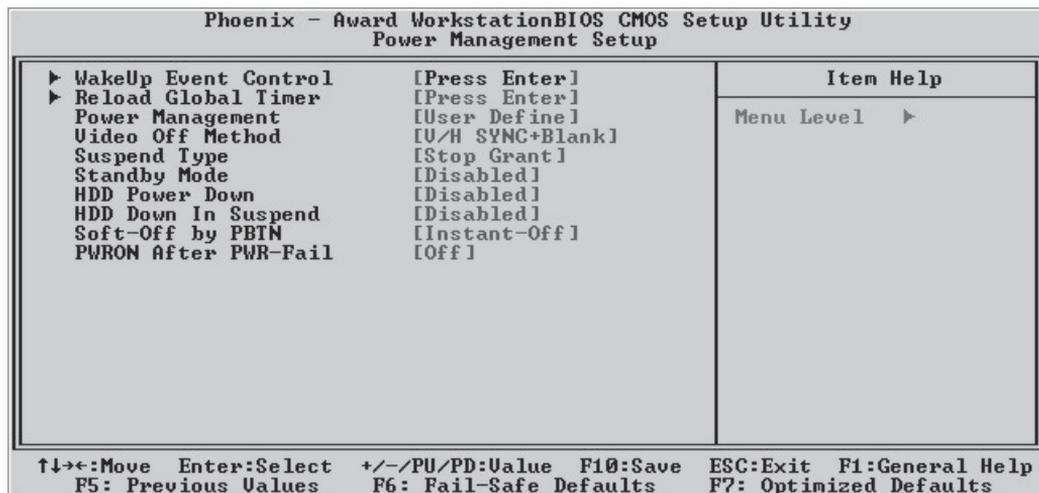
You can set a variety of Wake Up events in the WakeUp Event subsection. These include setting a date and time for the system to turn on or wake up from a Suspend state and several other wake up features.

The Reload Global timer subsection lets you set what hardware events will trigger a reset of the power management timer which determines system timeouts. By default all items in the subsection are set to Disabled.

For the Power Management line you can select Minimum or Maximum configurations rather than the User Defined defaults. You can customize all settings in User Defined mode. If your OS supports power management, configure it there.

The Soft-Off by PBTN line sets what happens when you push the system housing power button. The default is Instant-Off which turns of the system immediately. The alternate setting is Delay 4 Sec, which requires pushing the button for four seconds before the system turns off.

### CMOS Setup Utility – Power Management Setup



### *PnP/PCI Configurations*

Section Function

Configures Plug and Play and other PCI bus settings.

Default & Autodetected Settings

The default is for the BIOS to control these functions.

Setting Options & Constraints

Don't change the resource settings, they're set to be handled automatically by the BIOS. If you have a problem after you install an expansion card, set Reset Configuration Data to Enabled to rewrite the ESCD. You can set them manually by setting the Resources Controlled By line to the Manual setting.

Normally you should leave the PCI/VGA Palette Snoop feature disabled unless you have a PCI display card installed and it has a display problem at startup.

### CMOS Setup Utility – PnP/PCI Configurations

Phoenix - Award WorkstationBIOS CMOS Setup Utility		Item Help
PnP/PCI Configurations		
PnP OS Installed	[No]	Menu Level ▶ Select Yes if you are using a Plug and Play capable operating system Select No if you need the BIOS to configure non-boot devices
Reset Configuration Data	[Disabled]	
Resources Controlled By	[Auto<ESCD>]	
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	[Disabled]	
↑↓→←:Move Enter:Select +/~/PU/PD:Value F10:Save ESC:Exit F1:General Help F5: Previous Values F6: Fail-Safe Defaults F7: Optimized Defaults		

*PC Health Status*

Section Function

Configures the Shutdown Temperature and displays detected system information including CPU temperature, cooling fan status, CPU Vcore voltage and various other voltage levels.

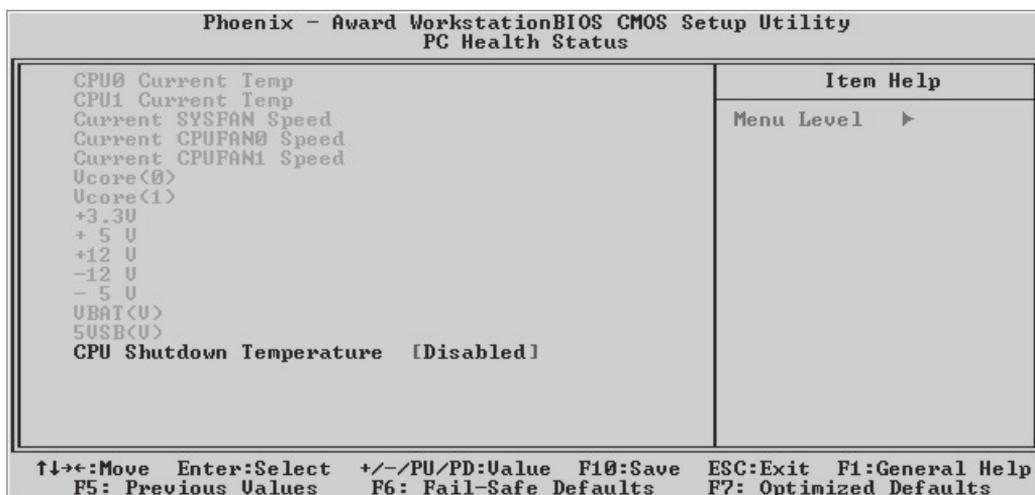
Default & Autodetected Settings

The CPU Shutdown Temperature setting is an optimized default. The list of system information is autodetected and displayed.

Setting Options & Constraints

You can select a CPU Shutdown Temperature setting. If the detected CPU temperature reaches that point, the system will automatically shut down to protect the CPU.

CMOS Setup Utility – PC Health Status



**Note:**

The screen illustration does not display the detected information you will see on a live screen.

### *IWILL Smart Setting*

Section Function

Configures CPU settings.

Default & Autodetected Settings

The default is to autodetect CPU settings.

Setting Options & Constraints

Don't change the "Spread Spectrum" setting.

Don't change the auto-detected settings unless you really know what you are doing. You can use the three CPU items to configure the CPU settings yourself, but we do not recommend this. Configuring CPU settings at variance with AMD's specifications may damage the CPU and void the warranty. See the section on Overclocking in Chapter 6 for more information.

Set the Aux FAN item to ON if you want to connect additional system cooling fans to the AUX fan connectors on the motherboard.

### **Clock Ratio Setting:**

You must set the CPU Clock Ratio setting manually for Athlon MP CPUs. The ratio settings are as follows:

MP 1500+: x10

MP 1600+: x10.5

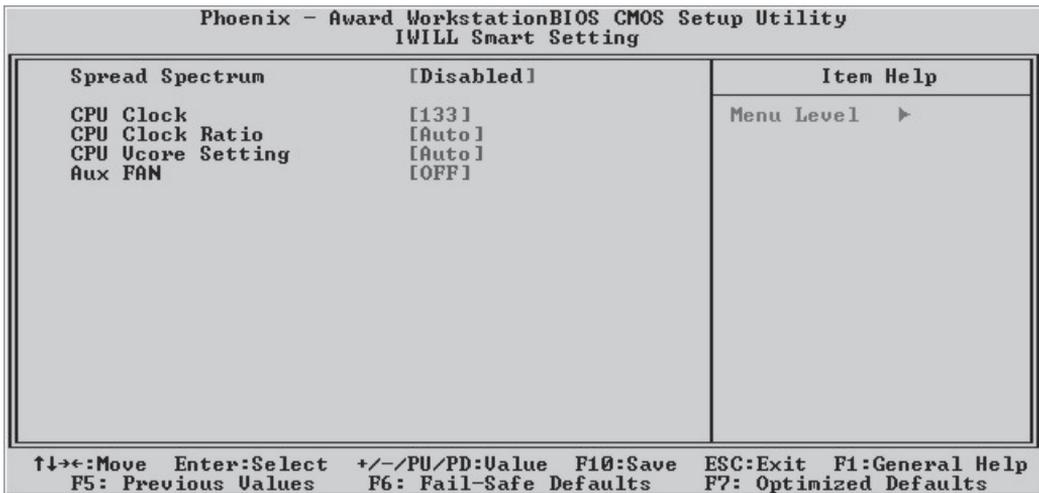
MP 1700+: x11

MP 1800+: x11.5

MP 1900+: x12

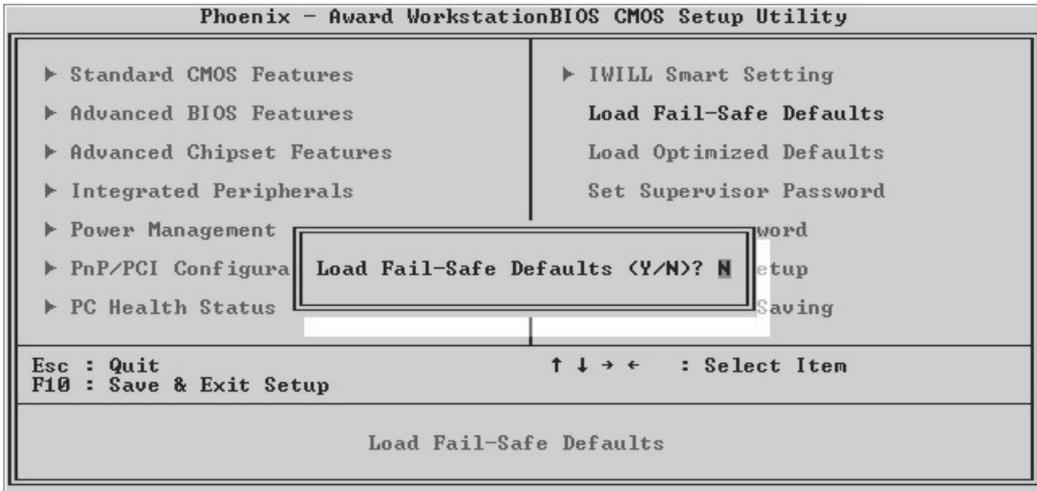
MP 2000+: x12.5

### **CMOS Setup Utility – IWILL Smart Setting**



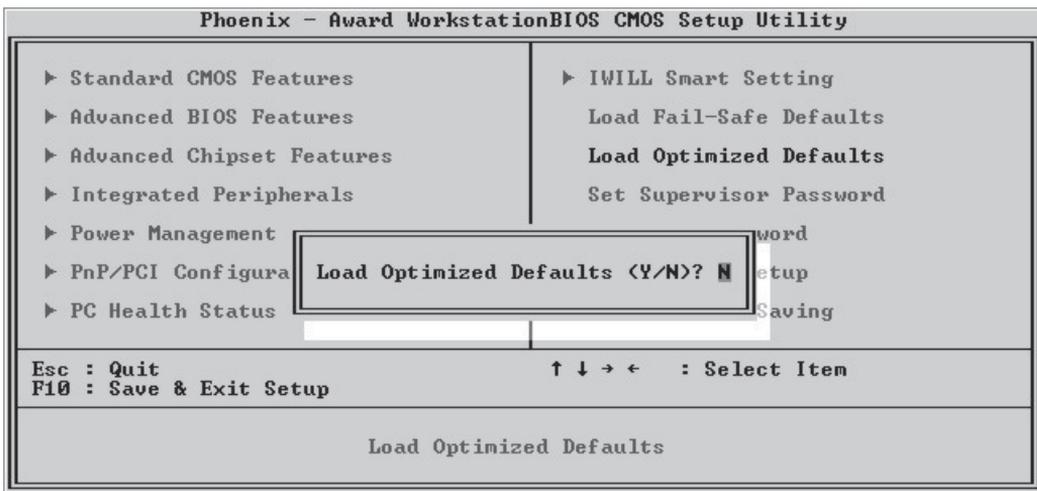
*Load Fail-Safe Defaults*

This loads a set of minimum configuration defaults. It is used to allow the system to start and then troubleshoot hardware problems. You shouldn't need to use this, it's mainly for technicians.



*Load Optimized Defaults*

This loads the Optimized Defaults. Do this if the configuration record has been corrupted or mistakenly configured or after the Clear CMOS procedure has been performed. See Chapter 3 for more information on this procedure. To load the defaults, select this item, press the Enter key, type a Y and press Enter again.



### Set Supervisor/User Password

These two items set passwords for system access.

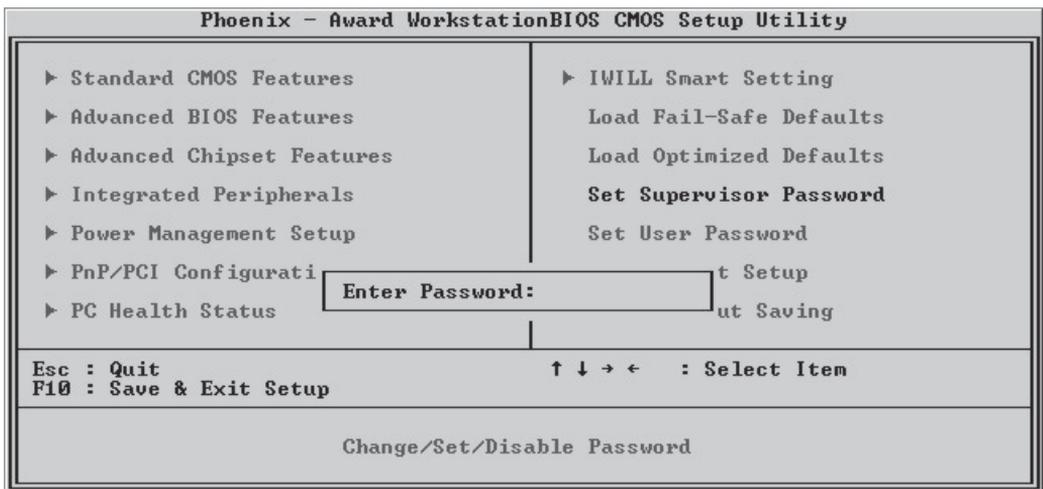
#### Setting a Password

You can install a Supervisor or User Password. The password prevents access to the CMOS Setup Utility (Supervisor) or the entire system (User).

To install a password, follow these steps:

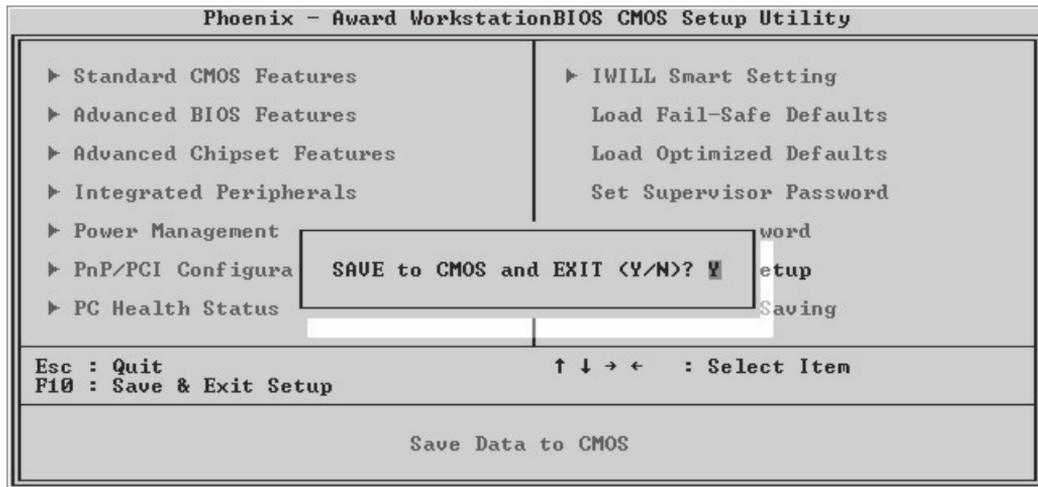
1. Highlight either Set Password item in the main menu and press Enter.
2. The password dialog box will appear.
3. If you are entering a new password, carefully type in the password. You cannot use more than eight characters or numbers. Passwords are case-sensitive. Press Enter after you have typed in the password. If you are deleting a password that is already installed just press Enter when the password dialog box appears.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press Enter, or just press Enter if you are deleting a password that is already installed.
5. If you have used the correct format, the password will be installed.

If you decide not to set a password after bringing up the password entry window, press the Enter key, not Esc to exit the password entry window.



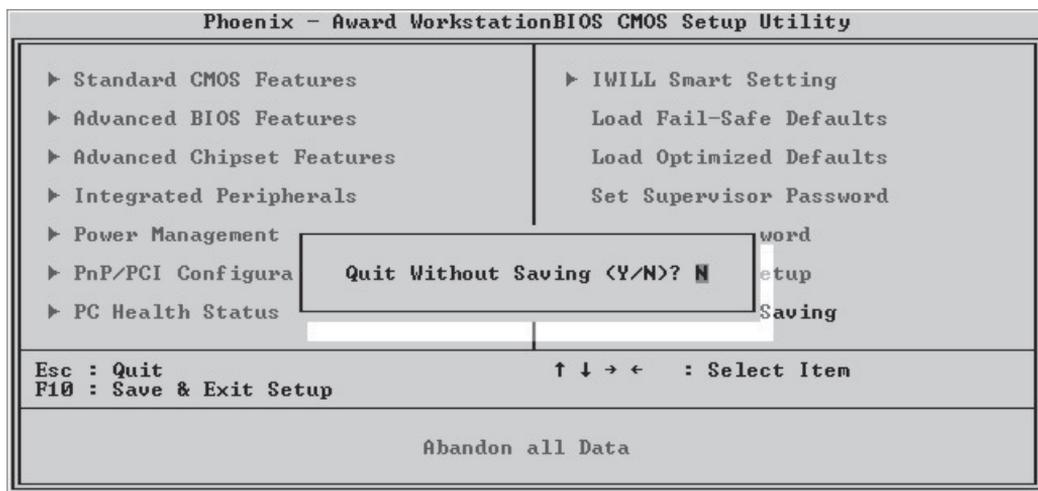
### Save & Exit Setup

This saves the current utility configuration as a new configuration record, exits the utility and restarts the system using the saved configuration record.



### Exit Without Saving

Exits the utility and restarts the system without changing the saved configuration record.



In general, it should not be necessary to use the CMOS Setup Utility once you have fully configured it. In the event you do need to change or re-establish the settings, always make sure to save the settings when you exit the utility or the new settings will not be stored.

### Installing an OS & Support Software

This section covers installing Operating System software and the support software on the Power Installer support CD-ROM disc. Once you have configured the CMOS Setup Utility, you should install an OS. If you install a supported Microsoft OS, you should also install the driver software on the Power Installer disc.

#### Installing an Operating System

This motherboard can use the following Operating Systems:

- Microsoft Windows 9X
- Microsoft Windows NT
- Microsoft Windows 2000
- Microsoft Windows XP
- Linux (Kernel 2.x.x or later)
- Novell Netware 5.0 or later
- Solaris 7.0 or later

Prepare the hard disk drive and install an OS according to the instructions that come with the OS you will use.

#### Installing the Support Software

The Power Installer CD-ROM disc comes with required hardware drivers for Microsoft Windows and some additional utility software, as noted in Chapter 2. If you have installed a supported Microsoft OS, you must install the required drivers. If you have installed Linux, you can create Linux support disks.

### Installing Windows Drivers

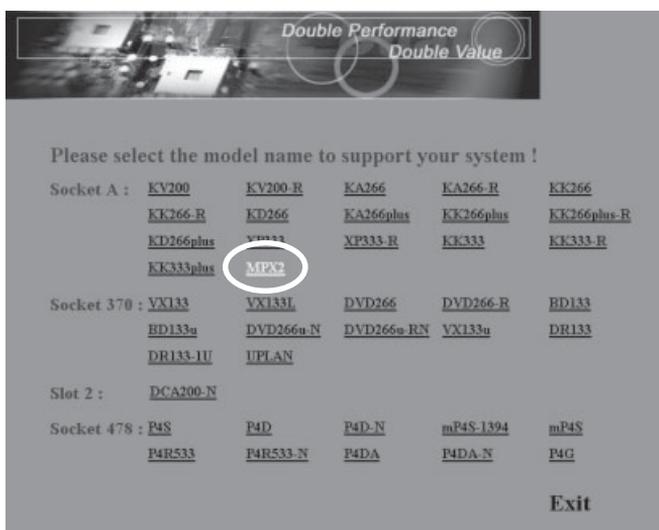
This section assumes you have installed one of the supported Microsoft Operating Systems on the system hard disk drive.

To install Windows drivers, insert the Power Installer support CD-ROM disc in the system's CD-ROM (or other optical drive) and wait for the Power Installer interface to automatically load. If it doesn't start, run the Power Installer interface directly from the disc by running Setup.

The Power Installer main screen will appear. Click on this motherboard's model name to open the section for this board.

#### Power Installer: Main Screen

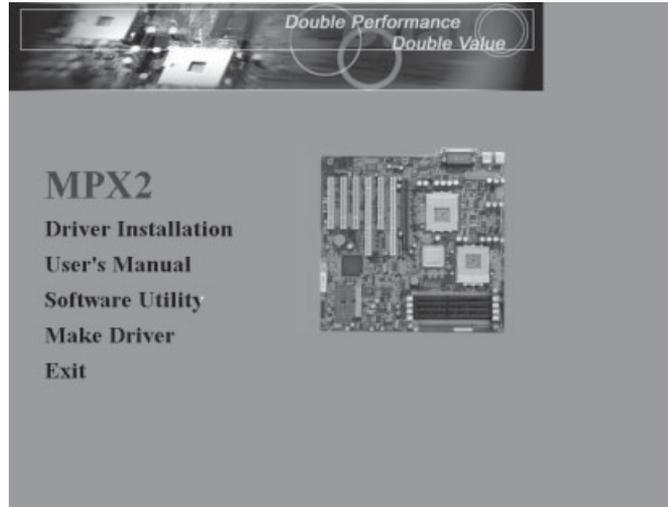
Click on the model name for this board in the Socket A section.



The main screen will appear with the items for this motherboard listed. Click on Driver Installation to install the AMD Driver Pack first.

**Power Installer:  
MPX2 Main Screen**

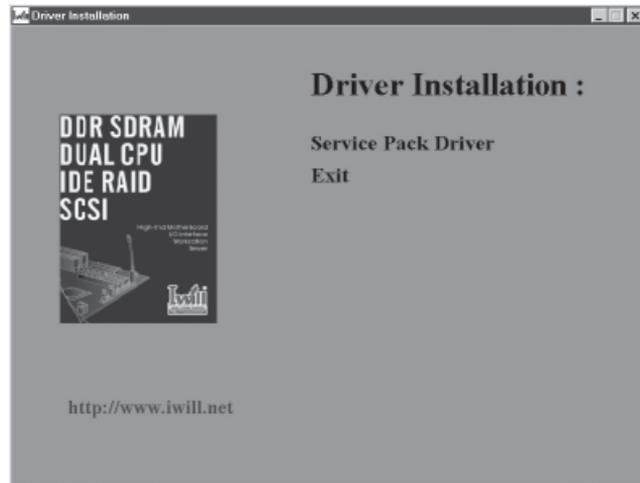
You should install the required AMD driver pack first from the Driver installation section.



The Driver Installation screen will appear. Click on “Service Pack Driver” to run the AMD Driver Pack installation program.

**Power Installer:  
Driver Installation**

Click on Service Pack Driver to run the AMD Driver Pack installation program.



*User Manual*

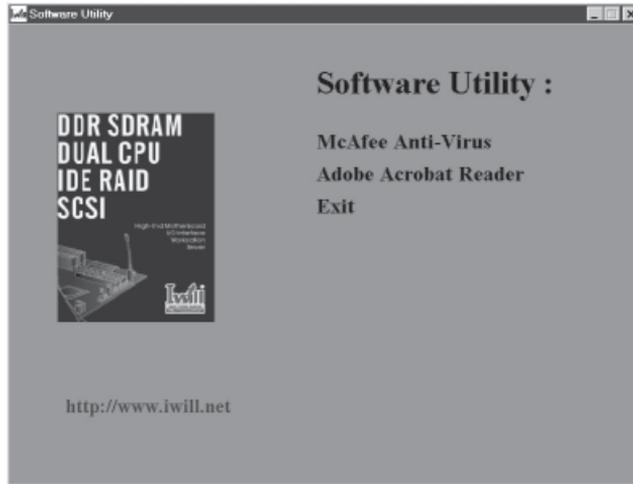
This item simply directs you to look on the IWILL web site – [www.iwill.net](http://www.iwill.net) – to get a copy of this User’s Manual in Adobe Acrobat PDF format.

### Installing the Utility Software

To install the utility software bundled on the Power Installer disc, click on Software Utility in the main screen to open the Software Utility window.

To install the the supplied utility software packages, click on the item you want to install and follow the install program's instructions.

**Power Installer:  
Software Utility Section**  
and follow the install program instructions.



### *The Make Driver Utility*

The "Make Driver" utility makes driver floppy disks. There aren't any disks you need for this board in the program list, so you don't need to use this program.

### *Making a Linux Support Disk*

You can boot the system from the Power Installer disc. The system will boot from a Linux kernel on the disc and you can use the disk creator that loads to create a Linux support disk. You can then use it to install any necessary modules according to your Linux distribution's instructions for module installation.

**In This Chapter:**

Using System Features

Front Panel Controls &amp; Indicators

Additional System Features

Installing &amp; Configuring An IR Port

Performance Optimization

Troubleshooting

**6: Using the Motherboard**

This chapter covers several topics related to using this motherboard once it is installed in a working system. These include external system features that connect to the motherboard, things you can do to optimize the performance of a system based on this board and some troubleshooting tips you can review in the event any problems arise.

**Using System Features**

This section explains the system controls and indicators that connect to the motherboard. It also explains how the other system level features on the board work.

**Front Panel System Controls & Indicators**

The front panel of the system housing will have some or all of the front panel features that connect to the motherboard. These enable the User to determine some information on the systems operational status and provide some system controls.

*System Controls*

The front panel connector on the motherboard supports several system controls that mount on the front panel of the system housing.

Power Button

Function: Turns the system On and Off.

Use: This button is configured by the CMOS Setup Utility by the “Soft-Off by PBTN” line in the Power Management section. Depending on the setting, the power button will function in one of two modes, instant on/off or instant on/4 second delay off. In the delay mode, when you push the power button for less than 4 seconds when the system is turned on, the system goes into the Suspend power conservation mode. In this configuration, you have to push the power button for more than 4 seconds to turn the system power off.

Reset Switch

Function: Restarts the system to cold boot.

Use: Press the button to restart the system. This forces a restart under all conditions. Don't use the Reset button if you can shut the system down from within the Operating System.

Note On Reset & Rebooting:

You should always restart or shut down the system by using the OS command for this. This procedure allows the OS to shut down properly, minimizing the possibility of hard disk drive problems or data loss. If the system crashes or “hangs”, you may have to restart the system at the hardware level. There are two hardware reboot options, a keyboard command and the Reset button.

You can effect a “warm” reboot with a key command if the OS supports it. For example, all versions of Microsoft Windows support restarting the computer with the Ctrl-Alt-Del (Delete) command. You can try this command first if it is supported. Otherwise, you will need to use the Reset button.

Suspend Button

Function: Toggles system in and out of Suspend mode.

Use: Press the button to cause the system to enter or resume from Suspend mode.

Note: The front panel feature connector supports a system Suspend button (the ACPI connector) but not all system housings have this button. The same function can be performed at the Operating System level if the OS supports the feature.

### Indicator LEDs

The motherboard front panel features connector supports three system status indicator LEDs:

- Power Status LED Indicator  
Lights when the system is turned on.
- Hard Disk Drive Activity LED Indicator  
Flashes during hard disk drive access.
- Power Conservation Mode LED Indicator  
Lights to indicate the system is in a Suspend state power conservation mode.

Most system housings will have all of these LEDs mounted in the housing's front panel.

### Wake Up Features

There are two system wake up features, Wake On LAN and Wake On Ring. These are set to Disabled by default in the WakeUp Event Control subsection of the Power Management section of the CMOS Setup Utility. You must set the RI Event/WOL line to Enabled to use these features.

#### *Wake On LAN (WOL)*

Function: The system wakes up in response to a signal arriving over a LAN that it is connected to.

Use: The onboard WOL connector supports connection to a PCI Network Interface Card. The WOL cable from the card connects to the WOL connector on the board.

#### *Wake On Ring(WOR)*

Function: The system wakes up in response to a "ring in" signal from a telephone line an internal modem is connected to.

Use: The onboard WOR connector supports connection to an internal PCI modem card. The WOR cable from the modem card connects to the WOR connector on the board.

## Installing & Configuring An IR Port

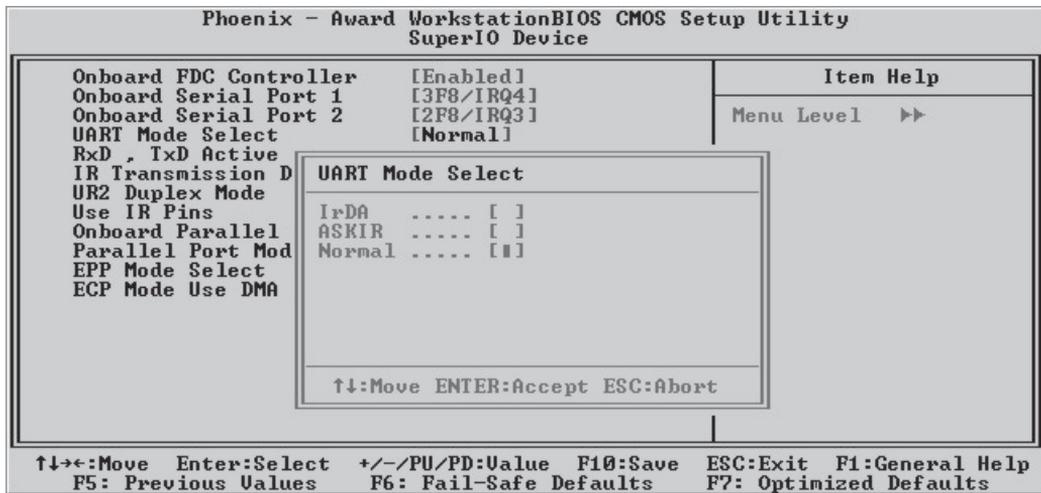
There is a pin header connector for an Infrared communications port module on the motherboard. An IR port enable wireless communication between the system and another device with IR capability. Common examples of such devices are a PDA or notebook computer. Installing an IR port module requires disabling the COM2 serial port on the rear I/O panel and reconfiguring it for IR use in the CMOS Setup Utility.

Installing an IR port module requires an expansion slot opening unless the system housing has a built-in IR port with a cable to connect to the motherboard.

Follow the instructions that come that come with the port module you want to install. The basic installation procedure is as follows if the module installs in an expansion slot opening:

1. Turn off and unplug the system if necessary.
2. Remove the system housing cover.
3. Locate the JP2 IR pin header connector on the motherboard. It is below the lowest PCI slot.
4. Remove the expansion slot cover in the system housing that corresponds to the PCI slot. There may be a slot cover retaining screw to remove and put aside for later use.
5. Insert the port module in the expansion slot access opening and align the module's mounting bracket with the screw hole for the retaining screw (if there is one). Insert the screw and tighten it to secure the port module in place.
6. Plug the module's connector cable onto the IR connector on the motherboard.
7. Replace the system housing cover.
8. Plug in and turn on the computer.
9. Run the CMOS Setup Utility and pen the Integrated Peripherals section. Set the "UART Mode Select" to the required mode, IrDA or ASKIR, and configure the port settings below it if necessary. Save the settings and reboot.

## CMOS Setup Utility – Integrated Peripherals – SuperIO Device UART Mode Select – IR mode selection for COM2



The supported Microsoft Operating Systems should automatically detect and configure the port module after you restart the system. Consult the OS documentation or online Help for more information if necessary. You may also need to install support software that came with the IR port module in order to use it. Consult the installation instructions that came with the module for additional instructions.

## Performance Optimization

This section covers things you can do to increase the performance of a system based on this motherboard. The topics covered include system memory, disk subsystems and processor upgrades or adjustments.

### System Memory

Adding system memory will increase system performance and capability under any of the supported Operating System. This motherboard supports a total of 2GB of unbuffered DDR memory (in DIMM1 & DIMM2 only) or 3.5GB of registered DDR memory in all sockets. If you have not installed the maximum, you can consider increasing the amount of installed system memory. Additional system memory speeds up system operation and in some cases produces additional stability in the Operating System.



**Warning:**

Do not install a mix of PC1600 and PC2100 DDR DIMMs.

### Disk Subsystems

This motherboard supports IDE drives using data transfer modes up through ATA-100. If you use IDE drives as the primary disk subsystem, selecting drives that support ATA-100 and have a high rotation speed (at least 7,200rpm) will maximize performance.

If you need even better performance from a disk subsystem, you can consider adding a SCSI controller card and SCSI disk drive. A SCSI disk controller with high-speed SCSI hard disk drives will provide a substantial performance enhancement.

### Processor Upgrades & Adjustments

Processor speed has a significant effect on overall system performance. To increase system performance, you can consider using or upgrading to a faster processor.

The AMD Athlon processors used by this motherboard come in a variety of clock speeds. To maximize performance, select a processor with the fastest clock speed the system budget or specification allows.

You can install a dual CPU configuration on this motherboard using Athlon MP CPUs. This will significantly increase system performance with Operating Systems that support SMP (Symmetrical Multiprocessing), such as Microsoft Windows XP, Linux or FreeBSD.

The CMOS Setup Utility's IWILL Smart Setting feature will automatically detect and configure whatever processors are installed. Manual configuration settings are also available, but setting the processor to operating parameters outside those specified by AMD can damage the CPU and void the warranty.

### Overclocking

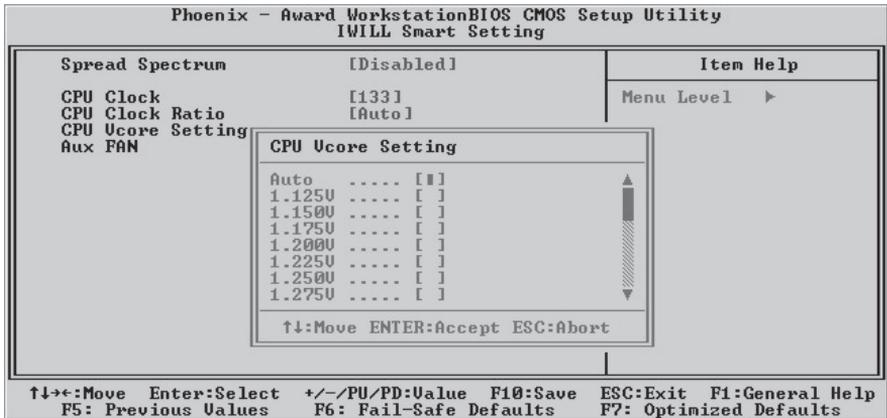
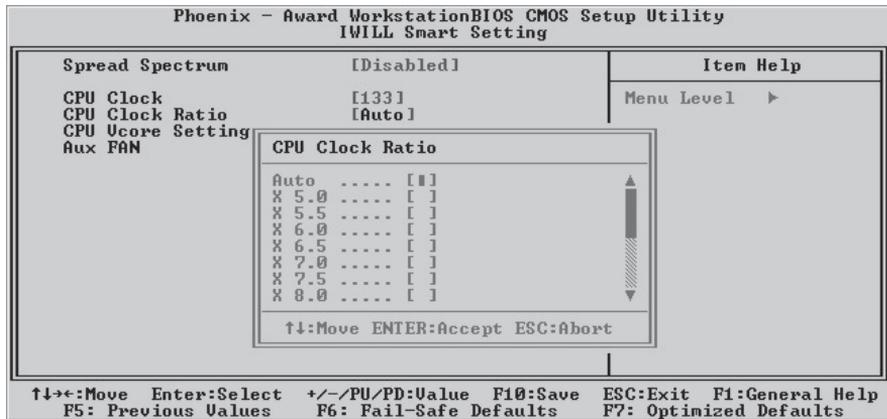
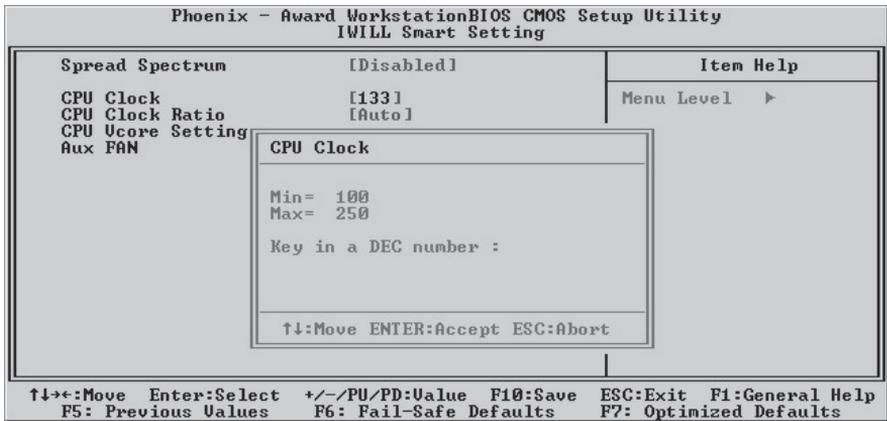
It is possible to adjust the CPU configuration beyond rated parameters using the IWILL Smart Setting section of the CMOS Setup Utility. This procedure is commonly referred to as "overclocking" the CPU. While it is possible to overclock the CPU on this motherboard, IWILL does not assure reliable system performance if you do so and doing this may violate your CPU warranty. Improperly configured, overclocking can shorten the life of the CPU or even cause damage to the CPU, the motherboard, or both and possibly damage other components as well. If you are going to overclock the CPU, please make certain you know what you are doing.

There are three items in the IWILL Smart Setting section that configure the CPU clock:

- CPU Clock  
Sets the CPU external clock speed. The default is 133MHz. The setting is adjustable from 100MHz to 250MHz.
- CPU Clock Ratio  
Sets the multiplier for the CPU Clock. The Auto setting detects the CPU's rated multiplier. Manual settings range from x 5 to x 15.
- CPU Vcore Setting  
Sets the CPU's core voltage. The Auto setting detects the CPU's rated voltage. Manual settings range from 1.125V to 1.850V.

To adjust a setting, you highlight the item and press the Enter key to bring up the setting options window. These settings affect both CPUs in a dual CPU configuration.

CMOS Setup Utility – IWILL Smart Setting  
 CPU Configuration Options



## Troubleshooting

This section details some things you can do to evaluate problems that could possibly occur in the course of using this motherboard. The topics covered include possible hardware problems and problems with the CMOS Setup Utility's system configuration record.

### Hardware Problems

A hardware problem may occur either after you install additional hardware or because some existing hardware has failed or has a disconnected or loose connection. This section has some pointers on things you can check before seeking assistance.

#### General Hardware Troubleshooting

If the motherboard does not operate properly when you first try to use it in the system, it is likely that it is either configured incorrectly, there are problems with external connections. It is also possible the board or some other system component is defective. Always check the most obvious possibilities first.

First check the external components:

- Make sure the system, the monitor and any other external peripherals are plugged in and turned on. Confirm that the system and the power LEDs on any external peripherals are on.
- Check that the monitor, keyboard and mouse are properly connected.

Next check the CMOS Setup Utility:

- Run the CMOS Setup Utility and load the Optimized Defaults. Reset any other custom settings. Remember to "Save & Exit Setup" to restart the computer.

If there is still a problem, check the internal components. Turn off and unplug the system before you remove the system housing cover.

- Press all installed DIMMs into the module sockets to make sure they're fully inserted.
- Make sure you used the correct cables to connect the internal peripherals and that the peripherals are properly connected to the motherboard. Check the Master/Slave positions on all IDE cables. If you installed a device that uses ATA-100 mode, make sure it is connected to the motherboard with an ATA-100 cable to ensure maximum performance.
- Check that all expansion cards are correctly installed and fully inserted in the expansion slots. Pay particular attention to the AGP display card.
- Make sure the processor and its cooling assembly are properly installed.
- Check all the hardware settings on the motherboard and make sure they are correct.

When you're done, reassemble the system and try again. If the problem persists after you have checked all of the above, there may be a hardware conflict or bug. See the next section for additional information.

### Hardware Configuration Problems

It is possible for system hardware components to conflict with each other. While all the components and subsystems on the motherboard are designed and tested to work together, expansion cards and peripheral devices can be a problem.

Assuming you have gone through the general troubleshooting procedures and the system still will not start, if you have just added new hardware to your system, there may be a hardware conflict or bug or a problem with a device driver. Try removing the new hardware and see if the system will start. If it does, consult with the device manufacturer for information on solving the problem. In some cases, a firmware or driver upgrade may resolve the problem.

### *Plug and Play Problems*

This motherboard supports the automatic recognition and configuration of expansion cards that support the Plug and Play (PnP) specification. Most currently available expansion cards support PnP. PnP simplifies card installation by allowing the system to handle system resource allocation. If you install an expansion card that is not PnP compliant, you may still need to configure the card manually. Consult the card's documentation for instructions or other information.

### Replacing the System Configuration Record

As noted previously, the CMOS Setup Utility creates a system configuration record and stores it in CMOS memory on the motherboard. This record must be correct and uncorrupted for the system to operate properly. It is possible for the system configuration record can become corrupted or lost. If this occurs, the system will not operate properly or at all. This is not a serious problem. You can restore a working configuration using the CMOS Setup Utility to create a new configuration record by loading the Optimized Defaults and reentering any other settings you had made.

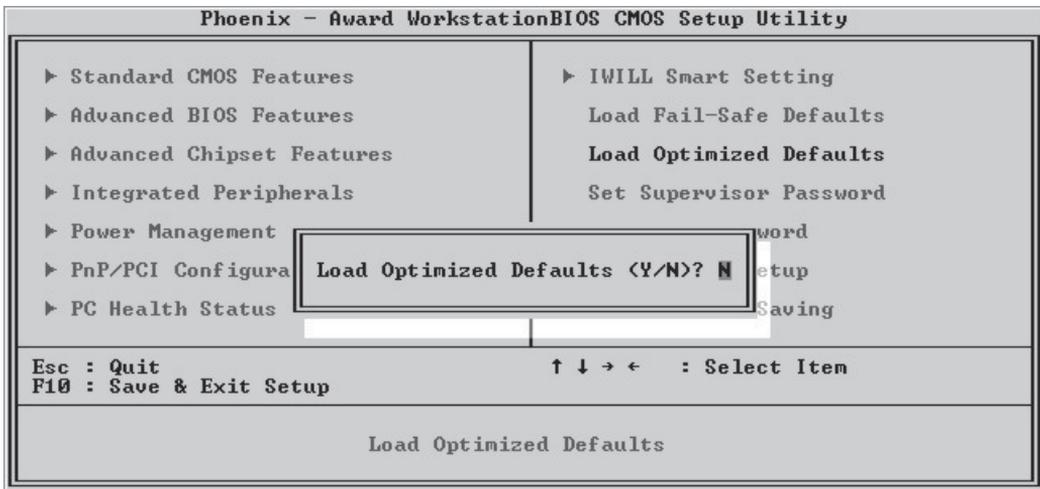
### Loading Optimized Defaults

The CMOS Setup Utility does not require an operating system to run. You run the utility by typing the Del or Delete key while the system is starting up to bring up the utility's main screen.

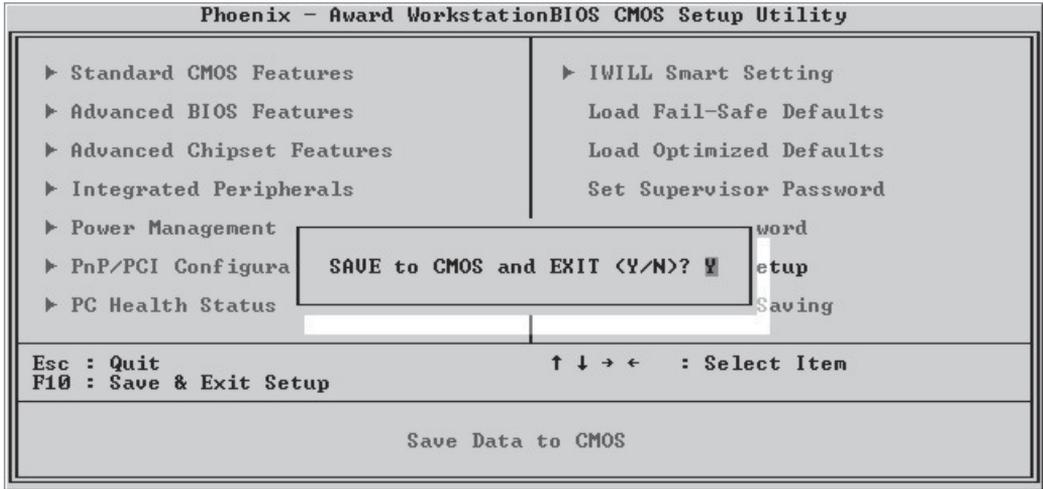
There are two sets of defaults listed, Optimized and Fail-Safe. The Fail-Safe Defaults are a minimum configuration set for use by technicians when troubleshooting system problems. The Optimized Defaults are what the system normally operates on. If a corrupted system configuration record caused the problem you experienced, once you load the Optimized Defaults and reboot, the system should function normally. The following instructions illustrate this procedure.

You can easily restore a working system configuration record from the main screen of the CMOS Setup Utility. To do so, do as follows:

1. Select the "Load Optimized Defaults" item.
2. Press the Enter Key. A confirmation message will appear on the screen. Type a "Y" to accept loading the Optimized Default settings. Now make any other settings you need to.



3. Select “Save & Exit Setup” and press the Enter key. A confirmation message will appear. Press the Enter key again to confirm.



The CMOS Setup Utility will close and the system will reboot. The system should then start properly and run normally.



**In This Chapter:**  
Technical Specifications

### **7: Technical Specifications**

This chapter lists some technical information about this motherboard.

## Processor I/F (Socket A)

Supports 2 processor through Socket A (462pin)

Supports 266MHz FSB (Front Side Bus)

Supports Dual AMD Athlon MP processors or single AMD Athlon XP & Duron processor  
(For Dual purpose, required the same CPU ID processors)

## CPU Frequency/Voltage Select

Supports Vcore selection by BIOS

Supports VIO selection by Jumper

Supports CPU Ratio Speed selection by BIOS (5X to 15X)

Supports CPU External Frequency selection by BIOS (up to 250MHz)

Support FSB 100/133MHz Jumper setting

Chipset:

AMD760MPX Chipsets

North Bridge AMD762

South Bridge AMD768

## Memory

Supports DDR200 (PC1600) /DDR266 (PC2100)

Supports Unbuffered DDR Memory up to 2GB (1GB x2 using DIMM1 & DIMM2 only)

Supports 64M/128M/256M/512MB/1GB DDRAM Module

Supports Registered DDR Memory, Up to 3.5GB (1GB x 3, 512MB x 1)

Display Graphics:

Supports AGP2X (3.3V)/AGP4X (1.5V) and AGP Pro

## General I/O

PCI Slots:

PCI 2.2 compliance

Supports 32-bit/33MHz PCI interface

Supports 64-bit/66MHz (3.3V)

Supports ATA33/ATA66/ATA100 IDE interface

Supports Floppy interface

Supports 16550A UART interface

Supports ECP/EPP interface

Supports PS2 interface

Supports SIR interface

Supports USB1.1 interface

## Management

Supports voltage monitoring (+12V/+5V/Vcore/VIO )  
Supports fan speed monitor (CPU/SYS)  
Supports temperature sensor (CPU/SYS)  
Supports ACPI  
Supports APM  
Supports DMI  
Supports SMBUS  
Supports PnP  
Supports BIOS ROM Flash Control (S/W protection)

### Power requirement

EPS12V/24pin + 8pin(12V) or ATX12V/20pin + 4pin(12V) Power Supply  
Power Supply Min. required 350W  
Expansion Slot, Sockets and Connectors  
Two 462pin socket  
Four DDR DIMM sockets  
One Universal AGP Pro slot  
Four 32bit/33MHz Bus Master PCI slots  
Two 64bit/66MHz Bus Master PCI slots  
Two IDE connectors  
One FDC connector  
Two External Serial Port connectors  
One External Parallel Port connectors  
One External PS/2 Mouse & Keyboard connector  
Two External USB connectors  
One Internal IR connector  
One Internal WOL connector  
Two AUX fan connector  
One System fan connector  
One Internal WOM connector  
One Internal SMBus connector

### PCB Specifications

Ex. ATX Form Factor 305 x 292 mm  
Yellow PCB, 6 layer design





**CRITICAL  
INFORMATION  
UPDATE**

### **In This Addendum:**

Important CPU Clock Ratio Setting Update  
Connector Pin Outs

### **Version 1.1 Addendum**

This addendum has two parts:

- Important CPU Clock Ratio Setting Update  
Updates the procedure and information for setting the CPU Clock Ratio.
- Connector Pin Outs  
Lists the pin assignments for a number of the onboard connectors.

Please review the section on the CPU Clock Ratio carefully to determine if it affects your use of the motherboard. The pin assignment information is for reference in the event you have need of it.

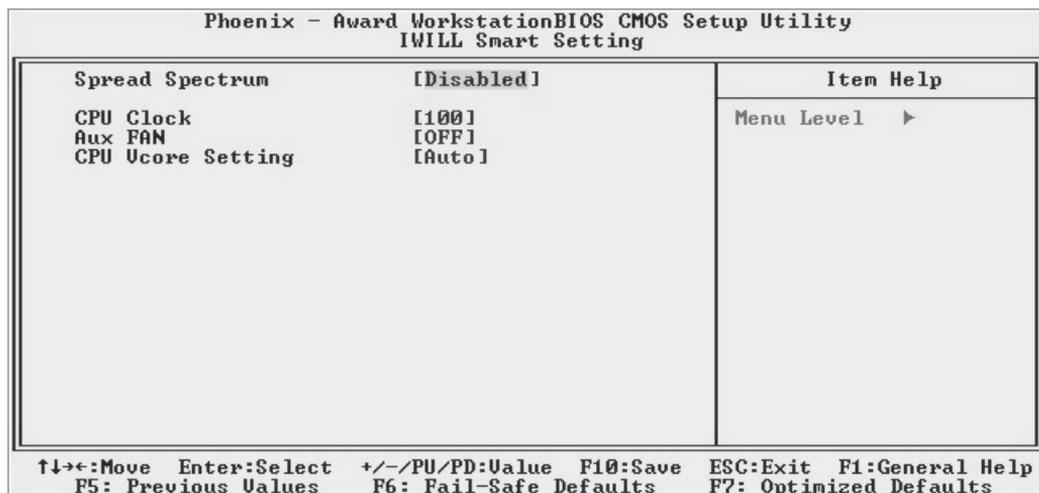
### Important CPU Clock Ratio Setting Update

Pages 4.2 and 5.19 in the manual indicate that you must manually set the CPU Clock Ratio setting for AMD Athlon MP CPUs in the IWILL Smart Setting section of the Award BIOS CMOS Setup Utility. This is not necessary.

The CPU Clock Ratio is autodetected for all CPUs you can use with this motherboard, including Athlon MP CPUs. Since some Athlon CPUs do not allow alternate clock ratio settings, this setting option was removed from subsequent versions of the CMOS Setup Utility's IWILL Smart Setting screen to ensure system stability.

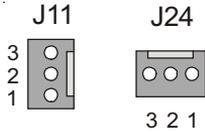
IWILL is concerned about both system stability and overall performance and value-added features. Although the option to adjust the CPU Clock Ratio has been removed, users still retain the option to adjust the CPU Clock in the IWILL Smart Setting section of the CMOS Setup Utility. The updated version of the IWILL Smart Setting screen is shown below.

CMOS Setup Utility – Updated IWILL Smart Setting Screen



### Connector Pin Outs

#### CPU/System Fan Headers: J11, J24/J28



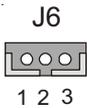
Pin No	Assignment
1	Ground
2	+12V
3	Sense

#### AUX Fan Headers: J3, J27



Pin No	Assignment
1	Ground
2	+12V
3	N/A

#### WOL: Wake On LAN Connector J



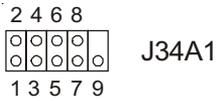
Pin No	Assignment
1	5V SB
2	Ground
3	Wake up

#### WOM: Wake On Modem Connector J5



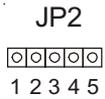
Pin No	Assignment
1	Ground
2	Wake up
3	N/A
4	5V SB

### USB Ports 3/4 Connector J34A1



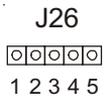
Pin	Assignment	Pin	Assignment
1	+5V(fused)	2	+5V(fused)
3	USB Data(-)	4	USB Data(-)
5	USB Data(+)	6	USB Data(+)
7	Ground	8	Ground
9	KEY	10	N/A

### IR Connector JP2



Pin No	Assignment
1	Voltage 5V
2	CIRRX
3	IR_RX
4	GND
5	IR_TX

### System Management Bus Connector J26



Pin No	Assignment
1	SMBUSC
2	SMBUSd
3	N/A
4	GND
5	VCC3