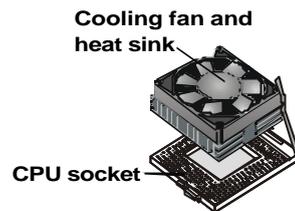


Caution!

When installing a CPU heatsink and cooling fan make sure that you DO NOT scratch the motherboard or any of the surface-mount resistors with the clip of the cooling fan. If the clip of the cooling fan scrapes across the motherboard, you may cause serious damage to both the motherboard and the processor.

On most mainboards, there are small surface-mount resistors near the processor socket, which may be damaged if the cooling fan is carelessly installed.

Avoid using cooling fans with sharp edges on the fan casing and the clips. Also, install the cooling fan in a well-lit work area so that you can clearly see the motherboard and processor socket.



Important Information

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Version 1.0

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Federal Communications Commission (FCC)

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.

Shielded interconnect cables and a shielded AC power cable must be employed with this equipment to ensure compliance with the pertinent RF emission limits governing this device. Changes or modifications not expressly approved by the system's manufacturer could void the user's authority to operate the equipment.

Declaration of Conformity

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.

Canadian Department of Communications

This class B digital apparatus meets all requirements of the Canadian Interference-causing Equipment Regulations.

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

About the Manual

The manual consists of the following chapters:

Introduction

Use the **Introduction** Chapter to learn about the features of the mainboard, and verify the checklist of items that are shipped with the package.

Installation

Use the **Installation** Chapter to learn how to install the mainboard and get your system up and running.

Setup

Use the **Setup** Chapter to configure the mainboard for optimum performance.

Software

Use the **Software** Chapter to learn how to install the software drivers and support programs that are provided with this mainboard.

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Chapter 1: Introduction

Welcome

Congratulations on purchasing the P6STM mainboard. The P6STM mainboard is an integrated mainboard with a Micro ATX form factor that uses a 4-layer printed circuit board and measures 220 mm x 244 mm. The mainboard features a Socket 370 CPU socket that accommodates FC-PGA/PPGA Celeron, FC-PGA Pentium III, and Cyrix III processors that support frontside bus (FSB) speeds up to 133MHz.

The P6STM incorporates the SIS630E chipset, which includes integrated built-in video, audio, networking and communications capabilities, and features the AC 97 audio codec.

The mainboard delivers high-level performance with an integrated 4xAGP controller, which is compliant with the AGP 2.0 specification. Two Bus Master Ultra DMA (UDMA) ports that support four ATAPI (AT Attachment Packet Interface) devices. The IDE also supports PIO Mode 3 and 4, UDMA33/66 IDE, and an ATAPI CD-ROM.

The mainboard accommodates PC 100/133 SDRAM (Synchronous DRAM) up to 1 GB using two 3.3V unbuffered DIMM modules.

The P6STM also has a full set of I/O ports, such as dual channel IDE interfaces, a floppy controller, two FIFO serial port connectors, an EPP/ECP-capable bi-directional parallel port connector, a dual USB (Universal Serial Bus) connector, a LAN connector, and PS/2 keyboard and mouse connectors. An extra USB header gives you the option of connecting two more USB ports.

Three PCI local bus slots, one ISA slot, and one AMR slot provide expandability for add-on peripheral cards.

This chapter contains the following information:

- ❑ **Checklist** comprises a list of the standard and optional components that are shipped with this mainboard
- ❑ **Recommendations** lists some Do's and Don'ts from the manufacturer to help ensure reliability and performance from this product
- ❑ **Features** highlights the functions and components that make this one of the best value mainboards on the market

Checklist

Compare the contents of your mainboard package with the standard checklist below. If any item is missing or appears damaged, please contact the vendor of your mainboard package.

Standard Items

- ❑ One mainboard
- ❑ One diskette drive ribbon cable and bracket
- ❑ One IDE drive ribbon cable and bracket
- ❑ This user's manual
- ❑ Software support CD-ROM disc

Recommendations

This mainboard automatically determines the CPU clock frequency and system bus frequency for the kind of processor that you install. You may be able to change these automatic settings by making changes to jumpers on the mainboard, or changing the settings in the system Setup Utility. We strongly recommend that you do not overclock the mainboard to run processors or other components faster than their rated speed.

Warning: *Overclocking components can adversely affect the reliability of the system and introduce errors into your system. Overclocking can permanently damage the mainboard by generating excess heat in components that are run beyond the rated limits.*

Components on this mainboard can be damaged by discharges of static electricity. Handle the board carefully holding it by the edges. Do not flex or stress the circuit board. Keep the board in its static-proof packing until you are ready to install it. Follow the static guidelines given at the beginning of Chapter 2.

Features

The key features of this mainboard are the wide range of processors that can be installed, and the high level of integration.

Value-class Processors

The P6STM features a Socket 370 that accommodates Intel Celeron, Pentium II, and Pentium III processors that support 66/100/133 MHz frontside bus speeds, and VIA Cyrix III processors that support 100/133 frontside bus speeds.

SIS630E Chipset

The board features the SIS630E chipset from Silicon Integrated Systems. The SIS630E includes a built-in 128-bit AGP graphics accelerator, an integrated 3D PCI audio controller, and a built-in 10BaseT/100BaseTX network controller. The SIS630E controls up to 1 GB of SDRAM memory. The chipset also supports ACPI Ver.1.0 (Advanced Configuration and Power Management Interface) and APM (Advanced Power Management) power management. It provides two PCI IDE channels with UDMA 33/66, a floppy diskette drive interface, and two bus-mastering PCI slots. The chipset meets the requirements for the PC99 specification.

AC 97 Audio Codec

The AC 97 Audio codec is compliant with the AC 97 2.1 specification, and supports 18-bit ADC (Analog Digital Converter) and DAC (Digital Analog Converter) resolution as well as 18-bit stereo full-duplex codec with independent and variable sampling rates. Further features include support for four analog line-level stereo inputs.

Inexpensive Memory

The board has two DIMM sockets for the installation of 168-pin, 3.3V non-buffered DIMM memory modules. The DIMM memory modules must be installed with SDRAM memory chips. The P6STM board supports a memory bus of 133 MHz. Each installed memory module can be populated with 16 MB up to 512 MB of memory, so a maximum total of 1 GB memory can be installed. The integrated video system uses a shared memory architecture so that you must reserve some of the installed memory as video memory using the system BIOS. You must install at least one memory module, with a minimum capacity of 16 MB, which can be installed in either available DIMM slot.

Built-in AGP 3D-Graphics

The SIS630E chipset includes an integrated 128-bit 2D/3D graphics accelerator. The graphics system uses the Ultra-AGP architecture and uses a shared memory scheme that allows up to 64 MB of system memory to be used as video memory. The graphics system includes special accelerators for DVD playback and supports screen resolutions up to 1600 x 1200 and color depths up to 16 M (True Color). Driver support is provided for Windows 95/98, Windows 2000, Windows NT 4.0, and OS/2.

Expansion Options

The P6STM mainboard is pre-installed with features such as audio, video, and networking that normally requires add-in cards. The three 32-bit PCI slots, 8/16-bit ISA slot, and AMR slot provide plenty of expansion potential.

Integrated I/O

The mainboard has a full set of I/O ports and connectors. The I/O template on the backplane includes two PS/2 ports for mouse and keyboard, one serial port, one parallel port, one VGA monitor port, one game/MIDI port, two USB ports, one LAN port, and audio jacks for microphone, line-in and line-out. The board has a header for the optional installation of an IR port and a second serial port. It also includes two PCI IDE channels with UltraDMA 33/66 support, and a floppy disk drive interface.

Hardware Monitoring

Hardware monitoring is fully supported and the board ships with hardware monitoring software. System assemblers and network administrators can reduce downtime and repair costs by monitoring critical temperatures and voltages on the system. The supplied hardware monitoring software lets you set parameters that prompt warnings when they are exceeded.

Keyboard Power On Feature

Using the system BIOS setup program, you can configure the system to turn on by using a keyboard-typed password or by pressing a hot-key combination (Ctrl+Alt+Backspace). A green keyboard is not required.

Programmable Firmware

The mainboard includes Award BIOS that allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, CPU and memory timing, LAN and modem wake-up alarms, and so on. The firmware can also be used to set parameters for different Celeron processor clock speeds so that you don't need to change mainboard jumpers and switches.

This concludes Chapter 1. The next chapter will cover installing and building a working system.

Chapter 2: Installation

Quick Installation Table

This chapter explains how to successfully install the mainboard into a computer case and build a working system.

The installation procedure is as follows:

| | |
|------------------------------------|---|
| Before you Begin | Provides advice on choosing a case, avoiding static electricity damage, and setting jumpers. |
| Preparing the Mainboard | Provides a guide to the mainboard and I/O port locations, full details on the jumper settings, and advice on installing the mainboard in the system case. |
| Installing Other Hardware | Provides guidance on installing essential hardware: processor, memory, hard disk drive, CD-ROM, floppy disk drive, and expansion cards. |
| Making External Connections | Provides advice on using the external I/O ports to install peripheral devices such as a keyboard, a monitor, a mouse, a printer, and loudspeakers. |
| Appendix | The Appendix provides a quick reference for the jumper settings on this mainboard. |

Before You Begin

Before you begin to install your mainboard, take care not to damage the product from static electricity. Ensure too that you are installing the mainboard into a suitable case.

Static Electricity

In adverse conditions, static electricity can accumulate and discharge through the integrated circuits and silicon chips on this product. These circuits and chips are sensitive and can be permanently damaged by static discharge.

- If possible, wear a grounding wrist strap clipped to a safely grounded device during the installation.
- If you don't have a wrist strap, discharge any static by touching the metal case of a safely grounded device before beginning the installation.
- Leave all components inside their static-proof bags until they are required for the installation procedure.
- Handle all circuit boards and electronic components carefully. Hold boards by the edges only. Do not flex or stress circuit boards.

Choosing a Case

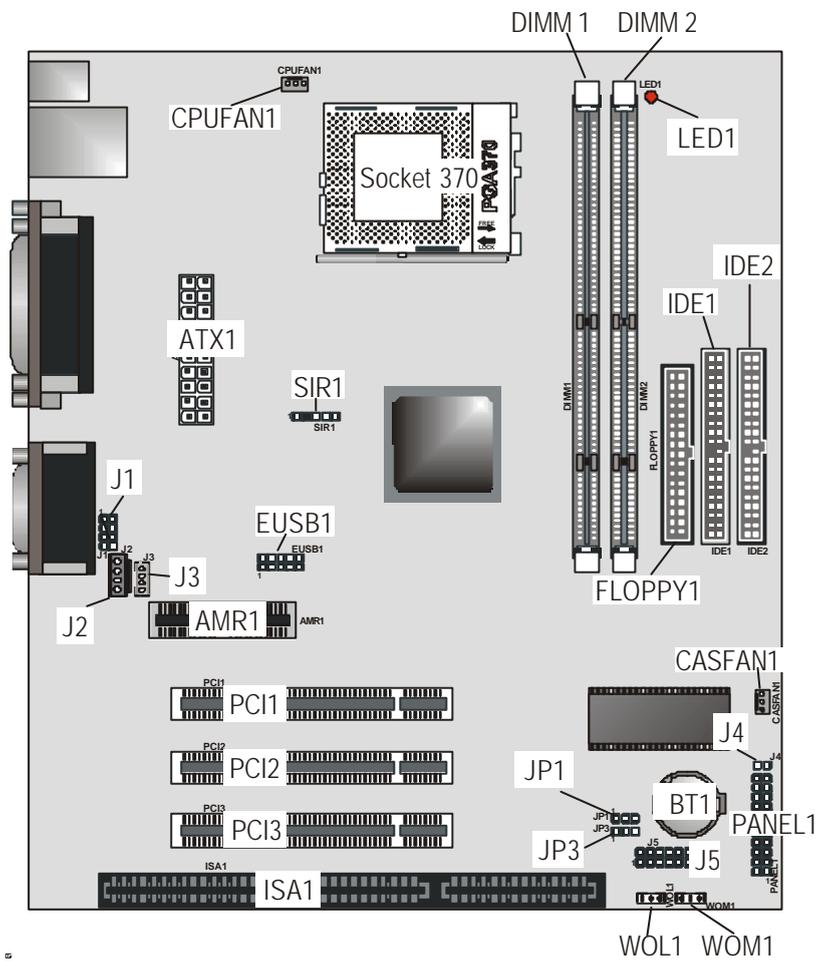
The mainboard complies with the specifications for the full ATX system case. Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required. The mainboard can support one or two floppy diskette drives and four enhanced IDE drives. Ensure that your case has sufficient power and space for all the drives that you intend to install.

The mainboard has a set of I/O ports on the rear edge. Ensure that your case has an I/O template that supports the I/O ports and expansion slots.

Preparing the Mainboard

Mainboard Guide

Use the following illustration and key to identify the components on your mainboard.



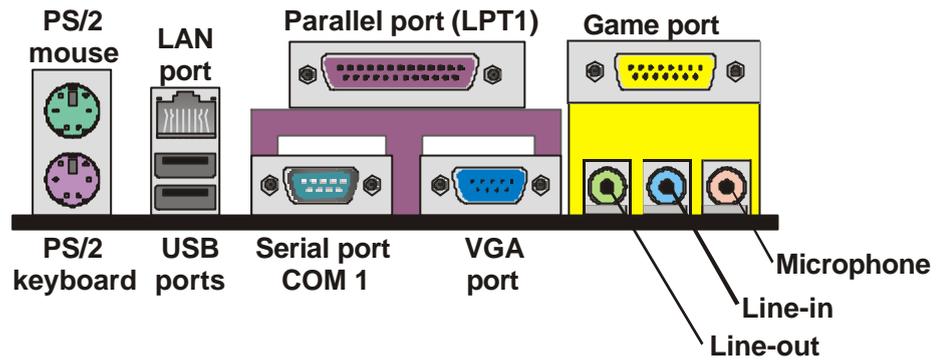
Key to Mainboard Components

| Component | Description |
|------------------|---|
| CPUFAN1 | Power connector for CPU1 cooling fan |
| Socket 370 | PGA 370 CPU socket |
| DIMM 1, 2 | Two slots for 168-pin DRAM memory module |
| LED1 | Red 3VSB LED for SDRAM |
| IDE1, IDE2 | Primary and secondary IDE channels |
| FLOPPY 1 | Connector for floppy disk drives |
| ATX1 | Power connector for case cooling fan |
| SIR1 | Serial infrared connector |
| J1 | Extra microphone line-out header |
| J2 | Audio connector for CD-ROM/DVD drive |
| J3 | Auxiliary connector for CD-ROM/DVD drive |
| EUSB1 | Second connector for front panel USB ports |
| AMR1 | Audio modem riser (AMR) slot |
| PCI1 ~ PCI3 | Three 32-bit PCI slots |
| ISA1 | One 8/16-bit ISA slots |
| CASFAN1 | Power connector for case cooling fan |
| J4 | Dual color LED |
| BT1 | 3 volt battery for realtime clock |
| PANEL1 | Panel connector for switches and indicators |
| J5 | Smart Card Reader header |
| JP1 | Clear CMOS jumper |
| JP3 | BIOS flash jumper |
| WOL1 | Connector for LAN wake up |
| WOM1 | Connector for modem wake up |

Note:

- *The red indicator LED1 turns on if your system is powered on. You should not install or uninstall memory modules when LED1 is lit.*
- *The dual color LED header J4 can be attached to computer case LEDs to indicate the following conditions: software power down, suspend to RAM, suspend to disk, and soft off.*

I/O Ports Side View



Key to I/O Ports

| Component | Description |
|---------------|--|
| PS/2 mouse | PS/2 port for pointing device (upper port) |
| PS/2 keyboard | PS/2 port for keyboard (lower port) |
| LAN | RJ-45 LAN port |
| USB ports | Two stacked Universal Serial Bus ports |
| LPT1 | External parallel port |
| COM1 | External serial port COM 1 |
| VGA | External monitor port VGA |
| Game port | External MIDI/game port |
| Audio ports | Audio jacks for (from left to right) line out, line in, microphone |

Check the Jumper Settings

Check the mainboard jumpers to ensure that the board is configured correctly.

How to Set Jumpers

A jumper consists of two or more pins mounted on the mainboard. Some jumpers might be arranged in a series with each pair of pins numbered differently. Jumpers are used to change the electronic circuits on the mainboard. When a jumper cap (or shunt) is placed on two jumper pins, the pins are **SHORT**. If the jumper cap is removed (or placed on just a single pin), the pins are **OPEN**.

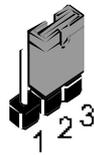


Short



Open

This illustration shows a 2-pin jumper. When the jumper cap is placed on both pins, the jumper is **SHORT**. If you remove the jumper cap, or place the jumper cap on just one pin, the jumper is **OPEN**.



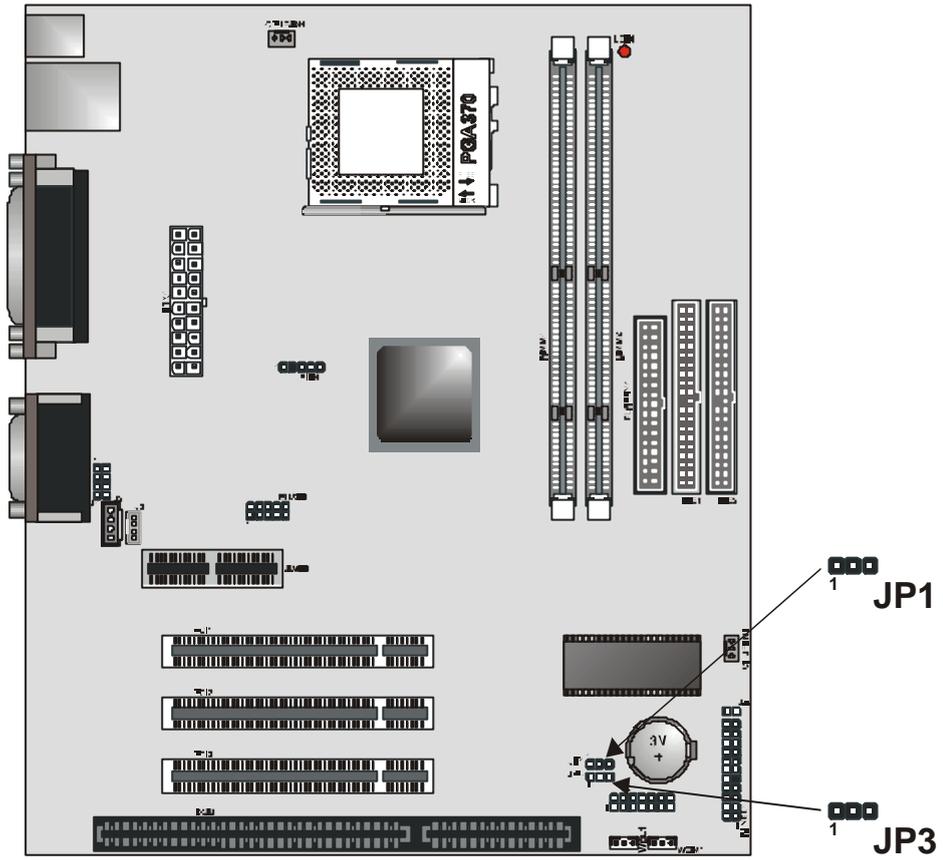
This illustration shows a 3-pin jumper. The jumper cap is placed on pins 2 and 3, so this jumper setting is **SHORT PINS 2-3**.



This illustration shows the same 3-pin jumper. The jumper cap is placed on pins 1 and 2, so this jumper setting is **SHORT PINS 1-2**.

In this manual, all the jumper illustrations clearly show the pin numbers. When you are setting the jumpers, make sure that the jumper caps are placed on the correct pins to select the function or feature that you want to enable or disable.

Jumper Layout

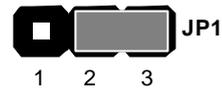


JP1: Clear CMOS jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the BIOS Setup Utility are incorrect and are preventing your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the Clear CMOS memory setting for a few seconds. CMOS is cleared.

Return the jumper cap to the Normal operation setting. Reconnect the power cables and start the system. When the POST starts, press the delete key to start the BIOS Setup Utility and reload BIOS optimal settings. Refer to Chapter 3 for information on BIOS.

| Function | Jumper Setting |
|------------------|----------------|
| Normal operation | Short pins 2-3 |
| Clear CMOS | Short pins 1-2 |



JP3: BIOS flash protect jumper

Use this jumper to enable or disable the BIOS flash protection on the mainboard. Disable this jumper when to flash the BIOS.

| Function | Jumper Setting |
|----------|----------------|
| Disable | Short pins 1-2 |
| Enable | Short pins 2-3 |



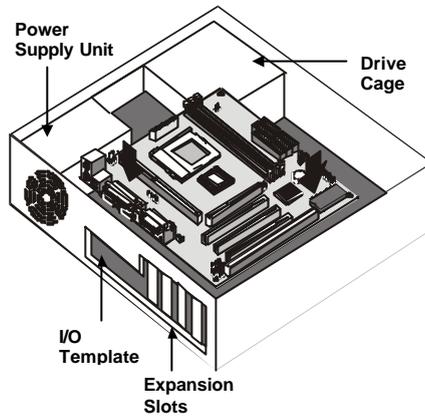
Installing the Mainboard in a Case

Most system cases have mounting brackets installed in the case, which correspond to the holes in the mainboard. Place the mainboard over the mounting brackets and secure the mainboard into the mounting brackets with screws.

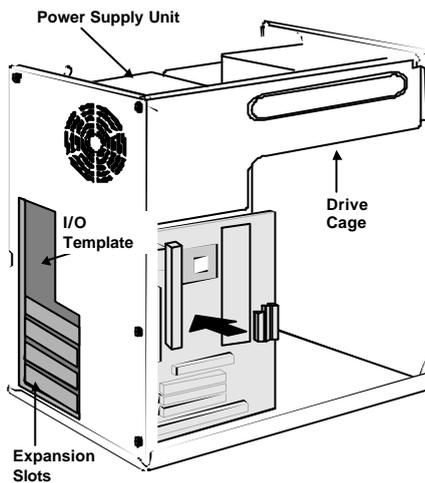
Most cases have a choice of I/O templates in the rear panel. Make sure that the I/O template in the case matches the I/O ports installed on the rear edge of the mainboard.

This illustration shows a mainboard installed in a standard desktop case.

Note: Do not over-tighten the screws as this can stress the mainboard.



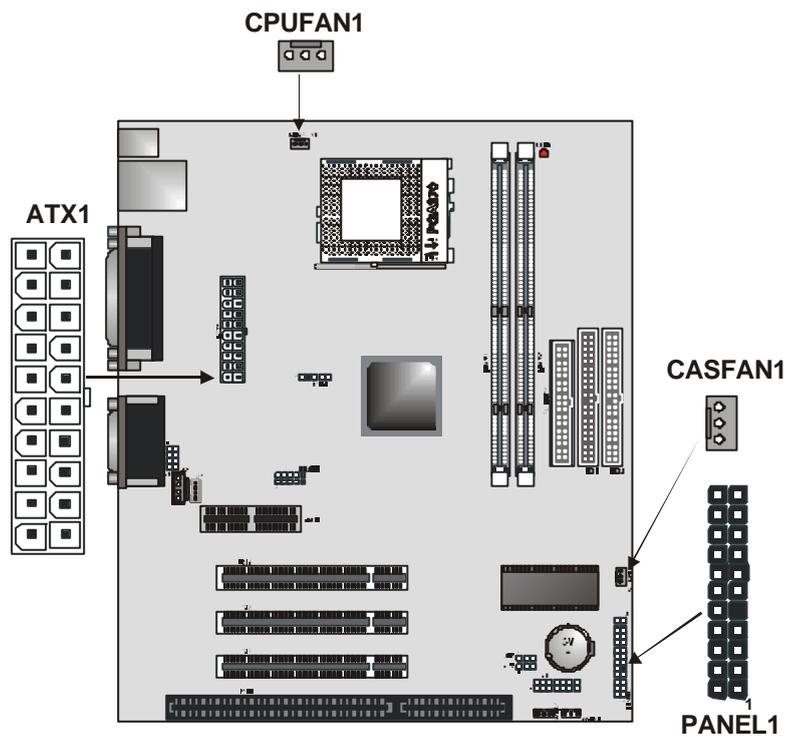
This illustration shows a mainboard installed in a tower-type case.



Connecting Internal Components

After you have installed the mainboard into the system case, connect the power cable from the case power supply unit to the mainboard power connector ATX1. Connect the power supply fan to PWRFAN1.

Your case and CPU might have cooling fans attached to provide adequate ventilation to the system. Connect the CPU1 fan to the 12-volt connector CPUFAN1. Connect the case fan to the 12-volt power supply connector CASFAN1. After you have connected the power supply and the cooling fans, connect the case switches and indicators to the PANEL1 connectors.

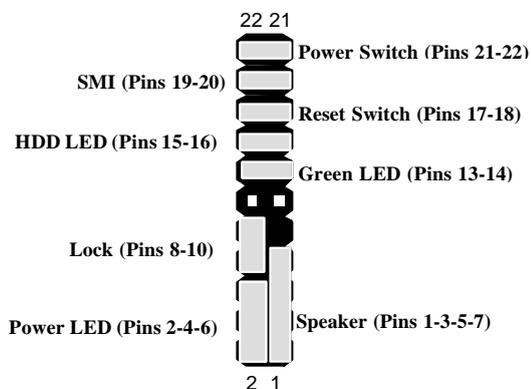


Panel Connector

The mainboard PANEL connector has a standard set of switch and indicator connectors that are commonly found on ATX system cases. Use the illustration below to make the correct connections to the case switches and indicators.

Panel connectors for switches and indicators

| Function | Pins |
|------------------------------|-------------|
| Power ON/OFF | 21, -22 |
| Sleep Switch (SMI) Indicator | 19, -20 |
| Reset Switch | 17, -18 |
| Hard Disk LED Indicator | +15, -16 |
| Green LED Indicator | -13, +14 |
| Lock | 8, 10 |
| Power LED Indicator | +2, +4, -6 |
| Speaker | +1, 3, 5, 7 |



Note: The plus sign (+) indicates a pin which must be connected to a positive voltage.

Installing Other Hardware

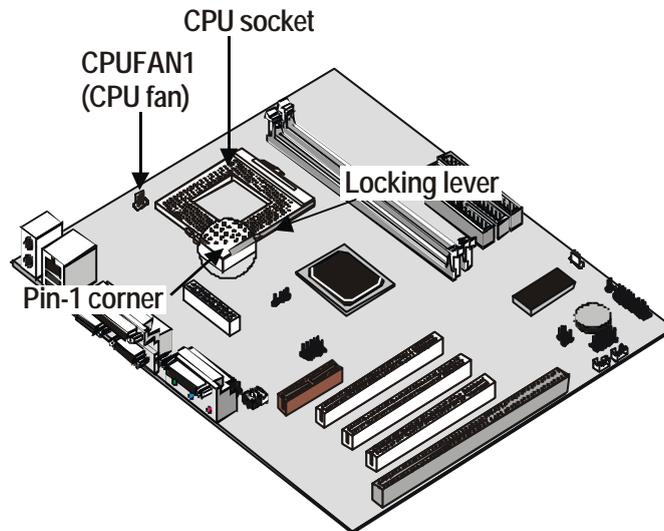
Installing the Processor

This mainboard has a Socket 370 processor socket. To choose a processor, you need to consider the performance requirements of the system and the price of the processor.

Performance is based on the processor design, the clock speed and system bus frequency of the processor, and the quantity of internal cache memory and external cache memory. Higher clock speeds and larger amounts of cache memory deliver greater performance.

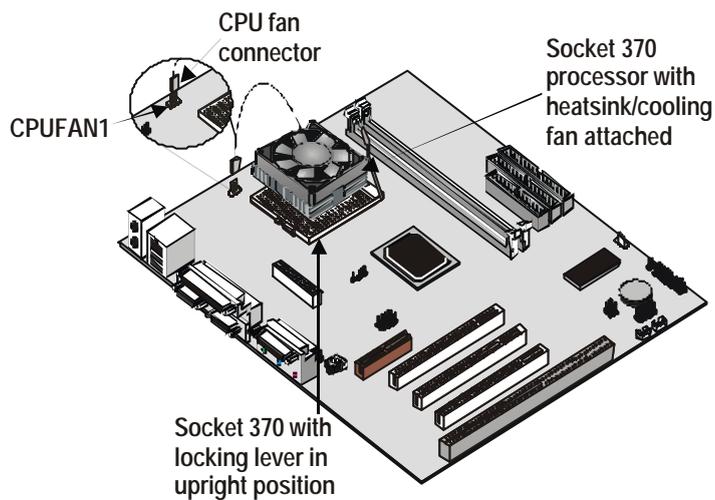
Installation Procedure

To install a processor on the mainboard follow the steps below.



1. On the mainboard, locate the Socket 370 and CPU cooling fan CPUFAN1.

2. On the Socket 370, pull the locking lever away from the socket to unhook it and then raise the locking lever to the upright position.
3. Identify the pin-1 corner on the Socket 370 and the pin-1 corner on the processor. The socket pin-1 corner is adjacent to the handle of the locking lever. The processor pin-1 corner is beveled.
4. Matching the pin-1 corners, drop the processor into the socket. No force is required and the processor should seat into the socket easily.
5. Swing the locking lever down and hook it under the latch on the edge of the socket. This locks the processor in place.
6. Locate the power cable on the heatsink/cooling fan assembly that is attached to the top of the processor.
7. Plug the power cable into the CPU cooling CPUFAN1 12V-power supply on the mainboard.



The mainboard must be configured to deliver the correct clock speed and the correct system bus for the kind of processor that you have installed. You can do this by using the BIOS Setup Utility. The first time you start the system, immediately enter the Setup Utility and make the appropriate settings. Usually, you can automatically configure the CPU by using the CPU & BIOS Features page of the Setup Utility. See Chapter 3 for more information.

Install the Memory Modules

For this mainboard, you must use 168-pin 3.3V non-buffered Dual In-line Memory Modules (DIMMs). The memory chips must be standard or registered SDRAM (Synchronous Dynamic Random Access Memory).

The memory bus can run at 66 MHz, 100 MHz, or 133 MHz. If your processor operates over a 133 MHz FSB (frontside bus), you can install PC133 or PC100 memory modules that operate over a 133 or 100 MHz bus. If your processor operates over a 100 MHz frontside bus, you can install memory modules that operate over a 133 MHz, 100 MHz, or 66 MHz bus. If your processor operates over a 66 MHz frontside bus, you can only install memory modules that operate at 66 or 100 MHz.

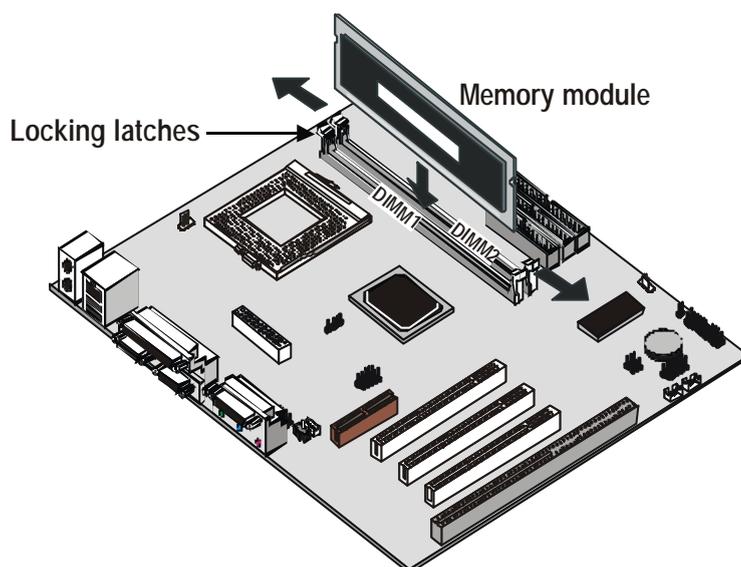
| DRAM Configuration | | 1 DIMM | | 2 DIMMs | |
|--------------------|---------|--------|--------|---------|---------|
| | | SS | DS | SS | DS |
| 64 Mbit | 8M x 8 | 64 MB | 128 MB | 128 MB | 256 MB |
| 64 Mbit | 4M x 16 | 32 MB | 64 MB | 64 MB | 128 MB |
| 128 Mbit | 16M x 8 | 128 MB | 256 MB | 256 MB | 512 MB |
| 128 Mbit | 32M x 4 | 256 MB | 512 MB | 512 MB | 1024 MB |

- Notes:**
- Single-sided DIMMs use one SDRAM row. (SS = Single-side)
 - Double-sided DIMMs use two SDRAM rows. (DS = Double-side)
 - This board supports a maximum of 512 MB

Installation Procedure

There are two slots for memory modules. You must install at least one module, and it makes no difference which slot you use to install the module. Each module can be installed with 32 MB to 512 MB of memory; total memory capacity is 1 GB.

1. Locate the DIMM slots on the mainboard.



2. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.
3. Push the latches on each side of the DIMM slot down.
4. Install the DIMM module into the slot and press it carefully but firmly down so that it seats correctly. The latches at either side of the slot will be levered upwards and latch on to the edges of the DIMM when it is installed correctly.

Installing a Hard Disk Drive and CD-ROM

This section describes how to install IDE devices such as a hard disk drive and a CD-ROM drive.

Note: *Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed, make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked. The pin-1 side of each ribbon cable is always marked with a colored stripe on the cable.*

About IDE Devices

Your mainboard has a primary IDE channel interface (IDE1) and a secondary IDE interface (IDE2). The mainboard ships with one IDE ribbon cable that supports one or two IDE devices. All IDE devices have jumpers or switches that can be used to set the IDE device as MASTER or SLAVE.

If you install two IDE devices on one cable, you must make sure that one device is set to MASTER and the other device is set to SLAVE. The documentation of your IDE device explains how to do this.

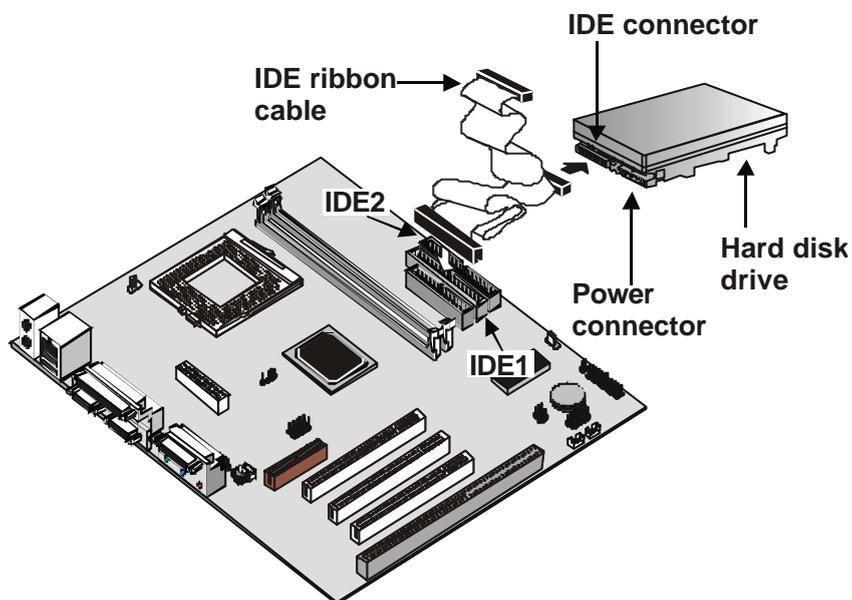
If you want to install more than two IDE devices, obtain a second IDE cable and you can add two more devices to the secondary IDE channel. If there are two devices on the cable, make one MASTER and one SLAVE.

About UDMA

This board supports UltraDMA 33/66 IDE interfaces. UDMA is a technology that accelerates the performance of devices in the IDE channel. We recommend that you install IDE devices that support UDMA, and use IDE cables that support UDMA.

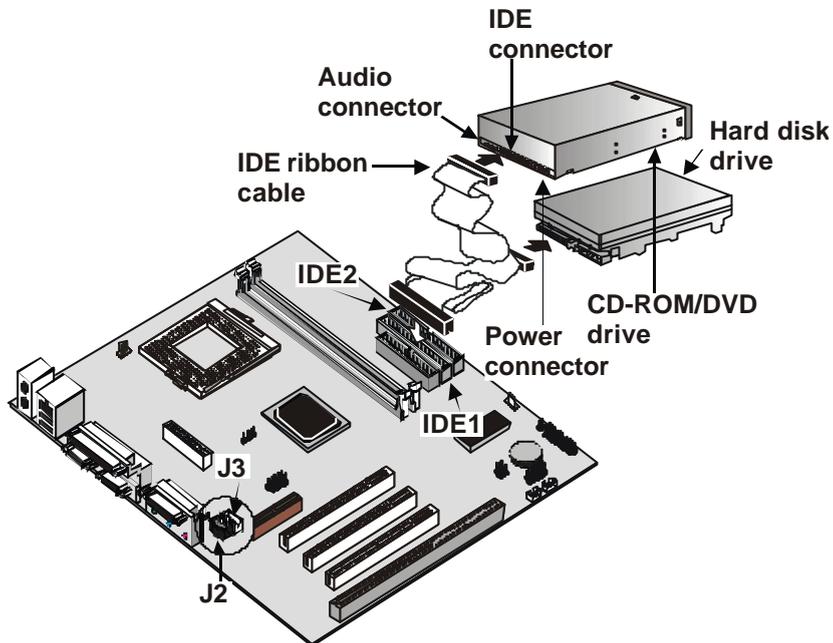
Installing a Hard Disk Drive

1. Install the hard disk drive into the drive cage in your system case.
2. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.
3. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the hard disk drive. It doesn't matter which connector on the cable you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
4. Plug a power cable from the case power supply unit into the power connector on the back edge of the hard disk drive.
5. When you first start up your system, go immediately to the Setup Utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.



Installing a CD-ROM/DVD Drive

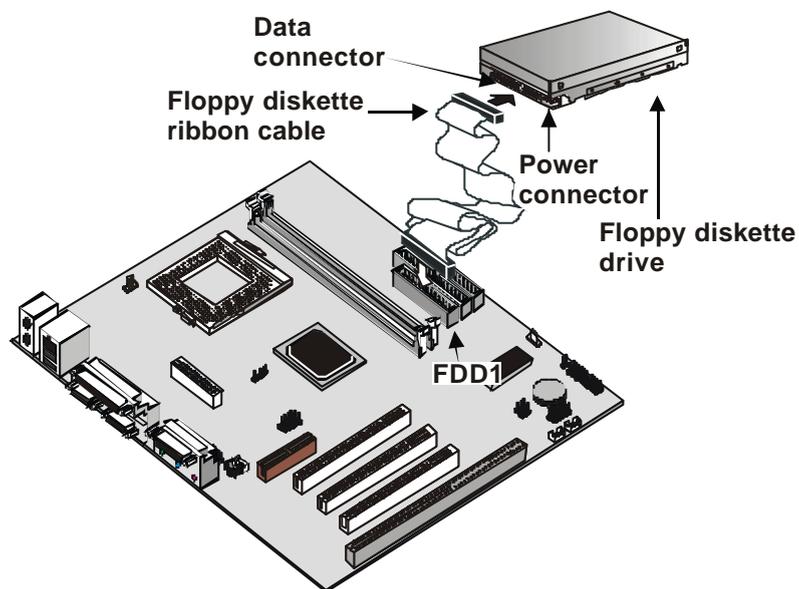
1. Install the CD-ROM/DVD drive into the drive cage in your system case. Plug the IDE cable into the primary IDE channel on the mainboard IDE1.
2. Plug one of the connectors on the IDE cable into the IDE connector on the back edge of the CD-ROM/DVD drive. It doesn't matter which connector on the cable that you use. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
3. Plug a power cable from the case power supply unit into the power connector on the back edge of the CD-ROM/DVD drive.
4. Use the audio cable provided with the CD-ROM/DVD drive to connect the audio connector on the rear edge of the CD-ROM/DVD drive to the one of the two audio-in connectors J2 and J3 on the mainboard.
5. When you first start up your system, go immediately to the Setup Utility and use the IDE Hard Disk Auto Detect feature to configure the IDE devices that you have installed. See Chapter 3 for more information.



Installing a Floppy Diskette Drive

The mainboard has a floppy diskette drive interface and it ships with a diskette drive ribbon cable that supports one or two floppy diskette drives. You can install a 5.25-inch drive and a 3.5-inch drive with various capacities. The floppy diskette drive cable has one type of connector for a 5.25-inch drive and another type of connector for a 3.5-inch drive

1. Install the floppy diskette drive into the drive cage in your system case. Plug the diskette drive cable into the diskette drive interface on the mainboard FDD1.
2. Plug one of the connectors on the diskette drive cable into the data connector on the back edge of the floppy diskette drive. Make sure that you have the pin-1 side of the cable matched with the pin-1 side of the connector.
3. Plug a power cable from the case power supply unit into the power connector on the back edge of the diskette drive.
4. When you first start up your system, go immediately to the Setup Utility and use the Standard page to configure the floppy diskette drives that you have installed. See Chapter 3 for more information.



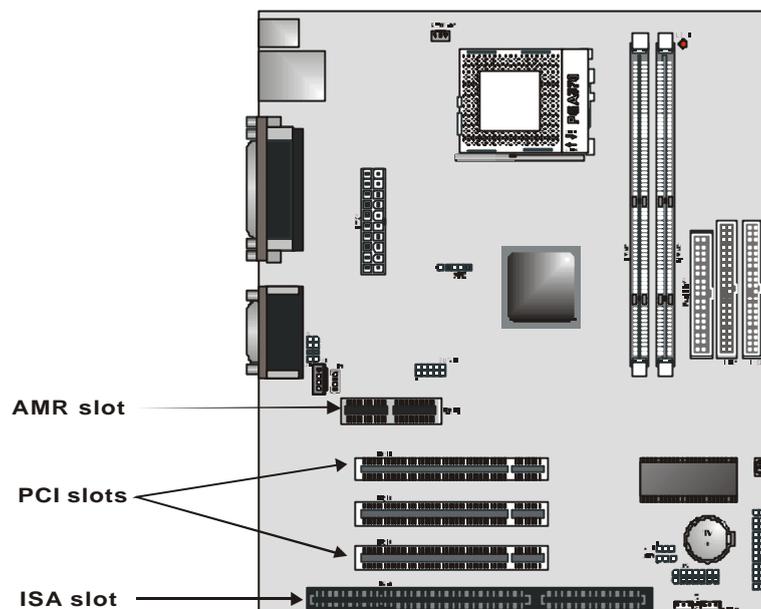
Using the Expansion Slots

This mainboard has three 32-bit PCI expansion slots, one AMR slot, and one 8/16-bit ISA slot.

AMR: The AMR slot can be used to install an Audio Modem Riser expansion card.

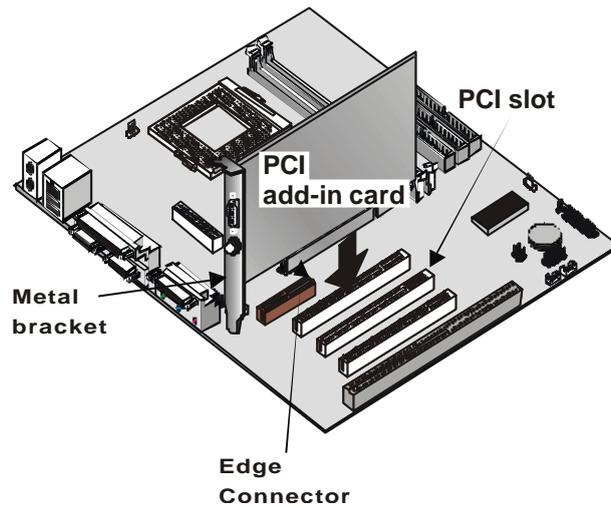
PCI Slots: The PCI slots can be used to install expansion cards that have the 32-bit (Peripheral Components Interconnect) PCI interface.

ISA: The ISA slot can be used to install an 8/16-bit legacy expansion card.



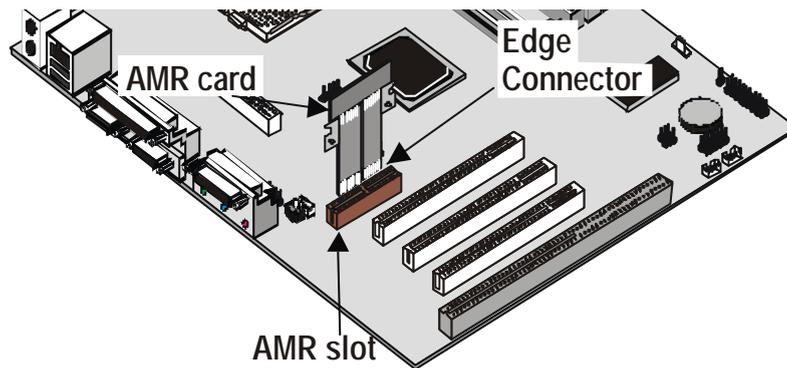
1. Before installing an add-in card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.
2. Remove the blanking plate from the slot in the system case that corresponds to the expansion slot that you are going to use.

3. Install the edge connector of the add-in card into the expansion slot. Press down quite firmly to ensure that the edge connector is correctly seated in the slot.

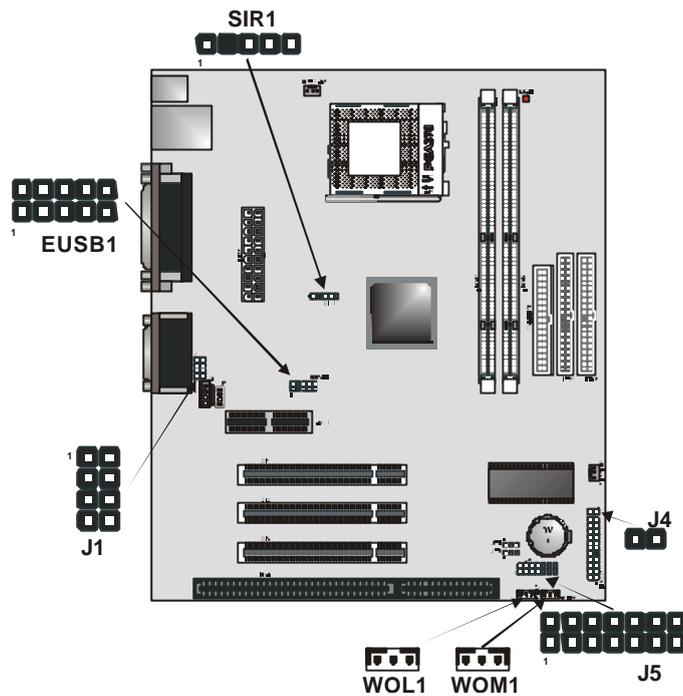


4. Secure the metal bracket of the card in the empty slot in the system case with a screw.
5. For some add-in cards, for example graphics adapters and network adapters, you have to install drivers and software before you can begin using the add-in card.

The following illustration shows how to insert an AMR card:



Other Options



SIR1: Standard serial infrared port connector

This mainboard supports a standard Serial Infrared (SIR) data port. Infrared ports allow the wireless exchange of information between your computer and similarly equipped devices such as printers, laptops, Personal Digital Assistants (PDA), and other desktop computers.

EUSB1: Universal Serial Bus port 3, 4 connector

This mainboard has PS/2 and USB ports installed on the rear edge I/O port array. However, some computer cases have a special module that mounts USB ports on the front side of the case. If you have this kind of case, you can use the auxiliary USB connector EUSB1 to connect the front-mounted ports to the mainboard. You can use both the front and rear-mounted USB ports at the same time.

J1: Extra MIC/line-out header

This header allows the user to install auxiliary front-oriented microphone and line-out ports for easier access.

J4: Dual color LED header

This header allows the user to install red and green LED indicators to indicate when the computer is in Suspend to RAM (STR) or normal. Although the values are not predefined, red usually indicates STR and green indicates normal.

WOL1: Wake On LAN

If you have installed a network adapter (LAN adapter), you can use the cable provided with the card to plug into the WOL connector on the mainboard. This is the Wake On LAN feature. When your system is in a power-saving mode, any traffic through the network automatically resumes the system. You must enable this item using the Power Management page of the Setup Utility. See Chapter 3 for more information.

WOM1: Wake On Modem connector

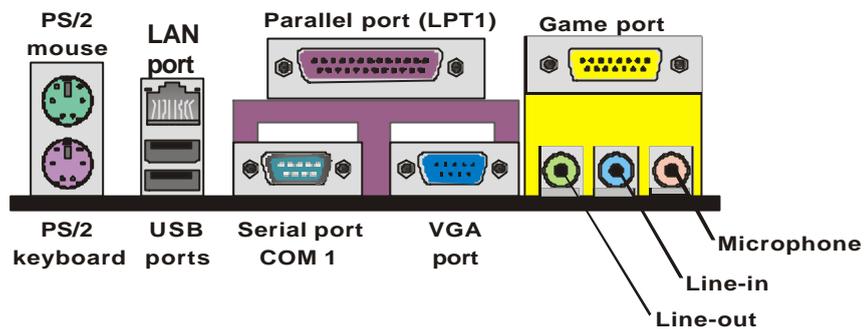
If you have installed a modem, you can use the cable provided with the modem to plug into the WOM1 connector on the mainboard. This is the Wake On Modem (WOM) feature. When your system is in a power-saving mode, any modem signal automatically resumes the system. You must enable this item using the Power Management page of the Setup Utility. See Chapter 3 for more information.

J5: Smart Card Reader header

This header allows the user to attach a Smart Card Reader to read data from a Smart Card.

Making External Connections

After you have installed the mainboard, make the connections to the external ports.



1. The mainboard has a stack of two PS/2 mini-DIN ports. The upper port can be used by a PS/2 mouse or pointing device. The lower port can be used by a PS/2 keyboard.
2. Connect your computer to the Local Area Network using the LAN port.
3. Use the USB ports to connect to USB devices.
4. LPT1 is a parallel port that can be used by printers or other parallel communications devices. The system identifies the parallel port as LPT1.
5. COM1 is a serial port that can be used by serial devices such as mice or fax/modems. COM1 is identified by the system as COM1/3.
6. VGA is used to connect an external monitor.
7. You can use the game port to connect a joystick or a MIDI device to your system.
8. Three audio ports are provided. The left side jack is for a stereo line-out signal. The middle jack is for a stereo line-in signal. The right side jack is for a microphone.

External Connector Color Coding

To help identify the external connectors, many connectors now use standard colors as shown in the table below.

| Connector | Color |
|---------------------------------|-------------------|
| Analog VGA | Blue |
| Audio line in | Light blue |
| Audio line out | Lime |
| Digital monitor / flat panel | White |
| IEEE 1394 | Grey |
| Microphone | Pink |
| MIDI/Game | Gold |
| Parallel | Burgundy |
| PS/2 compatible keyboard | Purple |
| PS/2 compatible mouse | Green |
| Serial | Teal or Turquoise |
| Speaker out/subwoofer | Orange |
| Right-to-left speaker | Brown |
| USB | Black |
| Video out | Yellow |
| SCSI, network, telephone, modem | None |

Chapter 3: Setup

About the Setup Utility

The computer employs the latest Award BIOS CMOS chip with support for Windows Plug and Play. This CMOS chip contains the ROM setup instructions for configuring the mainboard's BIOS. The BIOS (Basic Input and Output System) Setup Utility is a ROM-based configuration utility that displays the system's configuration status and provides you with a tool to set system parameters. These parameters are stored in non-volatile battery-backed-up CMOS RAM that saves this information even when the power is turned off. When the system is turned back on, the system is configured with the values found in CMOS.

Using easy-to-use pull down menus, you can configure such items as:

- Hard drives, diskette drives, and peripherals
- Video display type and display options
- Password protection from unauthorized use
- Power management features

The settings made in the Setup Utility intimately affect how the computer performs. It is important, therefore, first to try to understand all the Setup Utility's options, and second, to make settings appropriate for the way you use the computer. This chapter guides you through the Setup Utility by providing clear explanations for all Setup Utility options.

A standard configuration has already been set in the Setup Utility, so you will very likely have little to worry about for now. However, we recommend that you read this chapter just in case you need to make any changes in the future.

This program should be executed under the following conditions:

- When changing the system configuration
- When a configuration error is detected by the system and you are prompted to make changes to the Setup Utility
- When resetting the system clock
- When redefining the communication ports to prevent any conflicts
- When making changes to the Power Management configuration
- When changing the password or making other changes to the security setup

Normally, running the Setup Utility is needed when the system hardware is not consistent with the information contained in the CMOS RAM, whenever the CMOS RAM has lost power, or the system features need to be changed.

Entering the Setup Utility

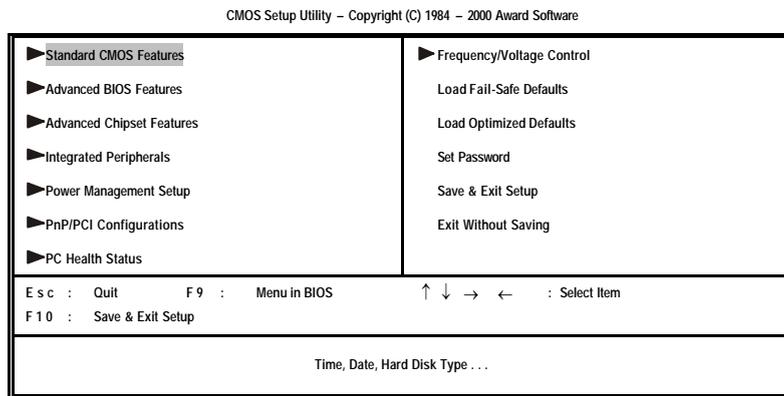
When the system is powered on, the BIOS will enter the Power-On Self Test (POST) routines. These routines perform various diagnostic checks; if an error is encountered, the error will be reported in one of two different ways:

1. If the error occurs before the display device is initialized, a series of beeps will be transmitted.
2. If the error occurs after the display device is initialized, the screen will display an error message.

After the POST routines are completed, the following message appears:

Press DEL to enter SETUP

To access the Award BIOS Setup Utility, press the delete key to display the “CMOS Setup Utility” screen:



This screen provides access to the utility's various functions.

BIOS Navigation Keys

Listed below are explanations of the keys displayed at the bottom of the screens:

| Key | Function |
|-----------|--|
| Esc | Escape key: Exits the current menu |
| ← ↓ ↑ → | Cursor keys: Scroll through the items on a menu |
| +/-/PU/PD | Plus, minus, Page Up and Page Down keys: Modify the selected field's values |
| F10 | F10 key: Saves the current configuration and exits setup |
| F1 | F1 key: Displays a screen that explains all key functions |
| F5 | F5 key: Loads previously saved values to CMOS |
| F6 | F6 key: Loads a minimum configuration for troubleshooting. |
| F7 | F7 key: Loads an optimum set of values for peak performance |

Using BIOS

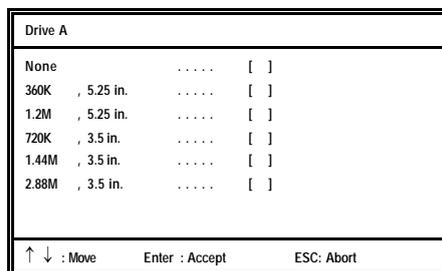
When you start the Setup Utility, the main menu appears. The main menu of the Setup Utility shows a list of the options that are available. A highlight indicates which option is currently selected. You can use the cursor arrow keys to move the highlight to other options. When an option is highlighted, you can execute the option by pressing the enter key.

Some options lead to pop-up dialog boxes that may ask you to verify that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no. Some options may lead to more dialog boxes that ask for more information. Setting passwords have this kind of dialog box.



Enter Password:

Selecting some fields and pressing the enter key displays a list of options for that field. In the Standard CMOS Features screen, selecting "Drive A" and pressing <Enter> displays this screen:



| Drive A | | |
|-----------------|-------|-----|
| None | | [] |
| 360K , 5.25 in. | | [] |
| 1.2M , 5.25 in. | | [] |
| 720K , 3.5 in. | | [] |
| 1.44M , 3.5 in. | | [] |
| 2.88M , 3.5 in. | | [] |

↑ ↓ : Move Enter : Accept ESC: Abort

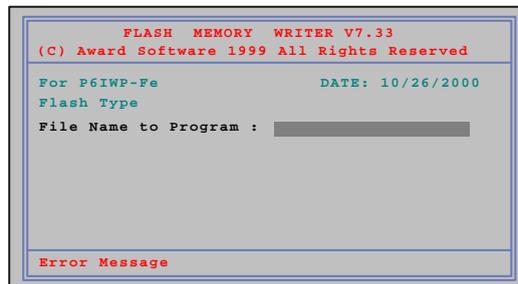
Select the setting you want with the cursor keys. Press <Enter> to select, or <ESC> to discard changes and return to the previous menu. Alternatively, you can select a field and press the minus, plus, Page Up or Page Down keys to scroll through the options for that field.

Some options (marked with a triangle ►) lead to submenus that enable you to change the values for the option. Use the cursor arrow keys to scroll through the items in the submenu.

How to Flash a New BIOS

You can install updated BIOS for this mainboard that you can download from the manufacturer's web site. New BIOS may provide support for new peripherals, improvements in performance or fixes for known bugs. Install new BIOS as follows:

1. Some mainboards have a Flash BIOS jumper that protects the current BIOS from being changed or overwritten. If your mainboard has this jumper, change the setting to allow BIOS flashing.
2. Some Setup Utilities have an item called Firmware Write Protect that prevents the BIOS from being overwritten. If your BIOS has this item (check the Advanced BIOS Features Setup page) disable it for the present.
3. Your computer must be running in a real-mode DOS environment, not the DOS window of Windows NT or Windows 95/98. We recommend that you create a new formatted DOS system floppy diskette.
4. Download the Flash Utility and new BIOS file from the manufacturer's Web site. Copy these files to a system diskette.
5. Turn off your computer and insert the system diskette in your computer's diskette drive.
6. You might need to run the Setup Utility and change the boot priority items on the Advanced BIOS Features Setup page, to force your computer to boot from the floppy diskette drive first.
7. At the A:\ prompt, after your computer has booted to DOS from the diskette, run the Flash Utility and press <Enter>. You see a screen similar to the following.



8. In the "File Name to Program" dialog box, type in the file-name of the new BIOS and follow the onscreen directions to flash the new BIOS to the mainboard.
9. When the installation is complete, remove the floppy diskette from the diskette drive and restart your computer. If your mainboard has a Flash BIOS jumper, reset the jumper to protect the newly installed BIOS from being overwritten.

Standard CMOS Setup Option

This option displays a table of items defining basic information about your system.

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Standard CMOS Features

| | | |
|------------------------|-------------------|---|
| Date (mm:dd:yy) | Tue, Dec 15 20000 | Item Help |
| Time (hh:mm:ss) | 12 : 8 : 59 | |
| ▶ IDE Primary Master | None | Menu Level ▶ |
| ▶ IDE Primary Slave | None | Change the day, month, year and century. |
| ▶ IDE Secondary Master | None | |
| ▶ IDE Secondary Slave | None | |
| Drive A | 1.44M, 3.5 in. | |
| Drive B | None | |
| Floppy 3 mode Support | Disabled | |
| Video | EGA/VGA | |
| Halt On | All Errors | |
| Base Memory | 640K | |
| Extended Memory | 63488 | |
| Total Memory | 64512K | |

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

Date and Time

The Date and Time items show the current date and time held by your computer. If you are running a Windows OS, these items are automatically updated whenever you make changes to the Windows Date and Time Properties utility.

▶ IDE Devices

Default: None

Your computer has two IDE channels (Primary and Secondary) and each channel can be installed with one or two devices (Master and Slave). Use these items to configure each device on the IDE channel. Press <Enter> to display the IDE sub-menu:

| | | |
|------------------------|-------------|---|
| IDE HDD Auto-Detection | Press Enter | Item Help |
| IDE Primary Master | Auto | Menu Level ▶▶ |
| Access Mode | Auto | To auto-detect the HDD's size, head . . . on this channel |
| Capacity | 8448 MB | |
| Cylinder | 16368 | |
| Head | 16 | |
| Precomp | 0 | |
| Landing Zone | 16367 | |
| Sector | 63 | |

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

IDE HDD Auto-Detection

Press <Enter> while this item is highlighted if you want the Setup Utility to automatically detect and configure a hard disk drive on the IDE channel.

Note: If you are setting up a new hard disk drive that supports LBA mode, more than one line will appear in the parameter box. Choose the line that lists LBA for an LBA drive.

IDE Primary/Secondary Master/Slave

If you leave this item at Auto, the system will automatically detect and configure any IDE devices it finds. If it fails to find a hard disk, change the value to Manual and then manually configure the drive by entering the characteristics of the drive in the items below (Capacity, Cylinder, Head, Precomp, etc.) Refer to your drive's documentation or look on the drive if you need to obtain this information. If no device is installed, change the value to None.

Note: Before attempting to configure a hard disk drive, make sure you have the configuration information supplied by the manufacturer of your hard drive. Incorrect settings can result in your system not recognizing the installed hard disk.

Access Mode

This item defines some special ways that can be used to access IDE hard disks such as LBA (Large Block Addressing). Leave this value at Auto and the system will automatically decide the fastest way to access the hard disk drive.

Press <Esc> to close the IDE device sub-menu and return to the Standard CMOS Features page.

Drive A and Drive B **Default: 1.44M, 3.5 in., None**

These items define the characteristics of any diskette drive attached to the system. You can connect one or two diskette drives.

Floppy 3 Mode Support **Default: Disabled**

Floppy 3 mode refers to a 3.5-inch diskette with a capacity of 1.2 MB. Floppy 3 mode is sometimes used in Japan.

Video **Default: EGA/VGA**

This item defines the video mode of the system. This mainboard has a built-in VGA graphics system; you must leave this item at the default value.

Halt On **Default: All Errors**

This item defines the operation of the system POST (Power On Self Test) routine. You can use this item to select which types of errors in the POST are sufficient to halt the system.

Base Memory, Extended Memory, and Total Memory

These items are automatically detected by the system at start up time. These are display-only fields. You cannot make changes to these fields.

Advanced BIOS Setup Option

This option displays a table of items that define advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system. Use the arrow keys to scroll down to the items past "Boot to OS/2."

CMOS Setup Utility - Copyright (C) 1984 - 2000 Award Software
Advanced BIOS Features

| | | | |
|------------------------------|----------|--|-------------------------|
| Anti-Virus Protection | Disabled |  | Item Help |
| CPU Internal Cache | Enabled | | Menu Level ▶ |
| External Cache | Enabled | | Allows you to choose |
| CPU L2 Cache ECC Checking | Enabled | | the VIRUS warning |
| Processor Number Feature | Enabled | | feature for IDE Hard |
| Quick Power On Self Test | Enabled | | Disk boot sector |
| First Boot Device | Floppy | | protection. If this |
| Second Boot Device | HDD0 | | function is enabled |
| Third Boot Device | LS120 | | and someone attempts |
| Boot Other Device | Enabled | | to write data into this |
| Swap Floppy Drive | Disabled | | area, BIOS will show a |
| Boot Up Floppy Seek | Enabled | | warning message on |
| Boot Up NumLock Status | On | | screen and alarm beep |
| Gate A20 Option | Fast | | |
| Typematic Rate Setting | Disabled | | |
| x Typematic Rate (Chars/Sec) | 6 | | |
| x Typematic Delay (Msec) | 250 | | |
| Security Option | Setup | | |
| OS Select For DRAM > 64MB | Non-OS2 | | |

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

Anti-Virus Protection

Default: Disabled

When this item is enabled, it provides some protection against viruses that try to write to the boot sector and partition table of your hard disk drive. This item is Disabled by default. You need to disable it so that you can install an operating system. We recommend that you enable virus warning protection as soon as you have installed your disk with an OS.

CPU Internal Cache CPU Internal Cache

Default: Enabled

All the processors that can be installed in this mainboard use internal level 1 (L1) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

| | |
|---|-------------------------------------|
| External Cache | Default: Enabled |
| Most processors that can be installed in this system use external level 2 (L2) cache memory to improve performance. | |
| CPU L2 Cache ECC Checking | Default: Enabled |
| This item enables or disables ECC (Error Correction Code) error checking on the CPU cache memory. We recommend that you leave this item at the default value. | |
| Processor Number Feature | Default: Enabled |
| Some new processors are installed with a unique processor number. This number may be used for verification in Internet transactions and e-commerce. If you prefer not to use or distribute the unique processor number, set this item to Disabled to suppress the processor number. | |
| Quick Power On Self Test | Default: Enabled |
| You can enable this item to shorten the power on testing (POST) and have your system start up a little faster. You might like to enable this item after you are confident that your system hardware is operating smoothly. | |
| 1st/2nd/3rd Boot Device | Default: Floppy/HDD-0/LS/ZIP |
| Use these three items to select the priority and order of the devices that your system searches for an operating system at start-up time. | |
| Boot Other Device | Default: Enabled |
| If you enable this item, the system will search all other possible locations for an operating system if it fails to find one in the devices specified under the first, second and third boot devices. | |
| Swap Floppy Drive | Default: Disabled |
| If you have two floppy diskette drives in your system, this item allows you to swap the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A. | |
| Boot Up Floppy Seek | Default: Enabled |
| If this item is enabled, it checks the geometry of the floppy disk drives at start-up time. You don't need to enable this item unless you have a legacy diskette drive with 360K capacity. | |

Boot Up NumLock Status **Default: On**

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

Gate A20 Option **Default: Fast**

This item defines how the system handles legacy software that was written for an earlier generation of processors. Leave this item at the default value.

Typematic Rate Setting **Default: Disabled**

If this item is enabled, you can use the following two items to set the typematic rate and the typematic delay settings for your keyboard.

Typematic Rate (Chars/Sec) **Default: 6**

If Typematic Rate Setting is enabled, you can use this item to define how many characters per second are generated by a held-down key.

Typematic Delay (Msec) **Default: 250**

If Typematic Rate Setting is enabled, you can use this item to define how many milliseconds must elapse before a held-down key begins generating repeat characters.

Security Option **Default: Setup**

If you have installed password protection, this item defines if the password is required at system start up, or if it is only required when a user tries to enter the Setup Utility.

OS Select For DRAM > 64 MB **Default: Non-OS2**

This item is only required if you have installed more than 64 MB of memory and you are running the OS/2 operating system. Otherwise, leave this item at the default Non-OS2.

Report No FDD For WIN95 **Default: Yes**

If you are running a system with no floppy drive and using Windows 95, select Yes for this item to ensure compatibility with the Windows 95 logo certification. Otherwise, select No.

Video BIOS Shadow **Default: Enabled**

When enabled, copies the VGA BIOS into system DRAM for better performance.

Advanced Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the memory, and the system logic. Generally, you should leave the items on this page at their default values unless you are very familiar with the technical specifications of your system hardware. If you change the values incorrectly, you may introduce fatal errors or recurring instability into your system.

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Advanced Chipset Features

| | | | |
|--------------------------|------------------|--|--------------|
| Auto Configuration | Auto | | Item Help |
| SDRAM RAS Active Time | 6T | | |
| SDRAM RAS Precharg Time | 3T | | |
| RAS to CAS Delay | 3T | | Menu Level ▶ |
| Dram Background Command | Delay 1T | | |
| LD-Off Dram RDWR Cycles | Delay 1T | | |
| Write Recovery Time | 1T | | |
| VCM REF To ACT/REF Delay | 9T | | |
| VCM ACCT – ACT/REF Delay | 8T | | |
| Early CKE Delay 1T Cntrl | Normal | | |
| Early CKE Delay Adjust | 1ns | | |
| Mem Command Output Timer | Delay 1T | | |
| SDRAMVCM CAS Latency | 3T | | |
| SDRCLK Control | Default: +2.0 ns | | |
| SDRCLK Control CS#/CKE | Default: +2.0 ns | | |
| SDRCLK Control MA/SRAS | Default: +2.0 ns | | |
| SDRCLK Control DQM/MD | Default: +2.0 ns | | |
| EGMRCLK Control | Default: +1.5 ns | | |
| EGMWCLK Control | Default: +2.5 ns | | |

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

Auto Configuration

Default: Auto

Auto Configuration installs preset default values for some of the timing parameters for RAM memory. We recommend that you leave these items at the default value Auto.

| | |
|---------------------------------|--------------------------|
| SDRAM RAS Active Time | Default: 6T |
| SDRAM RAS Precharge Time | Default: 3T |
| RAS-to-CAS Delay | Default: 3T |
| DRAM Background Command | Default: Delay 1T |
| LD-Off DRAM RD/WR Cycles | Default: Delay 1T |
| Write Recovery Time | Default: 1T |
| VCM REF To ACT/REF Delay | Default: 9T |
| VCM ACCT – ACT/REF Delay | Default: 8T |
| Early CKE Delay 1T Cntrl | Default: Normal |
| Early CKE Delay Adjust | Default: 1ns |
| Mem Command Output Time | Default: Delay 1T |
| SDRAM/VCM CAS Latency | Default: 3T |

These items set the timing and wait states for SDRAM memory. We recommend that you leave these items at the default value.

| | |
|-------------------------------|-------------------------|
| SDRCLK Control | Default: +2.0 ns |
| SDRCLK Control CS#/CKE | Default: +2.0 ns |
| SDRCLK Control MA/SRAS | Default: +2.0 ns |
| SDRCLK Control DQM/MD | Default: +2.0 ns |
| EGMRCLK Control | Default: +1.5 ns |
| EGMWCLK Control | Default: +2.5 ns |

These items set timing parameters for the CPU access. We recommend that you leave these items at the default value.

| | |
|------------------------------|-------------------------|
| System BIOS Cacheable | Default: Enabled |
| Video BIOS Cacheable | Default: Enabled |

These items allow the video and/or system to be cached in memory for faster execution. We recommend that you leave these items at the default value.

| | |
|-------------------------------|--------------------------|
| Memory Hole at 15M-16M | Default: Disabled |
|-------------------------------|--------------------------|

This item can be used to reserve memory space for some ISA expansion cards that require it.

| | |
|--------------------------|----------------------|
| AGP Aperture Size | Default: 64MB |
|--------------------------|----------------------|

This item defines the size of the aperture if you use an AGP graphics adapter. It refers to a section of the PCI memory address range used for graphics memory.

| | |
|---------------------------------|-------------------------|
| Graphic Window WR Combin | Default: Enabled |
|---------------------------------|-------------------------|

Use this item to enable or disable CPU support for WR Combin feature.

| | |
|---------------------------------|-------------------------|
| Concurrent Function(MEM) | Default: Enabled |
| Concurrent Function(PCI) | Default: Enabled |

Use these items to enable or disable concurrent memory/PCI and CPU action.

| | |
|-----------------------------|-------------------------|
| CPU Pipeline Control | Default: Enabled |
|-----------------------------|-------------------------|

This item sets a timing parameter for CPU access. Since the CPU timing is determined by the system hardware, you can set this item to Disabled.

| | |
|------------------------------|-------------------------|
| PCI Delay Transaction | Default: Enabled |
|------------------------------|-------------------------|

If the chipset has an embedded 32-bit write buffer to support delay transaction cycles, you can enable this item to provide compliance with PCI Ver. 2.1 specifications. We recommend that you leave this item at the default value.

Integrated Peripherals Option

This option displays a list of items that defines the operation of some peripheral components on the system's input/output ports.

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Integrated Peripherals

| | | | |
|--------------------------|----------|-------------|--|
| Internal PCI/IDE | | Both | |
| IDE Primary Master | PIO | Auto | |
| IDE Primary Slave | PIO | Auto | |
| IDE Secondary Master | PIO | Auto | |
| IDE Secondary Slave | PIO | Auto | |
| Primary Master | UltraDMA | Auto | |
| Primary Slave | UltraDMA | Auto | |
| Secondary Master | UltraDMA | Auto | |
| Secondary Slave | UltraDMA | Auto | |
| IDE Burst Mode | | Enabled | |
| SIS-7018 AC97 Audio | | Auto | |
| SIS-7013 S/W Modem | | Auto | |
| SIS900 MAC Address Input | | Press Enter | |
| USB Controller | | Enabled | |
| USB Keyboard Support | | Disabled | |
| Onboard LAN | | Enabled | |
| Onboard HDD Block Mode | | Enabled | |
| Onboard FDD Controller | | Enabled | |
| Onboard Serial Port 1 | | 3F8/IRQ4 | |

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

Internal PCI/IDE

Default: Both

Use this item to enable or disable the PCI IDE channels that are integrated on this mainboard.

IDE Primary/Secondary Master/Slave PIO

Default: Auto

Each IDE channel supports a master device and a slave device. These four items let you assign which kind of PIO (Programmed Input/Output) is used by IDE devices. You can choose Auto, to let the system auto detect which PIO mode is best, or you can install a PIO mode from 0-4.

IDE Primary/Secondary Master/Slave UDMA

Default: Auto

Each IDE channel supports a master device and a slave device. This mainboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices.

If you install a device that supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this mainboard in order to use an UltraDMA device.

IDE Burst Mode **Default: Enabled**

When set to "Enabled," every write transaction goes to the write buffer. "Burstable" transactions then burst on the PCI bus and "nonburstable" transaction do not. The options are "Enabled," and "Disabled."

SiS-7018 AC97 Audio **Default: Auto**
SiS-7013 S/W Modem **Default: Auto**

Configures the onboard SiS AC 97 audio codec and S/W modem function. We recommend that you leave this at the default value.

SiS900 MAC Address Input **Default: Press Enter**

Use this item to key in the MAC address, also called LAN ID address, of the network adapter when necessary. Locate a MAC address labeled EA on the parallel port. Note that the MAC address is unique for this board, any default ID will not work.

Note: This version of the P6STM motherboard (with 630E chipset) features a built-in LAN function. Normally, the network adapter has its own MAC (a.k.a. LAN ID) address to identify the IP address of the hardware network adapter. The MAC address of the network adapter may be reset when Flashing a new BIOS after clearing the CMOS memory, or when clearing the CMOS memory right after flashing the BIOS. When this happens, and the MAC address has been reset, use the following steps to configure a new MAC address.

1. Go to the BIOS setup screen.
2. Select "Integrated Peripherals Options."
3. Select "SiS900 MAC Address Input." (Please refer to page 50)
4. Locate "MAC Address" labeled "EA" on the parallel port.
5. Enter the "MAC Address"
6. Press F10 to save the change.
7. Reboot your system.

Please make sure when Flashing the BIOS to add the parameter "/cd". This way, you can prevent the MAC address to be reset.

Example: Driver - \AWD763.exe xxxx.bin/cd [Enter]

USB controller **Default: Enabled**

This item enables the onboard USB controller, so you can connect USB devices to the standard two USB ports on the board.

USB Keyboard Support **Default: Disabled**

This item enables the use of a USB keyboard.

Onboard LAN **Default: Enabled**

This item enables the integrated Ethernet capabilities. Your mainboard might have an optional integrated PCI LAN (network adapter), use this item to enable or disable it.

IDE HDD Block Mode **Default: Enabled**

Enable this field if your IDE hard drive supports block mode. Block mode enables BIOS to automatically detect the optimal number of block read and writes per sector that the drive can support and can improve the speed of access to IDE devices.

Onboard FDD Controller **Default: Enabled**

This option enables the onboard floppy disk drive controller.

Onboard Serial Port 1 **Default: 3F8/IRQ4**

This item lets you disable the built-in serial port 1, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Onboard Serial Port 2 **Default: Disable**

This item lets you disable the built-in serial port 2, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

UART Mode Select **Default: IrDA**
UR2 Duplex Mode **default Half**

This item defines the operation of serial port 2. In the Normal setting, serial port 2 is assigned to the external COM2 connector. If you have installed an optional infrared port, you must change the setting of this item to one of the Infrared settings (usually IrDA or FIR). These settings will disable the external COM2 serial port connector and assign the resources to the infrared device.

If you have selected an IR mode, use the following item *UR2 Duplex Mode* to define if the IR port is full duplex or half duplex.

Onboard Parallel Port **Default: 3F8/IRQ7**

This item lets you disable the built-in parallel port, or enable it by assigning an I/O address and an Interrupt Request Line (IRQ).

Parallel Port Mode **Default: ECP**
ECP Mode Use DMA **Default: 3**

This item defines the operation of the parallel port. As a default, it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you have changed the parallel port to ECP mode, use the following item *ECP Mode Use DMA* to assign a DMA channel to the port.

Game Port **Default: 201**

Enables you to set the game port address.

MIDI Port Address **Default: 330**
MIDI Port IRQ **Default: 10**

Enables you to set the MIDI port address and IRQ.

Init Display First **Default: PCI Slot**

Use this item to define if your graphics adapter is installed in one of the PCI slots or select Onboard if you have a graphics system integrated on the mainboard.

System Share Memory Size **Default: 8 MB**

This item defines the amount of system memory that will be shared and uses as video memory.

Extended Graphics Memory

This item displays the size of the extended A-DIMM memory used by the Video system for frame buffering.

Power Management Setup Option

This option displays items that let you control the system power management. Modern operating systems take care of much of the power management. This mainboard supports ACPI (Advanced Configuration and Power Interface). The system has various power saving modes including powering down the hard disk, turning off the video, suspending to RAM, and a software power down that allows the system to be automatically resumed by certain events.

Power Management Timeouts

The power-saving modes can be controlled by timeouts. If the system is inactive for a time, the timeouts begin counting. If the inactivity continues so that the timeout period elapses, the system enters a power-saving mode. If any item in the list of Reload Global Timer Events is Enabled, then any activity on that item will reset the timeout counters to zero.

Wake Up Calls

If the system is suspended, or has been powered down by software, it can be resumed by a wake up call that is generated by incoming traffic to a modem, a LAN card, a PCI card, or a fixed alarm on the system realtime clock,

| | | |
|--------------------------|-----------------|--------------|
| ACPI Suspend Type | S1(POS) | Item Help |
| Video Off Option | Suspend --> Off | |
| Video Off Method | DPMS Support | Menu Level ▶ |
| Switch Function | Break/Wake | |
| MODEM Use IRQ | 3 | |
| Hot Key Function As | Disable | |
| HDD Off After | Disable | |
| IRQ [3-7, 915], NMI | Enabled | |
| IRQ 8 Break Suspend | Disabled | |
| Power Button Override | Instant-Off | |
| RING/WOL/WOM WakeUpPwrOn | Disable | |
| PCI PME WakeUpPwrOn | Disabled | |
| KB Power ON Password | Enter | |
| Power Up by Alarm | Disabled | |
| x Month Alarm | NA | |
| x Day of Month Alarm | 0 | |
| x Time (hh:mm:ss) Alarm | 0 0 0 | |

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

ACPI Suspend Type **Default: S1 (POS)**

Use this item to define how your system suspends. In the default, S1(POS), the suspend mode is equivalent to a software power down. If you select S3 (STR), the suspend mode is a suspend to RAM – the system shuts down with the exception of a refresh current to the system memory.

Video Off Option **Default: Suspend --> Off**

This option defines if the video is powered down when the system is put into suspend mode.

Video Off Method **Default: DPMS Support**

This item defines how the video is powered down to save power. This item is set to DPMS (Display Power Management Software) by default.

Switch Function **Default: Break/Wake**

This item defines if pressing the power switch will cause the system to wake up from suspend or standby mode.

MODEM Use IRQ **Default: 3**

If you want an incoming call on a modem to automatically resume the system from a power-saving mode, use this item to specify the interrupt request line (IRQ) that is used by the modem.

You might have to connect the fax/modem to the mainboard Wake On Modem connector for this feature to work.

Hot Key Function As **Default: Disable**

This item defines the function of an auxiliary power hot key on the system keyboard. Your keyboard must feature such a hot key for this function to work. When enabled, It can be set to power off or suspend the system.

HDD Off After **Default: Disable**

You can set this item to a selection of timeouts from 1 to 15 minutes. The hard disk drive will power down if the selected timeout passes without any activity on the hard disk.

IRQ [3-7,9-15], NMI **Default: Enabled**

You can set this item to enabled if you want the system to wake up from suspend or standby mode when activity is detected on a device using any of these IRQ addresses.

IRQ 8 Break Suspend **Default: Disabled**

You can set this item to enabled if you want the system to wake up from suspend mode when activity is detected on a device using IRQ 8.

Power Button Override **Default: Instant Off**

Under ACPI (Advanced Configuration and Power management Interface) you can create a software power down. In a software power down, the system can be resumed by Wake Up Alarms. This item lets you install a software power down that is controlled by the normal power button on your system. If the item is set to Instant-Off, then the power button causes a software power down. If the item is set to Delay 4 Sec. Then you have to hold the power button down for four seconds to cause a software power down.

Ring/WOL/WOM WakeUp/PwrOn **Default: Enabled**

If this item is enabled, it allows the system to resume from a software powerdown or a power-saving mode whenever there is an incoming call to an installed fax/modem or network adapter. You might have to connect the fax/modem and /or network adapter to a mainboard Wake On Modem and Wake On LAN connector for this feature to work.

KB Power ON Password**Default: Enter**

This item can be used to prompt the user for a password when the system power is resumed by keyboard action.

Power Up by Alarm**Default: Disabled**

If this item is Enabled, it allows you to set a date and time alarm that will automatically resume the system from a software power down. When you enable this feature, new setup items appear to let you set the alarm. Date (of Month) Alarm lets you select a day from 1 to 31. Time Alarm lets you select a time for the alarm in hours, minutes, and seconds.

PnP/PCI Configuration Option

This option displays a table of items that configure how PnP (Plug and Play) and PCI expansion cards operate in your system. Both the ISA and PCI buses on the Mainboard use system IRQs (Interrupt ReQuests) and DMAs (Direct Memory Access). You must set up the IRQ and DMA assignments correctly through the PnP/PCI Configurations Setup utility; otherwise, the mainboard will not work properly. Selecting PnP/PCI Configurations on the main program screen displays this menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
PnP/PCI Configurations

| | | |
|--------------------------|-----------------|---|
| Reset Configuration Data | <u>Disabled</u> | Item Help |
| Resources Controlled by | Auto(ESCD) | Menu Level ▶ |
| x IRQ Resources | Press Enter | 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. |
| x DMA 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

Reset Configuration Data**Default: Disabled**

If you enable this item and restart the system, any Plug and Play configuration data stored in the BIOS setup is cleared from memory. New updated data is created.

Resources Controlled By**Default: Auto(ESCD)**

You should leave this item at the default Auto(ESCD). Under this setting, the system dynamically allocates resources to plug and play devices as they are required.

If you cannot get a legacy ISA (Industry Standard Architecture) expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and then opening up the IRQ Resources and Memory Resources sub-menus.

In the *IRQ Resources* sub-menu, if you change any of the IRQ assignments to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources sub-menu.

In the *Memory Resources* sub menu, use the first item Reserved Memory Base to set the start address of the memory you want to reserve for the ISA expansion card. Use the second item Reserved Memory Length to set the amount of reserved memory. Press <Esc> to close the Memory Resources sub-menu.

In the *IRQ Resources* sub-menu, if you change any of the IRQ assignments to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA expansion card. Press <Esc> to close the IRQ Resources sub-menu.

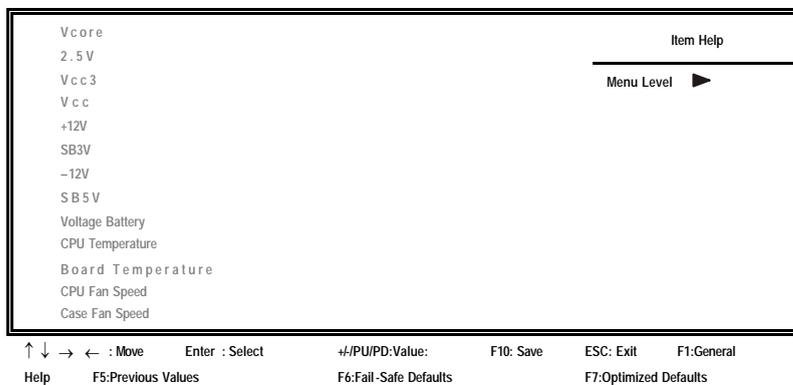
PCI/VGA Palette Snoop**Default: Disabled**

This item is designed to overcome some problems that can be caused by some non-standard VGA cards. This board includes a built-in VGA system that does not require palette snooping so you must leave this item disabled.

PCI Health Status Option

On mainboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds. You cannot make any changes to these fields. They are display only:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
PC Health Status



System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields.

Frequency Control Option

This item enables you to set the clock speed and system bus for your system. The clock speed and system bus are determined by the kind of processor you have installed in your system.

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Frequency/Voltage Control

| | | |
|--------------------------|---------|--------------|
| Auto Detect DIMM/PCI Clk | Enabled | Item Help |
| Spread Spectrum | Enabled | |
| CPU Host/SDRAM/PCI Clock | Default | Menu Level ▶ |
| CPU Clock Ratio Jumpless | By HW | |

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

Auto Detect DIMM/PCI Clk **Default: Enabled**

When this item is enabled, BIOS will disable the clock signal of free DIMM and PCI slots.

Spread Spectrum **Default: Enabled**

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

CPU Host/SDRAM/PCI Clock **Default: Default** **CPU Clock Ratio Jumpless** **Default: By H/W**

Use the *CPU Host/SDRAM/PCI Clock* to set the system bus frequency for the installed processor (usually 100 MHz or 66 MHz). Then use *CPU Clock Ratio* to set a multiple. The multiple times the system bus must equal the core speed of the installed processor e.g. **3.5 (multiple) x 100 MHz (system bus) = 350 MHz (installed processor clock speed)**. We recommend that you leave these items to their default values Default and H/W (Hardware defined)

Load Fail-Safe Defaults Option

This option opens a dialog box that lets you install fail-safe defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The fail-safe defaults place no great demands on the system and are generally stable. If your system is not functioning correctly, try installing the fail-safe defaults as a first step in getting your system working properly again. If you only want to install fail-safe defaults for a specific option, select and display that option, and then press <F6>.

Load Optimized Defaults Option

This option opens a dialog box that lets you install optimized defaults for all appropriate items in the Setup Utility. Press <Y> and then <Enter> to install the defaults. Press <N> and then <Enter> to not install the defaults. The optimized defaults place demands on the system that may be greater than the performance level of the components, such as the CPU and the memory. You can cause fatal errors or instability if you install the optimized defaults when your hardware does not support them. If you only want to install setup defaults for a specific option, select and display that option, and then press <F7>.

Set Password Option

These items can be used to install a password. To install a password, follow these steps:

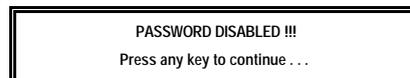
1. Highlight the item Set Password on the main menu and press <Enter>.
2. The password dialog box appears.



A rectangular dialog box with a double border. Inside, the text "Enter Password:" is displayed in a simple font.

3. If you are installing a new password, type in the password. You cannot use more than eight characters or numbers. The Set Password item differentiates between upper case and lower characters. 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. You see the following message :



A rectangular dialog box with a double border. Inside, the text "PASSWORD DISABLED !!!" is displayed in a bold font, followed by "Press any key to continue . . ." in a smaller font.

4. Press any key. You are prompted to confirm the password:



A rectangular dialog box with a double border. Inside, the text "Confirm Password:" is displayed in a simple font.

5. Type the password again and press <Enter>, or just press <Enter> if you are deleting a password that is already installed.
6. If you typed the password correctly, the password will be installed.

Save & Exit Setup Option

Highlight this item and press <Enter> to save the changes that you have made in the Setup Utility and exit the Setup Utility. When the Save and Exit dialog box appears, press <Y> to save and exit, or press <N> to return to the main menu:

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

Exit Without Saving Option

Highlight this item and press <Enter> to discard any changes that you have made in the Setup Utility and exit the Setup Utility. When the Exit Without Saving dialog box appears, press <Y> to discard changes and exit, or press <N> to return to the main menu.

| |
|------------------------------|
| Quit Without Saving (Y/N)? N |
|------------------------------|

Note: *If you have made settings that you do not want to save, use the “Exit Without Saving” item and press Y to discard any changes you have made.*

This concludes Chapter 3. Refer to the next chapter for information on the software supplied with the mainboard.

Chapter 4: Software

The support software CD-ROM that is included in the mainboard package contains all the drivers and utility programs needed to properly run the bundled products. Below you can find a brief description of each software program, and the location for your mainboard version. More information on some programs is available in a README file, located in the same directory as the software.

Note: *Never try to install software from a folder that is not specified for use with your mainboard.*

Before installing any software, always inspect the folder for files named README.TXT, INSTALL.TXT, or something similar. These files may contain important information that is not included in this manual.

Folders for this Mainboard

For this board, you can install software from the following folders:

Utility Folder

You can use the software in the following sub-folders:

- ❑ **AWDFLASH**: Software to erase and install new revisions of the system BIOS (CMOS)
- ❑ **GAMUT**: Audio rack for built-in sound system
- ❑ **MEDIARING TALK**: Telephony software.
- ❑ **PC-CILLIN**: Anti-virus software
- ❑ **SUPER VOICE**: Fax/modem software.
- ❑ **WINFLASH**: BIOS update application for Award BIOS for Windows

P6STM Folder

You can use the software in the following sub-folders:

- ❑ **AUDIO**: Contains a readme file with instructions on installing the mainboard' s audio components.
- ❑ **LAN**: Contains a readme file with instructions on installing the mainboard' s LAN components.
- ❑ **VGA**: Contains a readme file with instructions on installing the mainboard' s VGA components.

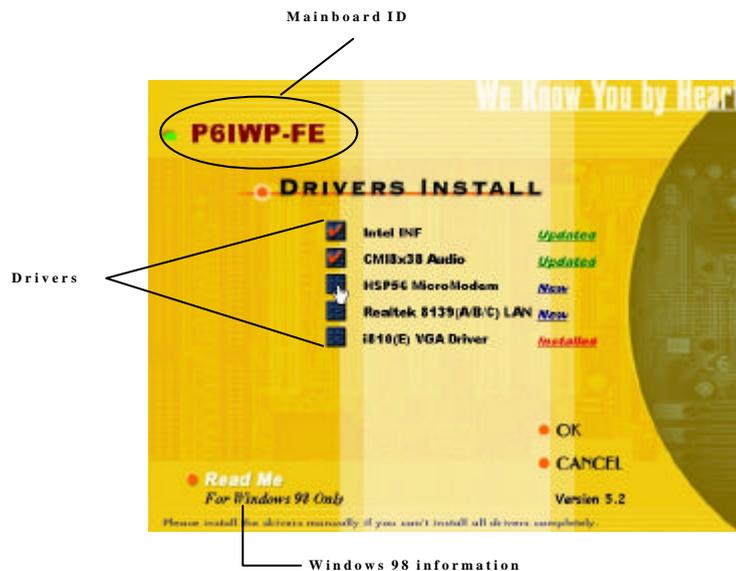
Auto-installing under Windows 98

The Auto-install CD-ROM makes it easy for you to install the drivers and software for your mainboard.

Note: If the Auto-install CD-ROM does not work on your system, you can still install drivers through the file manager for your OS (for example, Windows Explorer).

The support software CD-ROM disc loads automatically under Windows 98. When you insert the CD-ROM disc in the CD-ROM drive, the autorun feature will automatically bring up the install screen:

Note: The following screens are examples only. The screens and driver lists will be different according to the mainboard you are installing.



The mainboard identification is located in the upper left-hand corner. Click which drivers you want to install, and then click **OK**. Click **Cancel** if you do not want to install drivers at this time.



When the process is finished, all the support software will be installed and working.

After you finish installing the drivers for your mainboard, the Applications screen appears:



Select which applications you want to install, and click **OK**. If the auto-installed driver cannot be installed completely, you can still use your operating system's file manager (for example Windows Explorer) to install all the drivers manually.

If the mainboard doesn't support the autoinstall feature, you will see the following screen:



Note: If the opening screen doesn't appear, double-click the file "autorun.exe" in the \AUTORUN directory.

Click READ ME to read the latest installation instructions. Click BROWSE THE CD TITLE to open Windows Explorer and show the contents of the support CD.

Double-click a folder to display the sub-folders. Before installing the software, look for a file named README.TXT, INSTALL.TXT or something similar. This file may contain important information to help you install the software correctly.

Some software is installed in separate folders for different operating systems, such as DOS, WIN NT, or WIN98/95. Always go to the correct folder for the kind of OS you are using.

To install the software, execute a file named SETUP.EXE or INSTALL.EXE by double-clicking the file and then following the instructions on the screen.

Note: Enable Windows Explorer to display file extensions (for example, EXE).

Utility Folder Installation Notes

Award Flash Memory Utility

This utility lets you erase the system BIOS stored on a Flash Memory chip on the mainboard, and lets you copy an updated BIOS to the chip. Take care how you use this program. If you erase the current BIOS and fail to write a new BIOS, or write a new BIOS that is incorrect, your system will malfunction.

For this mainboard, you can use **AWD7XX.EXE** (where xx is the version number). To use the utility, you must be in real-mode DOS (not the DOS box that is available in Windows 95/98/NT). If you are using WINDOWS 95/98, shut down your computer and select the option *Restart in DOS* in the shutdown dialog box. If you are running Windows NT, shut down your computer and boot from a DOS diskette temporarily in order to run the flash memory utility.

PC-cillin Software

The PC-cillin software program provides anti-virus protection for your system. This program is available for:

- ❑ DOS – \UTILITY\PC-CILLIN\DOS\PCSCAN.EXE
- ❑ Win98 – \UTILITY\PC-CILLIN\WIN98\SETUP.EXE

Anti-virus software is provided for DOS and WIN95/98. Browse to the appropriate directory for your operating system. For DOS, copy all the files in the DOS folder to your hard disk drive and run PCSCAN to scan your system. For Windows 95/98, run SETUP.EXE to install the application software.

GAMUT

The Gamut audio rack software for the built-in sound system is provided for different languages. Go to the directory \UTILITY\GAMUT and choose either the English or Chinese subdirectory; then run SETUP.EXE to install the application software.

MediaRing Talk

To install the MediaRing Talk voice modem software for the built-in modem, go to the directory \UTILITY\MEDIARING TALK; then run MRTALK-SETUP7.2.EXE.

Super Voice

To install the Super Voice voice, fax, data communication application for use with the built-in fax/modem, go to the directory \UTILITY\SUPERVOICE; then run PICSHELL.EXE to install the application software.

Mainboard (P6STM) Installation Notes

Most of the sub-folders in this folder are empty, with a short README file giving directions to alternate folders for the appropriate software.

Audio Software

This folder has software and drivers for the sound system that is integrated on this mainboard. Drivers are provided for Windows 2000/ME/98/95, Windows NT, and DOS.

DOS Installation

Browse to the Si\SAC97AUDIO\DOS folder on the driver CD-ROM and run the SETUP program.

Windows 2000/ME/98/95 Installation

Browse to the \Si\SAC97AUDIO\ folder and then browse to the WIN 2000, WIN ME, or WIN 98\95 subfolder and run the SETUP program for your operating system.

Windows NT 4.0 Installation

1. Click **Start**.
2. Click **Settings** and then click **Control Panel**.
3. Double-click the **Multimedia** icon.
4. Select the *Devices* tab.

5. Click **Add**.
6. Select the item "*Unlisted or Updated Driver*" in the **List of Drivers** list box.
7. Specify the path to the PCI audio NT drivers.
8. Select "SiS630/630E/630S/730S/540 Audio Device" and click **OK**.
9. Choose the proper I/O or click **OK** for the default setting.
10. Restart the Windows NT system.

LAN Software

This folder has software and drivers for the LAN system that is integrated on this mainboard. Drivers are provided for Windows 2000/ME/98/95 and Windows NT.

Windows 2000/ME/98/95 Installation

Browse to the path \SiS\LANSiS900 on the driver CD-ROM and run the SETUP program.

Windows NT 4.0 Installation

1. Click **Start**.
2. Click **Settings** and then click **Control Panel**.
3. Double-click the **Network** icon.
4. Select the *Adapter* tab.
5. Click **Add**.
6. Select the item "*Unlisted or Updated Driver*" in the **List of Drivers** list box.
7. Specify the path to the LAN NT drivers.
8. Select "*SiS 900 PCI Fast Ethernet Adapter*" and click **OK**.
9. Choose the proper I/O or click **OK** for the default setting.
10. Restart the Windows NT system.

VGA Software

This folder has software and drivers for the VGA system that is integrated on this mainboard. Drivers are provided for Windows 2000/ME/98/95, Windows NT, and DOS.

Windows 2000/ME/98/95 Installation

Browse to the path \SiS630_VGA\WIN2000\ or \SiS630_VGA\WIN9X\ on the driver CD-ROM and run the SETUP program for your operating system.

Windows NT 4.0 Installation

1. Click **Start**.
2. Click **Settings** and then click **Control Panel**.
3. Double-click the **Display** icon.
4. Select Settings of Display Properties.
5. Select Display Type.
6. Select Change from the Adapter Type area.
7. Select the item "*Unlisted or Updated Driver*" in the **List of Drivers** list box.
8. Specify the path to the VGA NT drivers.
9. Select " SiS630/630E/630S VGA Device" and click **OK**.
10. Choose the proper I/O or click **OK** for the default setting.
11. Restart the Windows NT system.

Appendix: Jumper Setting Reference

Quick Jumper Setting Reference

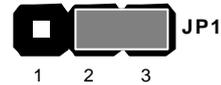
If you are familiar with most of the material in this chapter, you can begin preparing the mainboard for installation by using this quick reference to begin setting the jumpers.

JP1: Clear CMOS jumper

Use this jumper to clear the contents of the CMOS memory. You may need to clear the CMOS memory if the settings in the BIOS Setup Utility are incorrect and are preventing your mainboard from operating. To clear the CMOS memory, disconnect all the power cables from the mainboard and then move the jumper cap into the Clear CMOS memory setting for a few seconds. CMOS is cleared.

Return the jumper cap to the Normal operation setting. Reconnect the power cables and start the system. When the POST starts, press the delete key to start the BIOS Setup Utility and reload BIOS optimal settings. Refer to Chapter 3 for information on BIOS.

| Function | Jumper Setting |
|------------------|----------------|
| Normal operation | Short pins 2-3 |
| Clear CMOS | Short pins 1-2 |



JP3: BIOS flash protect jumper

Use this jumper to enable or disable the BIOS flash protection on the mainboard. Disable this jumper when to flash the BIOS.

| Function | Jumper Setting |
|----------|----------------|
| Disable | Short pins 1-2 |
| Enable | Short pins 2-3 |

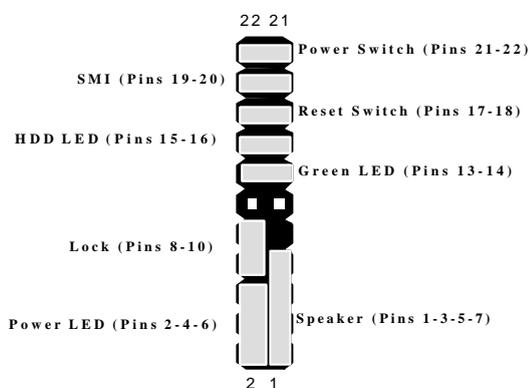


Panel Connector

The mainboard PANEL connector has a standard set of switch and indicator connectors that are commonly found on ATX system cases. Use the illustration below to make the correct connections to the case switches and indicators.

Panel connectors for switches and indicators

| Function | Pins |
|------------------------------|-------------|
| Power ON/OFF | 21, -22 |
| Sleep Switch (SMI) Indicator | 19, -20 |
| Reset Switch | 17, -18 |
| Hard Disk LED Indicator | +15, -16 |
| Green LED Indicator | -13, +14 |
| Lock | 8, 10 |
| Power LED Indicator | +2, +4, -6 |
| Speaker | +1, 3, 5, 7 |



Note: The plus sign (+) indicates a pin which must be connected to a positive voltage.