| 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 mainboard, you may cause serious damage to both the mainboard 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.	**Cooling fan and heat sink** **CPU socket**
	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 mainboard and processor socket.	
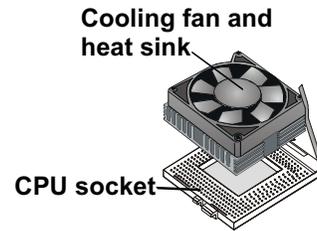
Important Information

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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 Réglement sur le matériel brouilieur 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.

Contents

Chapter 1: Introduction

Welcome

Congratulations on purchasing the P6SSM2 mainboard. The P6SSM2 mainboard is a Micro ATX mainboard that uses a 4-layer printed circuit board and measures 244 mm x 210 mm. The mainboard has a Socket 370 to accommodate Intel Celeron, Pentium II, Pentium III and VIA Cyrix III processors that support frontside bus (FSB) speeds up to 133 MHz. The P6SSM2 is installed with the SiS630S chipset and built-in 3D sound that features the AC 97 Audio Codec. An integrated fast Ethernet controller and MAC interface is also included with a PHY (low-power, physical-layer device) on board. This board can also support 10 Mbps or 100 Mbps LAN connections using an optional LAN bracket (with transformer).

The mainboard delivers high-level performance with built-in AGP 3-D graphics support, a 4xAGP (Accelerated Graphics Port) slot and two PCI Bus Master Ultra DMA (UDMA) ports that support up to four ATAPI (AT Attachment Packet Interface) devices. The PCI IDE also supports PIO Mode 3 and 4, UDMA33/66/100 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 mainboard has a full set of I/O ports, such as dual channel PCI EIDE interfaces, a floppy controller, one FIFO serial port connector, a VGA connector, an EPP/ECP-capable bi-directional parallel port connector, a dual USB (Universal Serial Bus) connector, and PS/2 keyboard and mouse connectors.

One AGP slot, two PCI local bus slots, and an ACR (Advanced Communications Riser) 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 P6SSM2 Mainboard
- ❑ One diskette drive ribbon cable and bracket
- ❑ One IDE drive ribbon cable and bracket
- ❑ This user's manual
- ❑ Software support CD-ROM disc

Optional Items

- ❑ One LAN bracket (with transformer)

Recommendations

This mainboard automatically determines the CPU clock frequency and system bus frequency for the kind of processor you install. You may be able to change these automatic settings by making changes to 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. Don't 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, which includes built-in audio, video, networking, and an ACR slot. The ACR slot provides flexibility for add-in cards with LAN, HomePNA, modem, or audio functions.

High-end Processors

Functioning as a platform for high-end PCs, the P6SSM2 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.

SiS Chipset

This board features the SiS630S chipset from Silicon Systems. The SiS630S chipset is designed for high-end desktops and workstations and provides 2-way multiprocessing (SMP), ATA-100, 4xAGP and DRAM support.

The SiS chipset also includes an integrated fast Ethernet controller that supports 10base-T/100base-Tx data transfers as well as IEEE 802.3u auto negotiation and parallel detection for automatic speed selection.

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 use SDRAM memory chips. The P6SSM2 board supports a memory bus of 100/133 MHz. Each installed memory module can be populated with from 32 MB to 512 MB of memory; a maximum of 1 GB memory can be installed.

The integrated video system uses shared memory architecture, so you must reserve some of the installed memory as video memory using the system BIOS. You must install at least one module, but it makes no difference which slot you use to install the module.

Built-in AGP 3D-Graphics

The SiS630S 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 98/95, Windows 2000, and Windows NT 4.0.

4xAGP Graphics Adapter Slot

In addition to the onboard Accelerated Graphics Port (AGP) capability provided by the SiS630S chipset, the mainboard includes a 4xAGP slot that provides four times the bandwidth of the original AGP specification. AGP technology provides a direct connection between the graphics sub-system and the processor so that the graphics do not have to compete for processor time with other devices on the PCI bus. The AGP design allows the graphics controller to use part of the main memory when it needs it, for example, to handle the very large texture maps required by virtual reality and 3D video games and applications.

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.

Expansion Options

The P6SSM2 mainboard is pre-installed with features such as audio, video, and networking capabilities, and a built-in ACR slot. The ACR slot provides expandability for USB, LAN, HomePNA, modem, and audio functions that normally require add-in cards. The two 32-bit PCI slots and one ACR slot provide additional 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 VGA port, one parallel port, one MIDI/game port, two USB ports, and audio jacks for microphone, line-in and line-out. The board includes two PCI IDE channels and a floppy disk drive interface.

Built-in Ethernet LAN

The P6SSM2 mainboard has a built-in 10Base-T/100Base-TX Ethernet LAN controller and integrates Fast Ethernet MAC and PHY compliant with IEEE802.3u 100BASE-TX, 10BASE-T and ANSI X3.263 TP-PMD standards. The controller is also compliant with ACPI 1.0 and the Network Device Class Power Management 1.0 protocols, and enables high performance data transfers through a 100-Mbps clock generator and data recovery circuit for a 100-Mbps receiver. The Ethernet LAN controller allows the user to attach an optional LAN bracket to access a LAN (Local Area Network).

Keyboard Power on Feature

Using the system BIOS setup program, you can configure the system to turn on using a keyboard-typed password. A green keyboard is not required.

Programmable Firmware

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

This concludes Chapter 1. The next chapter covers 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 Micro 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.
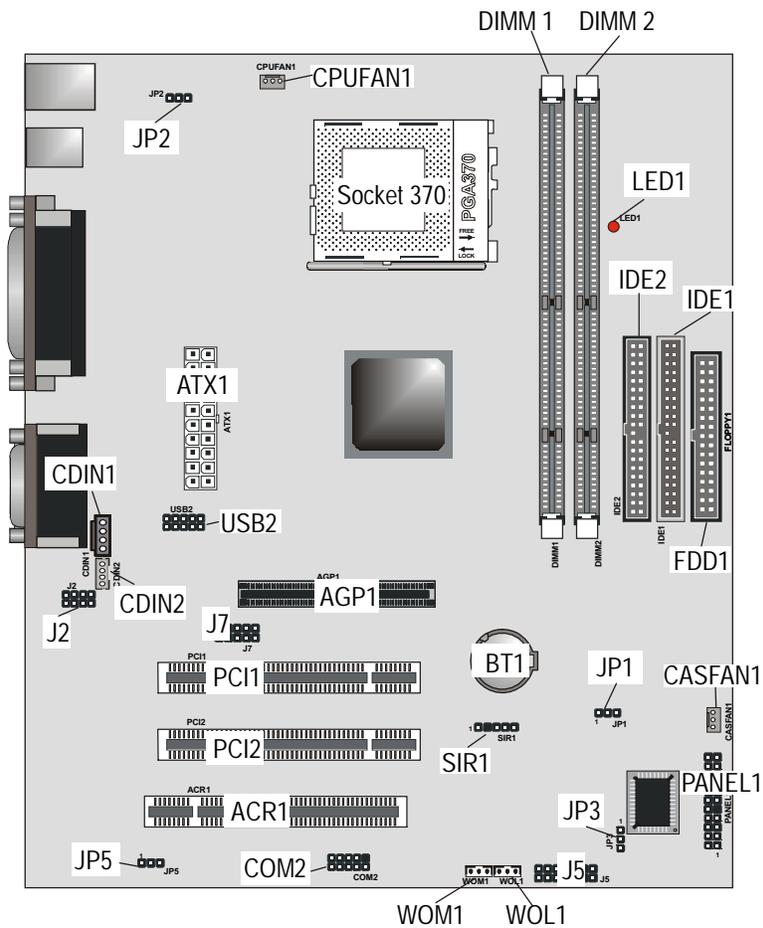
Key to Mainboard Components

Component	Description
JP2	Keyboard wakeup enable jumper (manufacturing option)
CPUFAN1	Power connector for CPU cooling fan
DIMM1~2	Two 168-pin SDRAM memory module slots
Socket 370	CPU Socket
LED1	3VSB LED for SDRAM
IDE1, 2	Primary and secondary IDE channels
FDD1	Connector for floppy disk drives
ATX1	ATX power supply connection
USB2	USB port 3-4
CDIN1	Primary ATAPI device header
CDIN2	Secondary ATAPI device header
J2	Extra MIC/Line out header
AGP1	132-pin 4X accelerated graphics port (AGP) slot
J7	LAN header for integrated LAN function
PCI1 ~ PCI2	Two 120-pin PCI slots
ACR1	One 120-pin Advanced Communication Riser (ACR) slot
JP5	BIOS write protect jumper
COM2	COM port header
BT1	3 volt battery for realtime clock
SIR1	Standard IrDA device header
JP1	Clear CMOS jumper
CASFAN1	Power connector for power source cooling fan
PANEL1	Front panel connection
JP3	ROM power jumper
J5	Smart Card Reader header
WOL1	Wake On LAN (WOL) connector
WOM1	Wake On Modem (WOM) connector

Note: *The red indicator LED1 turns on if your system is still powered, at which time memory modules cannot be installed or uninstalled.*

I/O Ports Side View

PS/2 mouse **Parallel port (LPT1)** **Game port**

PS/2 keyboard **USB ports** **Serial port COM 1** **VGA port** **Microphone** **Line-in** **Line-out**
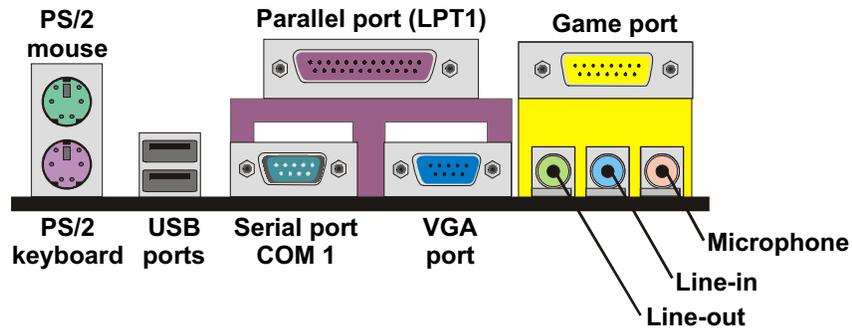
Key to I/O Ports

Component	Description
PS/2 mouse	PS/2 port for pointing device (upper port)
PS/2 keyboard	PS/2 port for keyboard (lower port)
USB ports	Two stacked Universal Serial Bus ports
LPT1	External parallel port
COM1	External serial port COM 1
VGA	External video port
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.
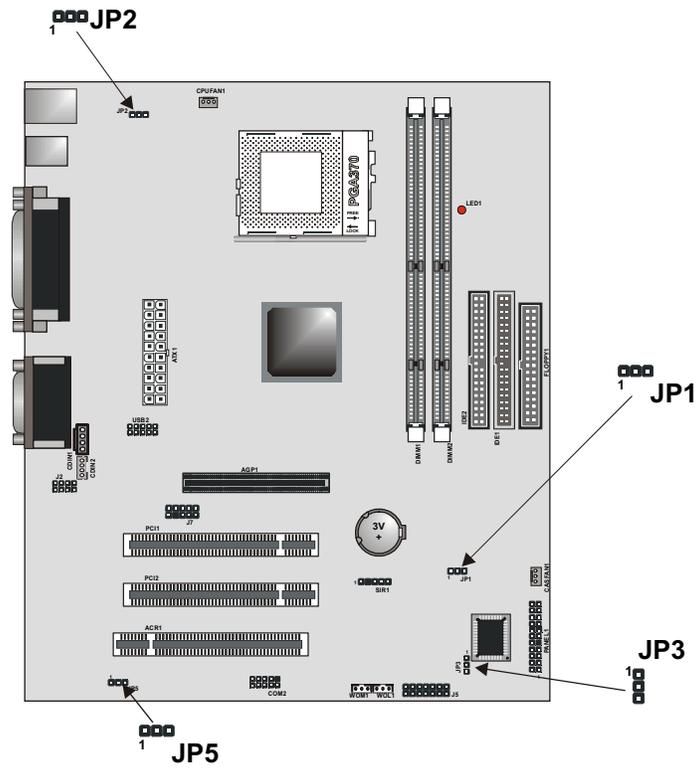
JP2

JP1

JP3

JP5

JP1: Clear CMOS jumper

Use this jumper to clear the system CMOS. Before clearing CMOS, the AC power should be disconnected.

Function	Jumper Setting
Clear CMOS	Short pins 1-2
Normal operation	Short pins 2-3
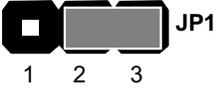
JP2: Keyboard power on jumper (manufacturing option)

Use this jumper to enable the keyboard to power on the computer.

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

JP3: ROM Power

This jumper is used to adjust the power for the onboard ROM. DO NOT make any adjustments to this jumper.

JP5: BIOS write protect jumper

Use this jumper to make the BIOS read-only.

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 overtighten the screws as this can stress the mainboard.
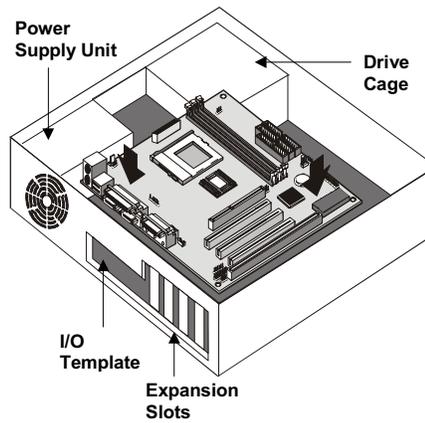
This illustration shows a mainboard installed in a tower-type case.

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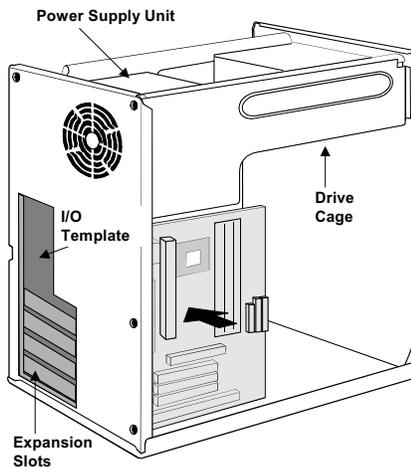
Connecting Internal Components

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.

Your case and CPU might have cooling fans attached to provide adequate ventilation to the system. Connect the CPU 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.
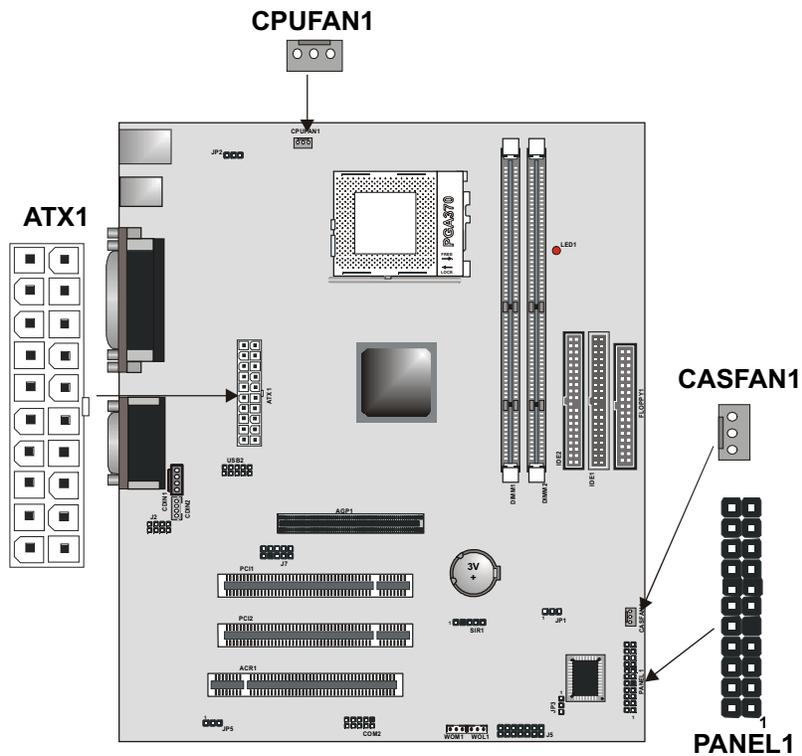
16

PANEL1 Panel Connector

The mainboard PANEL1 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.
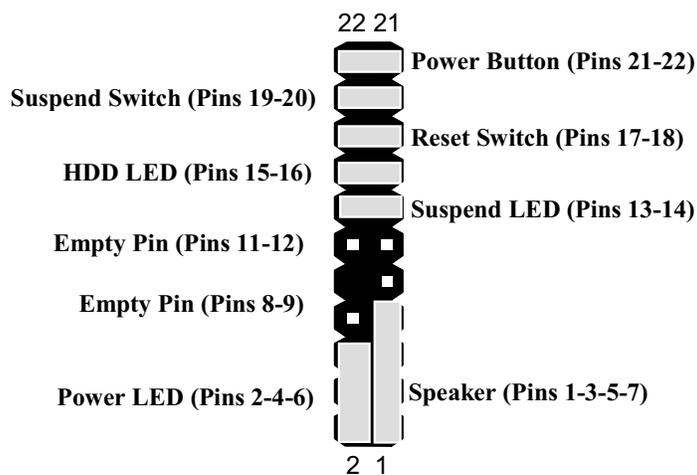
Function	Pins
Power Button	21, 22
Suspend Switch	19, 20
Reset Switch	17, 18
Hard Disk LED Indicator	+15, 16
Suspend LED Indicator	13, +14
Empty Pin	11, 12
Empty Pin	8, 9
Power LED Indicator	+2, 4, 6
Speaker	1, 3, 5, 7

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

Installing Other Hardware

Start installing the essential hardware required to get your system started.

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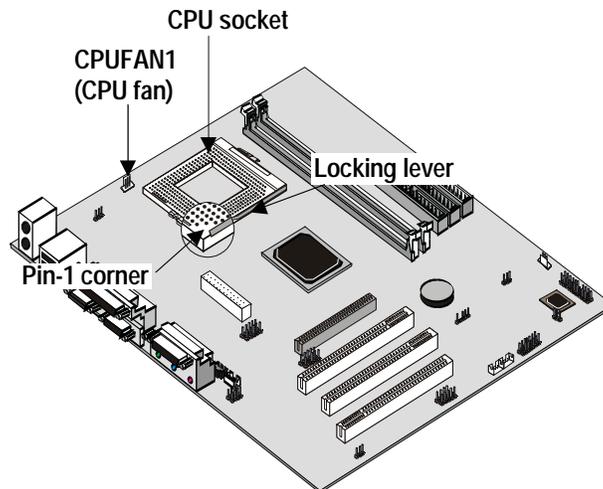
1. On the mainboard, locate the Socket 370 and CPU cooling fan CPUFAN1.

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.
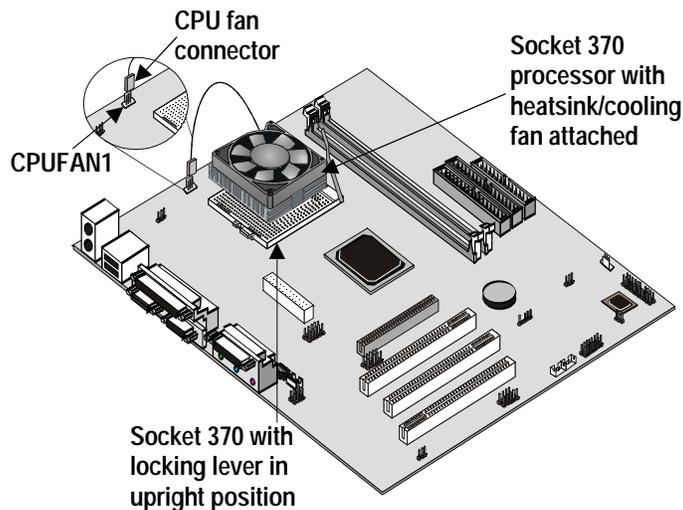
The mainboard must be configured to deliver the correct clock speed and the correct system bus for the kind of processor that you have installed. You can do this by using the BIOS Setup Utility. The first time you start the system, immediately enter the Setup Utility and make the appropriate settings. 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.

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.
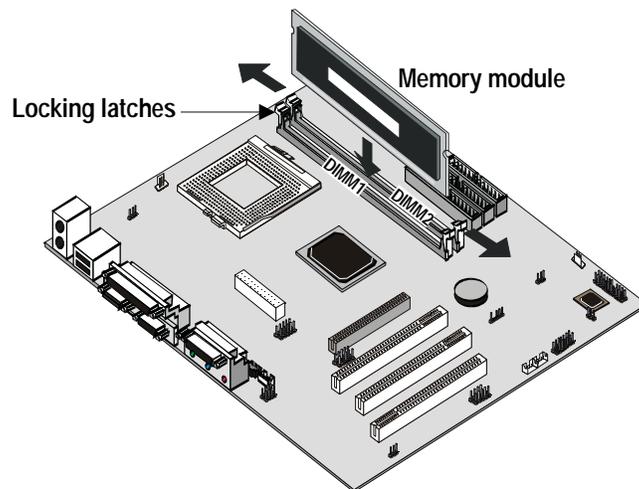
2. The DIMM slots are keyed with notches and the DIMMs are keyed with cutouts so that they can only be installed correctly. Check that the cutouts on the DIMM module edge connector match the notches in the DIMM slot.

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 33/66/100 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.
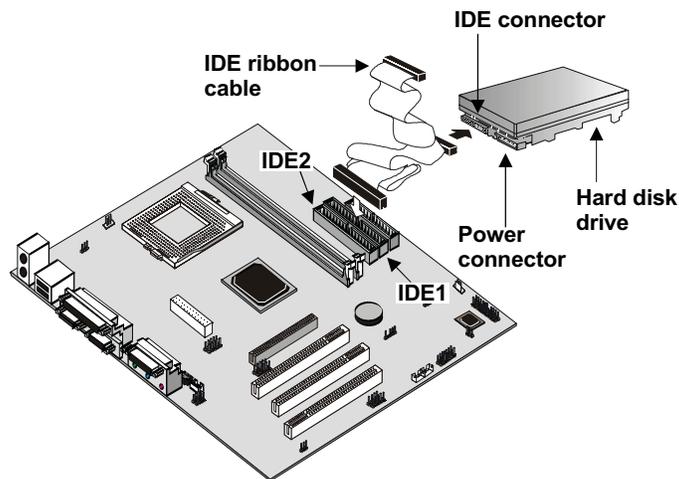
Installing a CD-ROM/DVD Drive

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 CD1 and CD2 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.
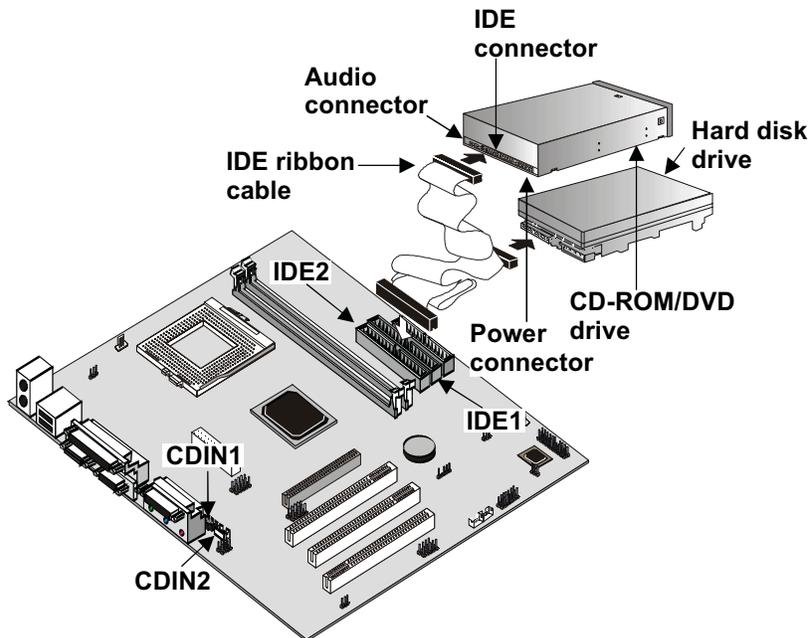
Installing a Floppy Diskette Drive

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.
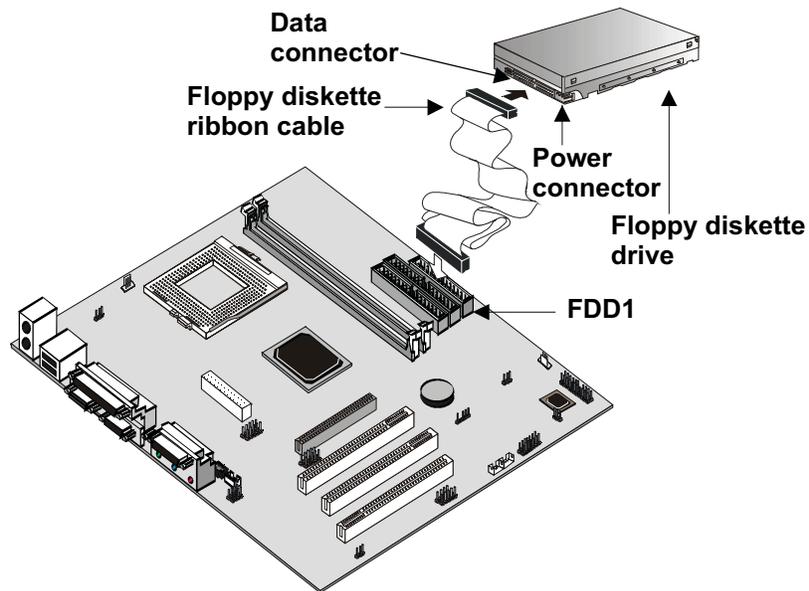
Using the Expansion Slots

This mainboard has two 32-bit PCI expansion slots, one ACR slot and one 4xAGP slot.

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

ACR Slot: The ACR slot can be used to install expansion cards with LAN, HomePNA, modem or audio functions that have an ACR interface.

4xAGP Slot: The 4xAGP slot can be used to install a graphics adapter that supports the 4xAGP specification and has the 4xAGP edge connector.
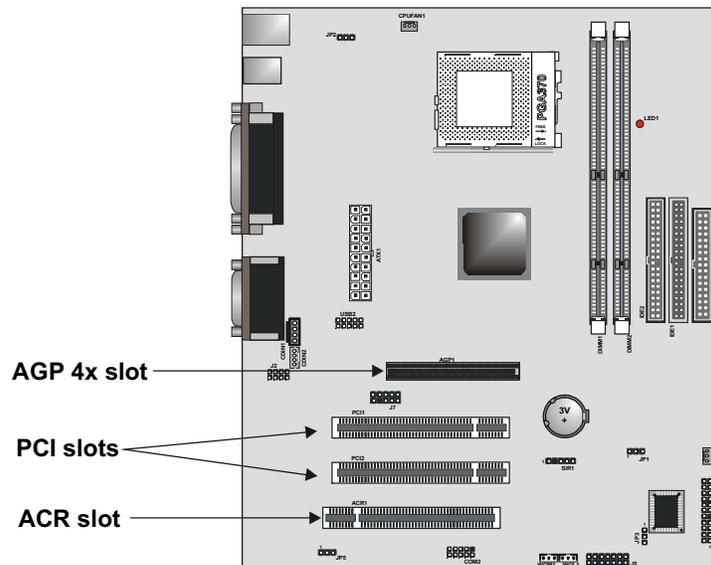
1. Before installing an add-in card, check the documentation for the card carefully. If the card is not Plug and Play, you may have to manually configure the card before installation.

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. **(A) PCI Card:** 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.

PCI slot

PCI add-in card

Metal bracket
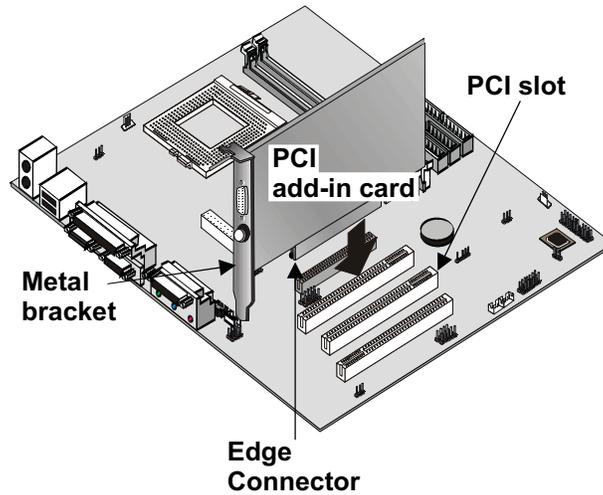
Edge Connector

(B) ACR Card: Install the edge connector of the add-in card into the ACR slot. Press down quite firmly to ensure that the edge connector is correctly seated in the slot.

ACR add-in card

ACR slot

Metal bracket

Edge Connector

ACR slot notch
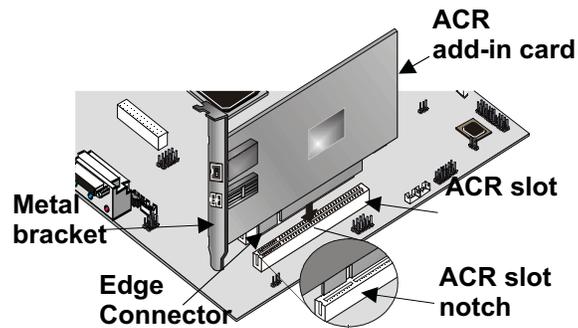
4. Secure the metal bracket of the card in the empty slot in the system case with a screw.

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.

Other Options
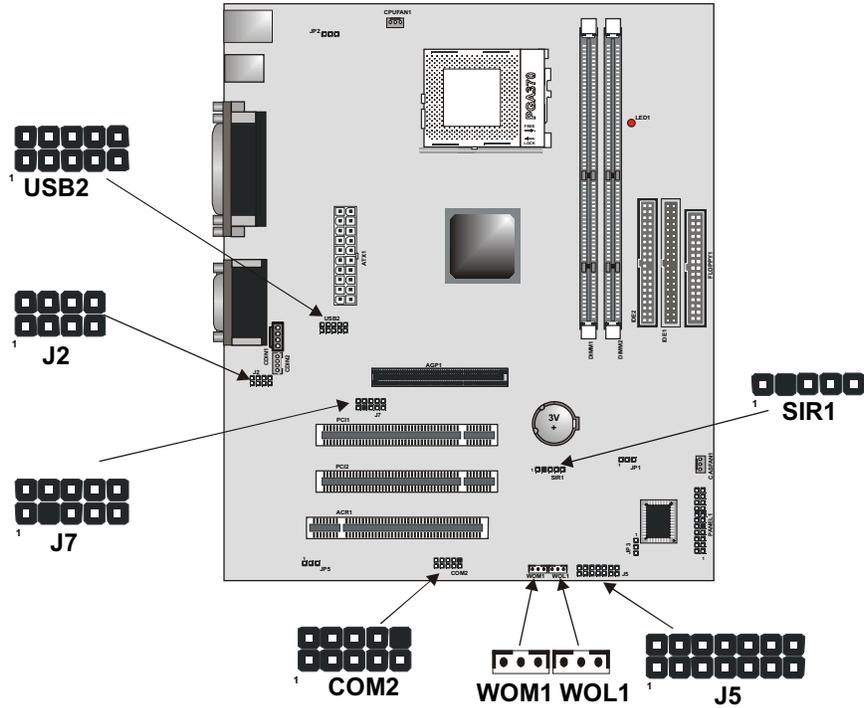
USB2: Universal Serial Bus port 3, 4 connector

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 USB2 to connect the front-mounted ports to the mainboard. You can use both the front and rear-mounted USB ports at the same time.

J2: Extra MIC/line-out header

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

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J5: Smart Card Reader header (optional)

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

J7: LAN header (optional)

This header allows the user to attach an optional LAN bracket (with transformer) to access a LAN. The SiS chipset features a LAN function that supports 10 Mbps or 100 Mbps LAN connections.

COM2: Extra COM port header

Connect a serial port extension bracket to this header to add a second serial port to your system:
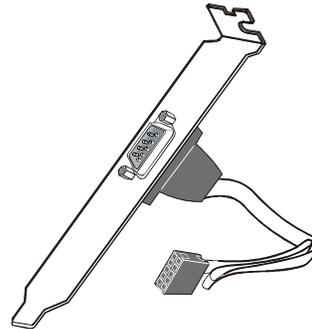
WOL1: Wake On LAN

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.

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.

CIR1: Consumer infrared port connector (optional)

This mainboard supports a Consumer Infrared (CIR) 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.

Making External Connections

After you have installed the mainboard, make the connections to the external ports.
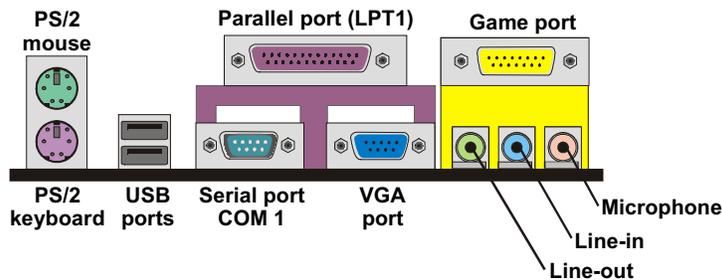
1. The PS/2 mouse port can be used by a PS/2 mouse or pointing device. The PS/2 keyboard port can be used by a PS/2 keyboard.

2. Use the USB ports to connect to USB devices.

3. LPT1 is a parallel port that can be used by printers or other parallel communications devices. The system identifies the parallel port as LPT1.

4. 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.

5. The VGA port is used to attach an external monitor.

6. You can use the game port to connect a joystick or a MIDI device to your system.

7. 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

— Notes —

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 setting the CPU clock speed so that it runs either fast or slow
- 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:

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

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

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

Time, Date, Hard Disk Type . . .

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 98/95. 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.

```
         FLASH   MEMORY   WRITER V7.33
    (C) Award Software 1999 All Rights Reserved

    For P6IWP-Fe                 DATE: 10/26/2000
    Flash Type
    File Name to Program :  █

    Error Message
```

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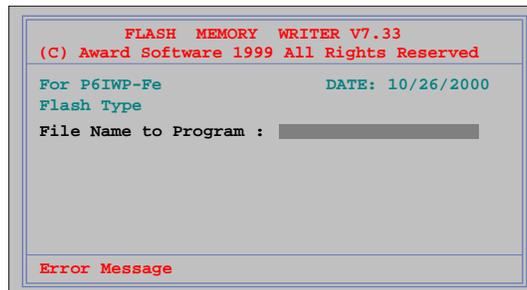
8. In the "File Name to Program" dialog box, type in the filename of the new BIOS and follow the onscreen directions to flash the new BIOS to the mainboard.

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 Features 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

		Item Help
Date (mm:dd:yy)	Tue, May 15 2000	
Time (hh:mm:ss)	12 : 8 : 59	
► IDE Primary Master		Menu Level ►
► IDE Primary Slave		
► IDE Secondary Master		Change the day, month, year and century.
► IDE Secondary Slave		
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	31744K	
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:

<div align="center">

CMOS Setup Utility – Copyright © 1984 – 2000 Award Software
IDE Primary Master

</div>

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

↑↓→← : 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 Large Block Addressing (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 items 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 Features 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. Note that the page has a scroll-bar to scroll down to more items.

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

		Item Help
Virus Warning	Disabled	
CPU Internal Cache	Enabled	Menu Level ►
External Cache	Enabled	
CPU L2 Cache ECC Checking	Enabled	Allows you to choose
Processor Number Feature	Enabled	the VIRUS warning
Quick Power On Self Test	Enabled	feature for IDE Hard
First Boot Device	Floppy	Disk boot sector
Second Boot Device	HDD-0	protection. If this
Third Boot Device	LS120	function is enabled
Boot Other Device	Enabled	and someone attempts
Swap Floppy Drive	Disabled	to write data into this
Boot Up Floppy Seek	Enabled	area, BIOS will show a
Boot Up NumLock Status	On	warning message on
Gate A20 Option	Fast	screen and alarm beep
Typematic Rate Setting	Disabled	
x Typematic Rate (Chars/Sec)	6	
x Typematic Delay (Msec)	250	
Security Option	Setup	
OS Select For DRAM > 64 MB	Non-OS2	

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

Virus Warning   *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 Anti-Virus Protection as soon as you have installed your disk with an OS.

CPU Internal Cache   *Default: Enabled*

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

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External Cache   *Default: Enabled*

Most processors that can be installed in this system use external (L2) cache memory to improve performance. The exceptions are older SEPP Celeron CPUs running at 266 or 300 MHz. Enable this item for all but these two processors.

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 of the new generation of socket-370 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, use this item 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/LS120*

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.

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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 an old 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 the item 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 the item 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 WIN 95   *Default: Yes*

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

Video BIOS Shadow   *Default: Enabled*

When enabled this item copies the VGA BIOS into system DRAM.

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
┌──────────────────────────────────────────────────┬──────────────────────┐
│ ► Advanced DRAM Control 1      Press Enter         │                      │
│ ► Advanced DRAM Control 2      Press Enter         │      Item Help       │
│   System BIOS Cacheable        Enabled             │                      │
│   Video RAM Cacheable          Enabled             │  Menu Level    ►     │
│   Memory Hole at 15M-16M       Disabled            │                      │
│   AGP Aperture Size            64MB                 │                      │
│   Graphic Window WR Combin     Enabled             │                      │
│   Concurrent function(MEM)     Enabled             │                      │
│   Concurrent function(PCI)     Enabled             │                      │
│   CPU Pipeline Control         Enabled             │                      │
│   PCI Delay Transaction        Enabled             │                      │
│   Memory Parity Check          Enabled             │                      │
│                                                    │                      │
│                                                    │                      │
│                                                    │                      │
│                                                    │                      │
├──────────────────────────────────────────────────┴──────────────────────┤
│ ↑↓→← : Move    Enter : Select    +/-/PU/PD:Value:    F10: Save   ESC: Exit   F1:General Help │
│              F5:Previous Values          F6:Fail-Safe Defaults    F7:Optimized Defaults      │
└───────────────────────────────────────────────────────────────────────────┘
```

► Advanced DRAM Control 1

Select Advanced DRAM Control 1 and press <Enter> to see the
following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Advanced DRAM Control 1

		Item Help
Auto Configuration	Auto	
Dram Background Command	Normal	Menu Level ►►
LD-Off Dram RD/WR Cycles	Normal	
Write Recovery Time	2T	

↑↓→← : 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**
Dram Background Command	**Default: Normal**
LD-Off Dram RD/WR Cycles	**Default: Normal**
Write Recovery Time	**Default: 2T**

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

► *Advanced DRAM Control 2*

Select Advanced DRAM Control 2 and press <Enter> to see the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Advanced DRAM Control 2

		Item Help
Mem Command Output Time	Delay 1T	
SDRAM/VCM CAS Latency	3T	Menu Level ►►
SDRCLK Control	Default	
SDRCLK Control CS#/CKE	Default	
SDRCLK Control MA/SRAS	Default	
SDRCLK Control DQM/MD	Default	
SDRCLK Control High DQM/MD	Default	
AGTL Feed Back Control	Enabled	
AGTL Pull Up Control	Disabled	
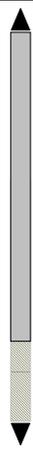
↑↓→←: Move   Enter : Select   +/-/PU/PD:Value: F10: Save   ESC: Exit   F1:General Help
F5:Previous Values   F6:Fail-Safe Defaults   F7:Optimized Defaults

Mem Command Output Time	**Default: Delay 1T**
SDRAM/VCM CAS Latency	**Default: 3T**
SDRCLK Control	**Default: Default**
SDRCLK Control CS#/CKE	**Default: Default**
SDRCLK Control MA/SRAS	**Default: Default**
SDRCLK Control DQM/MD	**Default: Default**
SDRCLK Control High DQM/MD	**Default: Default**
AGTL Feed Back Control	**Default: Enabled**
AGTL Pull Up Control	**Default: Disabled**

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

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System BIOS Cacheable   *Default: Enabled*

When enabled, the System BIOS will be cached for faster execution.

Video RAM Cacheable   *Default: Enabled*

When enabled, the graphics card's local memory will be cached for faster execution. However, if any program writes to this memory area, a system error may result.

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

If this feature is enabled when the system memory size is equal to or greater than 16 MB, the physical memory address from 15 MB to 16 MB will be passed to PCI or ISA and there will be a 1 MB hole in your system memory. This option is designed for some OS with special add-in cards which need 15-16 MB memory space.

AGP Aperture Size   *Default: 64M*

This option determines the effective size of the AGP Graphic *Aperture*, where memory-mapped graphic data structures are located.

Graphic Windows WR Combin   *Default: Enabled*

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

Concurrent function (MEM)   *Default: Enabled*

When set to Disabled, the CPU bus will be occupied during the entire memory operation period.

Concurrent function (PCI)   *Default: Enabled*

When set to Disabled, the CPU bus will be occupied during the entire PCI operation period.

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*

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

Memory Parity Check	*Default: Disabled*

Enable this item to allow BIOS to perform a parity check to the POST memory tests. Enable only if the system DRAM supports parity checking.

After you have made your selections in the Chipset Features Setup screen, press ESC to go back to the main screen.

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

▶ SiS 630 OnChip IDE Device	Press Enter	**Item Help**
▶ SiS 630 OnChip PCI Device	Press Enter	
▶ SiS 950 Super IO Device	Press Enter	Menu Level ▶
USB Controller	Enabled	
USB Controller Support	Disabled	
IDE HDD Block Mode	Enabled	
Init Display First	PCI Slot	
Fast Write Capability	Disabled	
AGP 4X Capability	Disabled	
AGP Auto Calibration	Enabled	
System Share Memory Size	8MB	

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

► *SiS 630 OnChip IDE Device*

Select SiS 630 OnChip IDE Device and press <Enter> to see the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
SiS 630 OnChip IDE Device

Internal PCI/IDE		Both	
IDE Primary Master	PIO	Auto	
IDE Primary Slave	PIO	Auto	
IDE Secondary Master	PIO	Auto	Menu Level ►►
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	

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

Internal PCI/IDE   **Default: Both**

The chipset contains a PCI IDE interface that supports two IDE channels: Primary (IRQ 14) and Secondary (IRQ 15). Each channel supports two IDE devices, so the system is capable of supporting a total of four IDE devices. Select Primary, Secondary, or Both to activate chipset IDE interface(s) installed on your system board.

IDE Primary/Secondary Master/Slave PIO   **Default: Auto**

Each 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.

Primary/Secondary Master/Slave UDMA   **Default: Auto**

Each 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**

Selecting Enabled reduces latency between each drive read/write cycle, but may cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, try setting this value to Disabled. This field does not appear when the Internal PCI/IDE field is Disabled.

► *SiS 630 OnChip PCI Device*

Select SiS 630 OnChip PCI Device and press <Enter> to see the following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
SiS 630 OnChip PCI Device
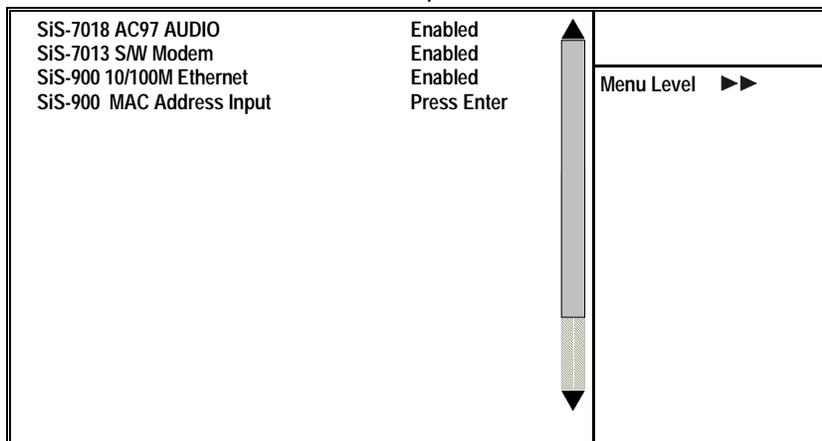
SiS-7018 AC97 AUDIO	Enabled	
SiS-7013 S/W Modem	Enabled	
SiS-900 10/100M Ethernet	Enabled	Menu Level ►►
SiS-900 MAC Address Input	Press Enter	

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

SiS-7018 AC97 AUDIO   **Default: Enabled**

Use this item to enable or disable the audio codec (compression-decompression) chips that are integrated on this motherboard.

SiS-7013 S/W Modem   **Default: Enabled**

This should be enabled if your system has LAN installed on the system and you wish to use it.

SiS-900 10/100M Ethernet   **Default: Enabled**

Use this item to enable or disable the integrated PCI LAN (network adapter).

SiS-900 MAC Address Input   **Default: Press Enter**

Use this item to key in the MAC address (also called the LAN ID address) of the integrated network adapter. The MAC address is labeled on the parallel port. Note that the MAC address is unique for this board—any other IDs will not work.

► *SiS 950 Super IO Device*

Select SiS 950 Super IO Device and press <Enter> to see following screen:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
SiS 950 SuperIO Device

Onboard FDC Controller	Enabled	▲	
Onboard Serial Port 1	3F8/IRQ4		
Onboard Serial Port 2	2F8/IRQ3		Menu Level ►►
UART Mode Select	Normal		
UR2 Duplex Mode	Half		
Onboard Parallel Port	378/IRQ7		
Parallel Port mode	ECP		
ECP Mode Use DMA	3		
Game Port Address	201		
Midi Port Address	330		
Midi Port IRQ	10	▼	

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

Onboard FDC Controller   **Default: Enabled**

Select Enabled if your system has a floppy disk controller (FDC) installed on the system board and you wish to use it. If you install an add-in FDC or the system has no floppy drive, select Disabled in this field.

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Onboard Serial Port 1, 2   **Default: 3F8/IRQ4, 2F8/IRQ3**

This option is used to assign the I/O address for the onboard serial ports.

UART Mode Select   **Default: Standard**

This field is available if the Onboard Serial Port 2 field is set to any option but Disabled. UART Mode Select enables you to select the infrared communication protocol—Standard (default), HPSIR, or ASKIR. HPSIR is Hewlett Packard's infrared communication protocol with a maximum baud rate up to 115.2 Kbps. ASKIR is Sharp's infrared communication protocol with a maximum baud rate up to 57.6 Kbps.

UR2 Duplex Mode   **Default: Half**

This field is available when UART Mode Select is set to SCR, ASKIR or IrDA. This item enables you to determine the infrared (IR) function of the onboard infrared chip. The options are "Full" and "Half.

Onboard Parallel Port   **Default: 378/IRQ7**

This option is used to assign the I/O address for the onboard parallel port.

Onboard Parallel Port Mode   **Default: ECP**

Enables you to set the data transfer protocol for your parallel port. There are four options: Normal (Standard Parallel Port), EPP (Enhanced Parallel Port), ECP (Extended Capabilities Port) and ECP+EPP.

Normal allows data output only. Extended Capabilities Port (ECP) and Enhanced Parallel Port (EPP) are bi-directional modes, allowing both data input and output. ECP and EPP modes are only supported with EPP and ECP aware peripherals.

ECP Mode Use DMA   **Default: 3**

When the onboard parallel port is set to ECP mode, the parallel port has the option to use DMA "3"(default) or DMA "1."

Game Port Address   **Default: 201**

This option is used to assign the I/O address for the onboard Game port.

Midi Port Address   **Default: 330**

This option is used to assign the I/O address for the onboard Midi port.

Midi Port IRQ   **Default: 10**

Use this item to assign priority allocation of an IRQ (interrupt request line) to the onboard Midi. We recommend that you set this item to 10.

USB Controller   *Default: Enabled*

Use this item to enable the USB ports that are integrated on this mainboard.

USB Keyboard Support   *Default: Disabled*

Enable this item if you are using a keyboard connected through the USB Port.

IDE HDD Block Mode   *Default: Enabled*

Block mode transfers can improve the access to IDE devices. Enable this item if your IDE devices support block mode transfers.

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.

Fast Write Capability   *Default: Disabled*

This item allows you to enable or disable the caching of display data for the video memory of the processor. Enabling can greatly improve the display speed. If your graphics display card does not support this feature, you need to disable this item.

AGP 4X Capability   *Default: Disabled*

This item allows you to enable or disable the caching of display data for the video memory of the processor. Enabling can greatly improve the display speed. If your graphics display card does not support this feature, you need to disable this item.

AGP Auto Calibration   *Default: Enabled*

This item allows you to enable or disable AGP buffer strength auto calibration through the chipset.

System Share Memory Size   *Default: 8 MB*

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

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,

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
Power Management Setup

ACPI Function	Enabled	Item Help
ACPI Suspend Type	S1(POS)	
Video Off Option	Suspend --> Off	Menu Level ▶
Video Off Method	DPMS Support	
Switch Function	Break/Wake	
MODEM Use IRQ	3	
Hot key Function As	Disabled	
HDD Off After	Disabled	
Power Button Override	Instant-Off	
▶ PM Wake Up Events	Press Enter	

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

ACPI Function	Default: Enabled

This mainboard supports ACPI (Advanced Configuration and Power management Interface). Use this item to enable or disable the ACPI feature.

Note: ACPI (Advanced Configuration and Power Interface) is a power management specification that makes hardware status information available to the operating system. ACPI enables a PC to turn its peripherals on and off for improved power management. It also allows the PC to be turned on and off by external devices, so that mouse or keyboard activity wakes up the computer.

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

Select the operation of the power button, when pressed:

- *Deturbo.* System slows; press a key to return to full power.

- *Break.* System enters Suspend mode; press a key to return to full power.

- *Break/Wake.* System enters Suspend mode; press the power button again to return to full power.

You can choose whether or not to permit your system to enter complete Suspend mode. Suspend mode offers greater power savings, with a correspondingly longer awakening period.

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: Disabled*

Select Power Off if your system has a hot key for soft power off.

HDD Off After   *Default: Disable*

The IDE hard drive will spin down if it is not accessed within a specified
length of time. Options are from 1 Min to 15 Min and Disable.

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.

PM Wake Up Events

This item opens a submenu that enables you to set events that will
resume the system from a power saving mode. Select PM Wake Up
Events and press **Enter** to display the following menu:

CMOS Setup Utility – Copyright (C) 1984 – 2000 Award Software
PM Wake Up Events

IRQ [3-7,9-15],NNI	**Enabled**	**Item Help**
IRQ 8 Break Suspend	**Disabled**	
RING/WOL/WOM Wake Up/PowerOn	**Disabled**	Menu Level ►►
MACPME Wake Up/Power On	**Disabled**	
PCIPME Wake Up/Power On	**Disabled**	
KB Power ON Password	**Enter**	
Power Up by Alarm	**Disabled**	
x Month Alarm	NA	
x Date of Month Alarm	0	
x Time (hh:mm:ss) Alarm	0 17 0	

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

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

Set Primary INTR to ON to allow you to enable or disable IRQ 3 through IRQ 15 activity monitoring. Set it to OFF to disable IRQ activity monitoring.

Set any IRQ to Enabled to allow activity at the IRQ to wake up the system from a power saving mode.

IRQ 8 Break Suspend   **Default: Disabled**

You can Enable or Disable monitoring of IRQ8 (the Real Time Clock) so it does not awaken the system from Suspend mode.

RING/WOL/WOM Wakeup/PowerOn   **Default: Disabled**

When set to Enabled, the system power will be turned on if there is any LAN card or modem activity.

MACPME WakeUp/Power On   **Default: Disabled**

When set to Enabled, the system power will be turned on if there is any Network Riser (with PHY) activity.

PCIPME WakeUp/Power On   **Default: Disabled**

When set to Enabled, the system power will be turned on if there is any PCI card activity from PCI cards that trigger a PME event, such as LAN or modem cards.

KB Power ON Password   **Default: Enter**

The Power On Function item allows you to power on the system by pressing hot-keys, or typing a password. If you choose Password, you can use the item KB Power On Password to install a power on password. Press Enter to display the Password dialog box. If you set it to Hot Key, you can then use the item Hot Key Power On to choose which hot keys are used to power on the system.

Power Up by Alarm   **Default: Disabled**

When set to "Enabled," you may set the date (day of the month), hour, minute and second to turn on your system. When set to set "0" (zero) for the day of the month, the alarm will power on your system every day at the specified time.

Month Alarm: When Resume by Alarm is enabled, you can set the month (1 – 12) you wish the computer to turn on.

Day (of Month) Alarm: When Resume by Alarm is enabled, you can set the date you wish the computer to turn on.

Time (hh:mm:ss) Alarm: When Resume by Alarm is enabled, you can set the time you wish the computer to turn on.

PnP/PCI Configuration Option

This option displays a table of items that configures how PnP (Plug and Play) and PCI add-in cards operate in your system.

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

Reset Configuration Data	Disabled	**Item Help**
Resources Controlled by	Auto(ESCD)	Menu Level ▶
x IRQ Resources	Press Enter	
PCI/VGA Palette Snoop	Disabled	Default is Disabled. Select Enabled to reset Extended System Configuration Data (ESCD) when you exit Setup if you have installed a new add-on and the system reconfiguration has caused such a serious conflict that the OS cannot boot.

↑↓→← : 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 PnP 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) add-in 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 assignations to Legacy ISA, then that Interrupt Request Line is reserved for a legacy ISA add-in 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.

PC Health Status Option

On mainboards that support hardware monitoring, this item lets you monitor the parameters for critical voltages, critical temperatures, and fan speeds.

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

Shutdown Temperature 60ºC/140ºC		**Item Help**
CPU Core Voltage		
Vcc 2.5V		**Menu Level** ►
Vcc 3.3V		
Vcc 5.0V		
+12V		
SB 3.3V		
-12V		
SB 5.0V		
Voltage Battery		
CPU Temperature		
System Temperature		
CPU FAN speed		
System FAN speed		

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

---

Shutdown Temperature

Enables you to set the maximum temperature the system can reach before powering down.

System Component Characteristics

These fields provide you with information about the systems current operating status. You cannot make changes to these fields. The following information is displayed:

- CPU Core Voltage
- 3.3V (onboard 3.3 volt)
- 5V (power supply's 5 volt)
- Voltage Battery
- 12V (power supply's 12 volt)
- CPU Temperature
- System Temperature
- CPU FAN (in RPMs)
- System FAN (in RPMs)

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 Control

Auto Detect DIMM/PCI Clk	Enabled	**Item Help**
Spread Spectrum Modulated	**Disabled**	
CPU Host/SDRAM/PCI Clock	Auto	**Menu Level** ▶
CPU Clock Ratio Jumpless	**By H/W**	

↑↓→← : 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: Disabled***

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

CPU Host/SDRAM/PCI Clock   Default: Auto

These items appear if you have set the *CPU Internal Core Speed* to Manual. Use the *CPU/SDRAM/PCI Clock* to set the system bus frequency for the installed processor (usually 133 MHz, 100 MHz or 66 MHz).

CPU Clock Ratio Jumpless   Default: By H/W

Use this item to select a multiplier for the system frontside bus (FSB) frequency. The value of the multiplier must be set so that:

   Multiplier x Front Side Bus Frequency = CPU Clock Speed

For example, if you have a processor that is rated to run at 450 MHz and the system is running a front side bus frequency of 100 MHz, you should select a multiplier of 4.5 so that:

4.5 (Multiplier) x 100 MHz (front side bus) = 450 MHz (CPU clock)

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 the <F7> key.

Set Passwords

These items can be used to install a password. A password takes precedence over a User password, and the Supervisor can limit the activities of a User. To install a password, follow these steps:

1. Highlight the item Set Supervisor/User password on the main menu and press <Enter>.

2. The password dialog box appears.

> **Enter Password:**

3. If you are installing a new password, type in the password. You cannot use more than eight characters or numbers. The Set Supervisor/User 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 a message that indicates that the password has been disabled.

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

4. The system will ask you to confirm the new password by asking you to type it in a second time.

> **Confirm Password:**

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.

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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 Setup Utility 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 setup
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

About the 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 revisions of the system BIOS (CMOS)
- ❑ **MEDIARING TALK:** Telephony software
- ❑ **PC-CILLIN:** Anti-virus software
- ❑ **SUPER VOICE:** Fax/modem software

Peripheral Folder

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

- ❑ **KEYBOARD, CD-ROM, MOUSE:** These three folders have drivers for accessories manufactured by BTC. Some system assemblers ship these accessories with complete systems based on this mainboard.

P6SSM2 Folder

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

- ❑ **LAN:** Drivers for onboard network adapter.
- ❑ **VGA:** Drivers and software for the built-in graphics adapter.
- ❑ **AUDIO:** Drivers and software for the built-in audio.

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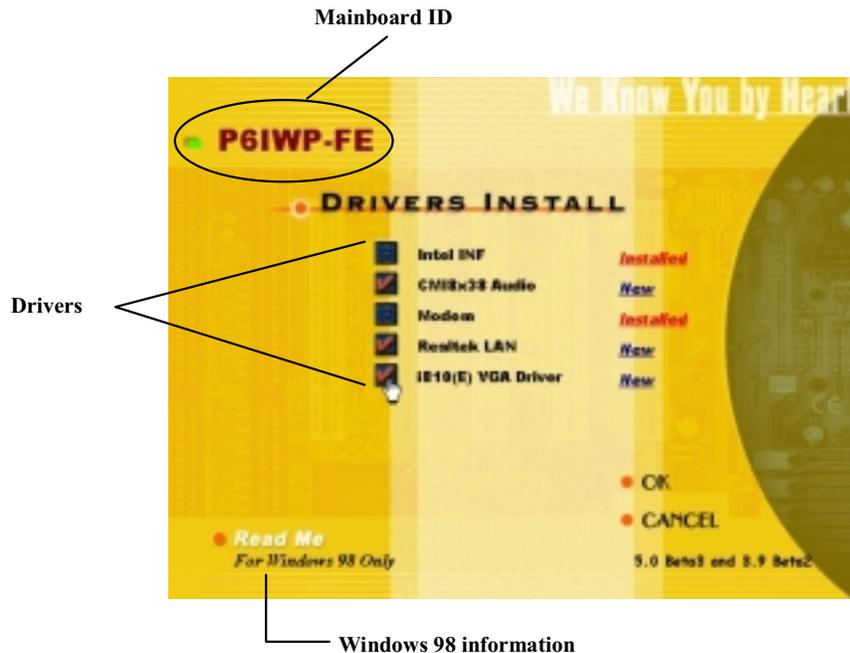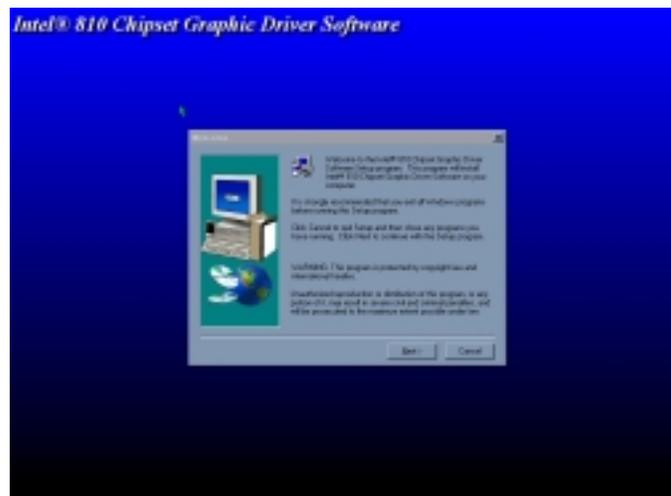
The mainboard identification is located in the upper left-hand corner. Click which drivers you want to install, and then click **OK**. Click **Cancel** if you do not want to install drivers at this time.

After clicking **OK**, the install Wizard will start.

A driver installation screen appears:

Follow the instructions on the screen to install the driver.

Software is automatically installed in sequence. You will need to follow the onscreen instructions, confirm commands and allow the computer to restart a few times to complete installing whatever software you selected to install:

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 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 File Manager 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 File Manager to display file extensions (for example,* EXE*).*

Utility Folder Installation Notes

AWD 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 must use the **AWD7xx.EXE** utility (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 98/95/NT). If you are using Windows 98/95, 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 WIN98. 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 PSCAN to scan your system. For Windows 98, run SETUP 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 to install the application software.

Super Voice

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

Peripheral Folder Installation Notes

KEYBOARD, CD-ROM, MOUSE

Follow the installation instructions contained in the documentation files in these folders.

Mainboard (P6SSM2) 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.

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.

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 SiS\AC97AUDIO\DOS folder on the driver CD-ROM and run the SETUP program.

Windows 2000/ME/98/95 Installation

Browse to the \SiS\AC97AUDIO\ 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.
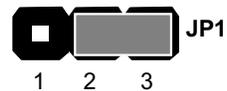10. Restart the Windows NT system.

Appendix: Jumper Setting Reference

Jumper Setting Quick Reference

JP1: Clear CMOS jumper

Use this jumper to clear the system CMOS. Before clearing CMOS, the AC power should be disconnected.

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

JP1

1 2 3

JP2: Keyboard power on jumper (manufacturing option)

Use this jumper to enable the keyboard to power on the computer.

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

JP2

1 2 3

JP3: ROM Power

This jumper is used to adjust the power for the onboard ROM. DO NOT make any adjustments to this jumper.

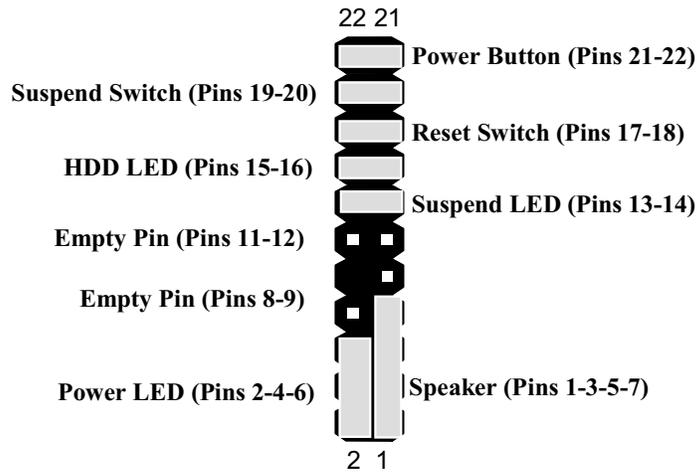### *JP5: BIOS write protect jumper*

Use this jumper to make the BIOS read-only.

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

JP5

1 2 3

PANEL1 Panel Connector

The mainboard PANEL1 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.

22 21

Suspend Switch (Pins 19-20)

HDD LED (Pins 15-16)

Empty Pin (Pins 11-12)

Empty Pin (Pins 8-9)

Power LED (Pins 2-4-6)

Power Button (Pins 21-22)

Reset Switch (Pins 17-18)

Suspend LED (Pins 13-14)

Speaker (Pins 1-3-5-7)

2 1

Function	Pins
Power Button	21, 22
Suspend Switch	19, 20
Reset Switch	17, 18
Hard Disk LED Indicator	+15, 16
Suspend LED Indicator	13, +14
Empty Pin	11, 12
Empty Pin	8, 9
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.