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Version 1.0

Safety Compliance

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 shielded AC power cable must be employed with this equipment to insure 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.

Table of Contents

Chapter 1: Introduction

Welcome

Congratulations on your purchase of the P5SS-Me mainboard. The P5SS-Me mainboard is a micro ATX board measuring 243.8 mm by 198.2 mm and using a 4-layer printed circuit board. This is a socket-7 board which supports a wide range of Pentium and Pentium-compatible processors which adhere to the socket-7 pinout. The board supports a system bus frequency of up to 100 MHz. The P5SS-Me is supplied with an AGP 3D-graphics controller and a 3D-audio controller pre-installed on the motherboard. The high level of integration contributes to the stability of the system, and means that the board is ready to use with the addition of just a socket-7 CPU and a DIMM memory module.

This chapter contains the following information:

- **About the Manual** explains how the information in this manual is organized

- **Checklist** comprises a list of the standard and optional components that are shipped with this mainboard,

- **Features** highlights the functions and components that make this one of the best value mainboards on the market

About the Manual

The manual consists of the following chapters:

Introduction

Use the **Introduction** Chapter to learn about the features of the mainboard, and 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 use the software drivers and support programs that are provided with this mainboard.

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.

<u>Standard Items</u>

- ✓ 1 x P5SS-Me Mainboard
- ✓ 1 x Cable/Bracket Pack
        Diskette drive ribbon cable
        IDE drive ribbon cable
        Serial Port Bracket
- ✓ This User's Manual
- ✓ Software Support Diskettes or CD-ROM Disc

Features

This is an economic platform which provides entry-level through to business-class Pentium performance for minimum cost. The board is highly integrated and includes a 3D-graphics system and a 3D-audio system. To create a fully working PC, you need only add a Pentium/Pentium-compatible processor and a memory module.

Low-cost Processing

The socket-7 processor socket supports a wide range of low-cost Pentium and Pentium-compatible processors from a variety of vendors. You can install the board with an Intel Pentium or Pentium MMX, an AMD K5 or K6, or a Cyrix/IBM 6X86. The board will support a wide range of CPU clocks all the way through to over 500 MHz, and CPU voltages of 2.1 up to 3.5 volts. All the supported processors have internal level-1 cache memory and the mainboard can be optionally installed with either 1 or 2 MB of level-2 cache memory.

Up to 1 Gigabyte Memory Capacity

The board has two DIMM sockets for the installation of one or two 168-pin DIMM memory modules. The DIMM memory modules should be installed with SDRAM memory chips. The board supports a wide range of memory bus frequencies all the way through to 100 MHz. The board will support the popular PC-100 DIMM modules which run over a 100 MHz memory bus. Each DIMM module can be installed with up to 512 MB of memory so total maximum memory is 1 GB.

Highly Integrated Design

This mainboard features a high level of integrated functions provided by the onboard chipsets. The SIS 530 provides all the north bridge support – CPU and memory addressing, PCI-IDE controller, and PCI-bus interface. In addition, the SIS 530 provides a complete AGP graphics controller solution. The SIS 5595 provides the south bridge support – ACPI power management, keyboard controller, and USB interface. The Winbond W83877 is a single chip I/O solution, and the Elite PCI Audio-CMI8338 chip provides the onboard 3D audio feature. This highly integrated mainboard ensures stability and allows a fully functional system to be created by adding just a processor and memory.

Built-in AGP 3D-Graphics

This mainboard features a built-in 3D-graphics controller integrated in the SIS 530 chipset. The graphics controller uses a shared memory architecture that allows it use either 2 MB, 4 MB, or 8 MB of the system's main memory. The graphics controller has hardware accelerators for both 3D and 2D graphics. The graphics system will support extended high resolution displays up to 1600 x 1200. At an XGA resolution of 1024 x 768, the graphics system supports a color depth of 16 million colors.

Built-in PCI 3D Sound

The Elite PCI Audio chip is a single chip solution for 3D audio. The chip provides Sound Blaster 16-bit-compatible audio, plus support for Microsoft's DirectSound 3D specification and Aureal A3D interface. The sound ports include jacks for speakers, microphone and stereo in, and a game/MIDI port. The audio system supports full duplex operation and drivers are available for WIN 95/98 and WIN NT 4.0. The audio system also support SPDIF 24-bit digital sound input and output.

Solid Expansion Options

Because this is a highly integrated board with built-in video, audio, and a full set of I/O ports, it does not require a full set of expansion slots. The board provides three usable slots. The board has three 32-bit PCI slots and on 8/16-bit ISA slot. The ISA slot is shared with one of the PCI slots meaning that you can use either the ISA slot or the PCI slot, but not both at the same time.

Integrated I/O

Courtesy of the Winbond W83877 I/O chip and the SIS 530/5595 chipset, the board has a comprehensive set of integrated I/O ports. The I/O port array features PS/2 keyboard and mouse ports, a parallel port, two USB ports, one serial port, one VGA port, a game/MIDI port, and three audio jacks. Optionally, you can use the built-in mainboard headers to add in a second serial port, or a serial infrared port. The mainboard has two PCI-IDE channels and a floppy disk drive interface.

Keyboard Power On Feature

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

Programmable Firmware

The mainboard includes Award BIOS which allows BIOS setting of CPU parameters. The fully programmable firmware enhances the system features and allows users to set power management, CPU and memory timing, LAN and Modem wake up alarms, and so on.

Chapter 2: Installation

Before You Begin

Before you begin to install your P5SS-Me mainboard, take some precautions to ensure that you avoid the possibility of damage to 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 P5SS-Me mainboard complies with the specifications for a micro-ATX board. The micro-ATX format features small size, fewer expansion slots and smaller power consumption, so that the system case is less expensive. You can also install this kind of board into a full-size ATX 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 P5SS-Me 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.

Mainboard Guide

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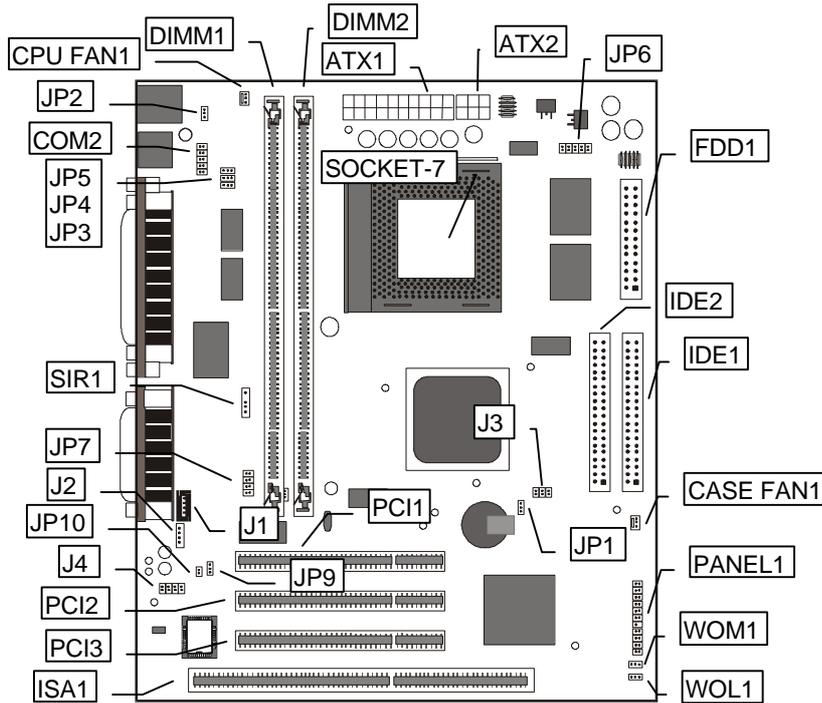
Key to Mainboard Components

Component	Description
ISA1	1 x 8/16-bit ISA expansion slots
PCI 1,2,3	3 x 32-bit PCI expansion slots
SOCKET-7	Processor socket
DIMM1, DIMM2	Slots for 168-pin memory module
FDD1	Connector for floppy disk drives
IDE1, IDE2	Primary and secondary IDE channels
ATX1	Connector for ATX power supply
ATX2	Power connector for optional 1394 serial bus device
COM2	Connectors for serial port 2
SIR1	Connector for optional infrared port
PANEL1	Panel connector for switches and indicators
CPU FAN1	Power connector for CPU cooling fan
CASE FAN1	Power connector for case cooling fan
WOM1	Connector for modem wake up

WOL1	Connector for LAN wake up
JP1	Clear CMOS memory jumper
JP2	Keyboard power on jumper
JP3,4,5	System bus multiplier for CPU clock
JP6	Processor core voltage setting
JP7	Speed setting for system bus, PCI bus, memory bus
JP9	Audio enable/disable jumper
JP10	Set SPDIF output signal level jumper
J1	Audio connector for optional CD-ROM drive
J2	Auxiliary audio connector for optional CD-ROM drive
J3	SB-Link connector for optional PCI Sound Blaster audio card
J4	SPDIF In/out connector (professional 24-bit digital audio interface)

Side View of the Input/Output Ports
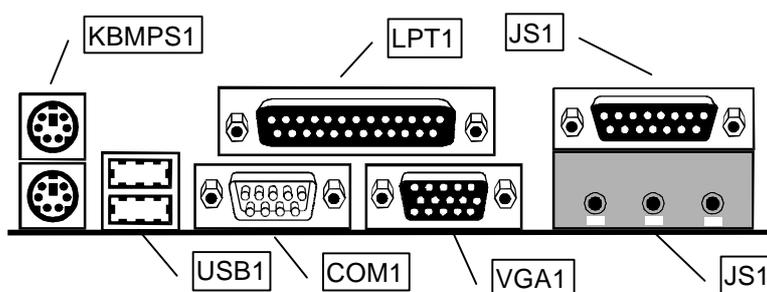
Component	Description
KBMPS1	PS/2 port for pointing device (upper port)
	PS/2 port for keyboard (lower port)
LPT1	External parallel port
JS1 (Upper)	External game/MIDI port
JS1 (Lower)	Audio jacks for (from left to right) line out, line in, microphone
VGA1	External connector for display monitor
COM1	External serial port 1/3
USB1	Two stacked Universal Serial Bus ports

Preparing the Mainboard

Prepare the main board by installing the Pentium or Pentium-compatible processor and then installing either one or two memory modules. This board supports processors that run from 90MHz through to 266Mhz. Finally, review all the important jumper settings to ensure that the board is configured correctly.

Install the Processor

This mainboard is installed with a socket-7 processor socket. A wide range of processors are designed for installation in the socket-7; Intel Pentium, Intel Pentium MMX, AMD K5 series, K6 series and K6/2 series, Cyrix/IBM 6X86 series, 6X86L series, and 6X86M series.

Each of these socket-7 processors is designed to run at a particular internal frequency (the CPU clock) and at a particular external frequency (the system bus). Refer to *Appendix 2: CPU Settings Table* for more information. This mainboard can be configured to support almost all the frequencies required by these socket-7 processors.

Follow the steps below to install the processor in the socket-7.

1. Locate the zero insertion force (ZIF) socket-7 for the processor.

Typical Socket-7
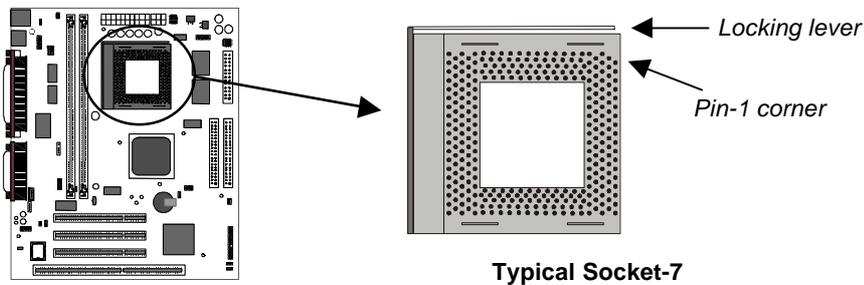
2. On the socket and on the processor, identify the pin 1 corner. You can identify the pin 1 corner by noting that in the rectangular matrix of pins and holes on the socket and processor, one pin and one hole is absent on the pin 1 corner.
3. Push the socket locking lever away from the socket to unhook it. Swing the lever into the upright position.
4. Insert the processor into the socket taking care that you have matched the pin 1 corners. No force is required, and the processor should seat smoothly into the socket.
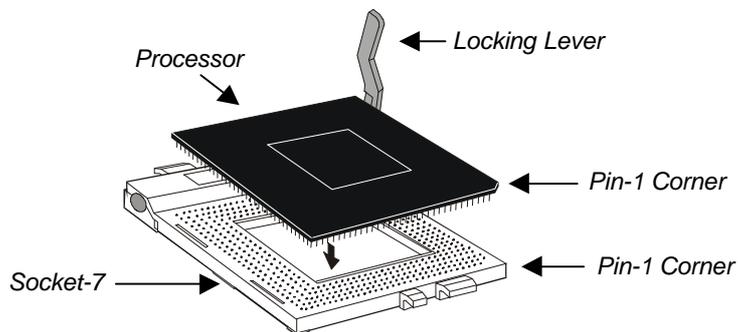
5. Swing the locking lever down and hook it under the latch on the side of the socket to lock it in place.
6. Locate the power connector for the processor cooling fan CPU FAN1. If your processer has a cooling fan installed, connect the cable from the cooling fan to CPU FAN1.

CPU FAN1
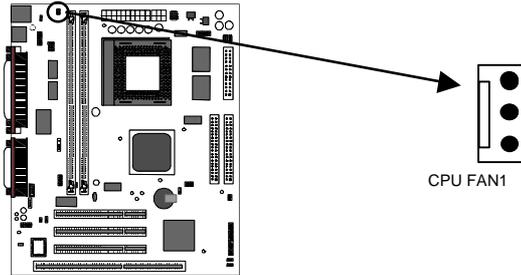
Install the Memory Modules

For this mainboard, you must use 168-pin Dual In-line Memory Modules (DIMMs) which are installed with Synchronous Dynamic Random Access Memory (SDRAM) chips. Your system will not function if you try to use any other kind of memory.

Most memory modules are designed to operate over a 66 MHz system bus or a 100 MHz system bus. This board supports both these system bus frequencies plus many other frequencies. The system bus frequency is determined by the processor that you have installed. See *Appendix 2: CPU Settings Table* for more information.

The DIMMs can hold memory capacities from 8 MB through to 512 MB. You can install one or two DIMMs in any combination. If you are installing just one DIMM, install it in DIMM socket 1.

1. Locate the DIMM sockets on the mainboard.

DIMM2

DIMM1
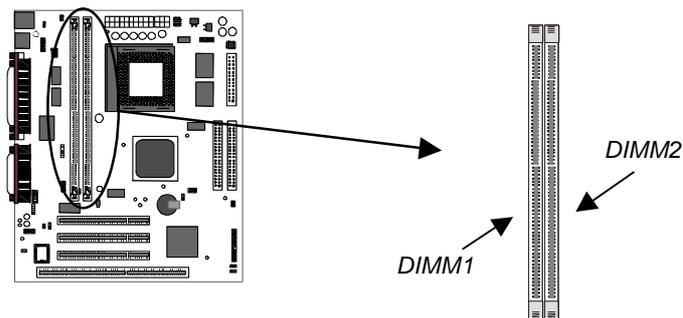
2. The SDRAM sockets are keyed with notches and the DIMMs are keyed with cut-outs so that they can only be installed correctly. Check that the cut-outs on the DIMM edge connector matches the notches in the SDRAM socket.
3. Push the latches on each side of the SDRAM socket down.
4. Install the DIMM into the socket and press it carefully but firmly down so that it seats correctly. The latches at either side of the socket will be levered upwards and latch on the edges of the DIMM when it is installed correctly.

DIMM Memory Module

Latch

Latch

DIMM Socket
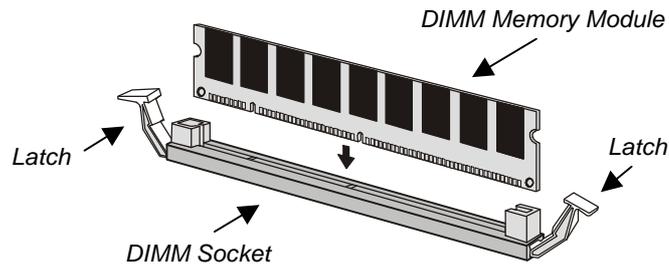
Check all the Jumper Settings

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

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

JP1: Clear CMOS Memory Jumper

This jumper lets you erase the system setup settings that are stored in CMOS memory. You might need to erase this data if incorrect settings are preventing your system from operating. To clear the CMOS memory, turn off the system, disconnect the power cable from the mainboard, and short the appropriate pins for a few seconds.

JP1

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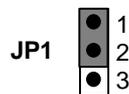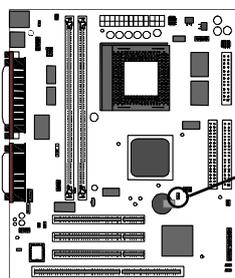
Function	Jumper Cap
Normal operation	Short pins 1-2
Clear CMOS	Short pins 2-3

JP2: Keyboard Power On Jumper

This jumper lets you use a typed-in password, or keyboard hot keys, as a power switch to turn your system on. If you enable this property, you need to define the password or the hot keys using the setup utility. See Chapter 3 for more information.
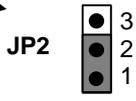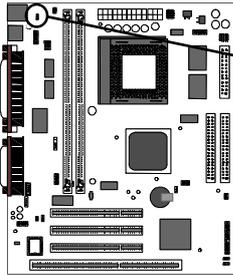
Function	Jumper Cap
Enable keyboard power on	Short pins 1-2
Disable keyboard power on	Short pins 2-3

JP3,4,5: Set System Bus Multiplier Jumper

The system bus frequency and the CPU clock speed are determined by the type of processor that is installed. See *Appendix 2: CPU Settings Table*. On this board, you must set the system bus with jumper J7. Then, you can configure the CPU clock speed by creating a system bus multiplier. The CPU clock speed is the product of the system bus frequency times the multiplier. For example, if you have a system bus speed of 100 MHz and a multiplier of 3.5, the CPU clock speed will be 300 x 3.5 = 350 MHz.
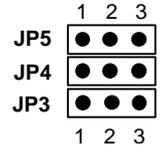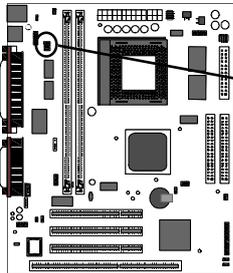
System Bus Multiplier	Short Pin Settings		
	JP3	JP4	JP5
2.5	1-2	2-3	2-3
3	1-2	2-3	1-2
2	1-2	1-2	2-3
1.5/3.5	1-2	1-2	1-2
4.5	2-3	2-3	2-3
5	2-3	2-3	1-2
4	2-3	1-2	2-3
5.5	2-3	1-2	1-2

JP6: Set Processor Core Voltage Jumper

Different processor types have different core voltage requirements. See *Appendix 2* for information on the core voltage required for the processor that you have installed. Use this jumper to set the correct voltage.
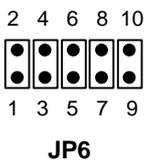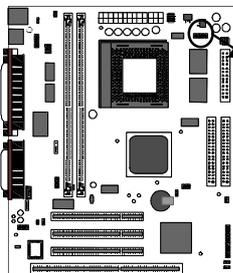
Volt.	Pin Settings				
	1-2	3-4	5-6	7-8	9-10
3.5V	Short	Short	Short	Short	N/A
3.3V	Short	Open	Short	Short	N/A
3.2V	Open	Open	Short	Short	N/A
2.9V	Short	Open	Open	Short	N/A
2.8V	Open	Open	Open	Short	N/A
2.5V	Short	Open	Short	Open	N/A
2.2V	Open	Short	Open	Open	N/A
2.1V	Short	Open	Open	Open	N/A

11

JP7: Set Frequencies for System Bus, PCI Bus, & Memory Bus Jumper

The system bus frequency is determined by the kind of processor you have installed on the board. Most currrent memory modules are PC-100 compliant which means that they operate with a 100 MHz memory bus. Older memory modules might be designed for a 66 MHz memory bus. Nearly all PCI cards are designed to operate reliably over a 33.3 MHz PCI bus. Use the jumper JP7 to select the frequency of these buses according to the specifications of the processor, memory modules, and PCI cards that you have installed.

JP7

1	• •	2
3	• •	4
5	• •	6
7	• •	8
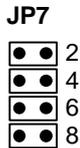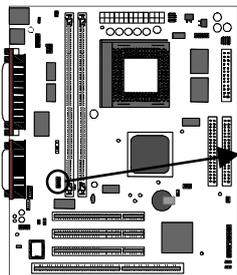
Bus Frequencies			JP7 Pin Settings			
Syst	Mem	PCI	1-2	3-4	5-6	7-8
133.3	133.3	33.3	Open	Open	Open	Open
124	124	31	Open	Open	Open	Short
112	112	37.3	Open	Open	Short	Open
100	100	33.3	Open	Open	Short	Short
95	95	31.7	Open	Short	Open	Open
83.3	83.3	33.3	Open	Short	Open	Short
75	75	30	Open	Short	Short	Open
66.7	66.7	33.3	Open	Short	Short	Short
133.3	88.9	33.3	Short	Open	Open	Open
124	82.7	31	Short	Open	Open	Short
112	74.7	37.3	Short	Open	Short	Open
105	70	35	Short	Open	Short	Short
100	66.7	33.3	Short	Short	Open	Open
95	63.3	31.7	Short	Short	Open	Short
83.3	66.6	33.3	Short	Short	Short	Open
66.8	89.1	33.4	Short	Short	Short	Short

JP9: Audio System Enable/disable Jumper

This jumper lets you enable or disable the audio system that is integrated on the mainboard. You must disable the audio system if you install an alternative sound card using one of the expansion slots.

JP9
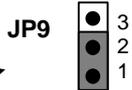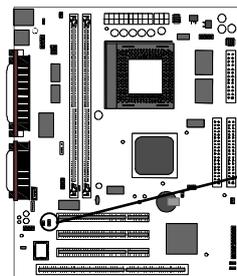
Function	Jumper Cap
Enable audio	Short Pins 1-2
Disable audio	Short pins 2-3

JP10: Set SPDIF Output Signal Level Jumper

If you use the SPDIF Input/Output connector (J4), you can use this jumper to set the level of the output signal to either 5 volts or 0.5 volts.

Function	Jumper Cap
5 volts	Short pins 1-2
0.5 volts	Open pins 1-2

2
1 **JP10**
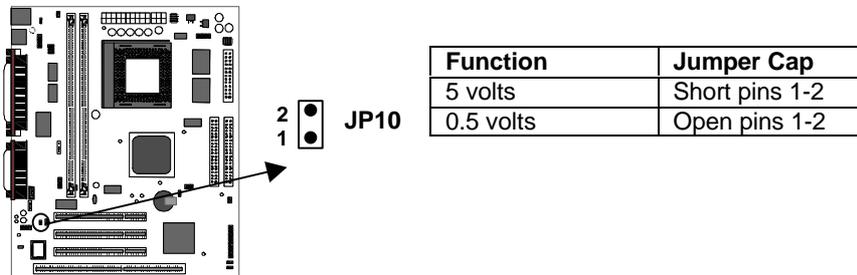
Install the Mainboard in the System Case

Use the screws and mounting brackets supplied with your system case to install the mainboard. Follow the instructions provided by the case manufacturer.

Connect Devices, Switches and Indicators to the Mainboard

Note: You might not need to carry out every step in the following procedure. It depends on the options you are installing, and the features that are supported by your system case.
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 red stripe on the cable.

Part One – Internal Connections

1. Locate the floppy diskette drive connector FDD1. Use the ribbon cable to connect one or two floppy diskettes to the mainboard.
2. Locate the Enhanced IDE connectors IDE1 (primary) and IDE2 (secondary). A single IDE cable is provided with the mainboard. Connect the cable to IDE1. The cable has two connectors for IDE devices. If you connect two devices, you must configure one device as Master, and one device as Slave. See the documentation provided with the devices for information on this. To install more drives, use another IDE cable and connect one or two devices to IDE2.

FDD1

IDE1

IDE2
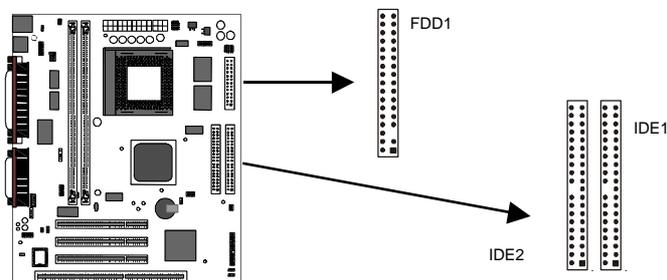
3. Locate the power connector ATX1. Connect the power cable from the power supply unit to ATX1. The connector is keyed so that it can only be installed correctly.
4. Locate the 1394 serial bus device power connector ATX2. If you are installing a 1394 serial device, connect the power cable from the device to this connector.
5. If your system case has a built-in cooling fan, you can supply power to the fan from the case fan power connector CASE FAN1. Connect the power cable from the fan to CASE FAN1.
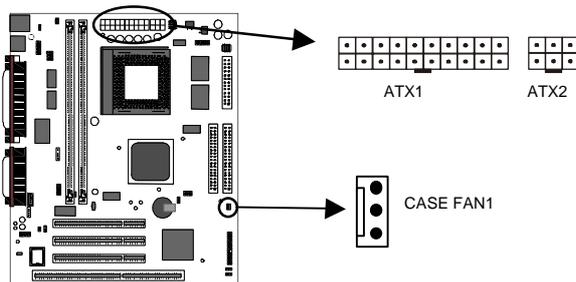
6. If you want to install a second serial port, connect the data cable from the optional second serial port to the COM2 connector on the mainboard.
7. If you want to install an optional Serial Infrared Port, connect the cable from the optional IR port to the SIR1 connector on the mainboard.

Note: You can install a second serial port or an infrared port. If you install both, you will not be able to use them at the same time. Use the setup utility to assign the second serial port to COM2 or SIR1.
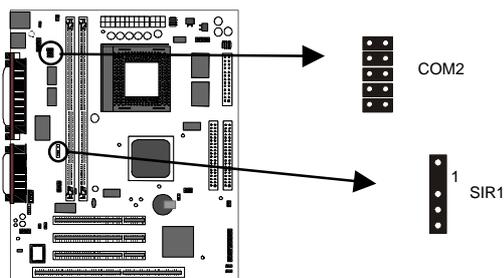
8. Locate the bank of switch and indicator connectors PANEL1. These connectors provide control functions to your system case. Use the table below to make the connections.
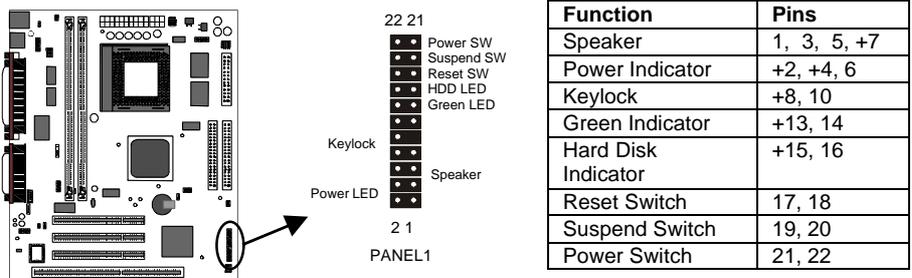
Function	Pins
Speaker	1, 3, 5, +7
Power Indicator	+2, +4, 6
Keylock	+8, 10
Green Indicator	+13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22

9. The mainboard has wake up connectors for an optional network adapter or an optional internal fax.modem card. If you have installed a network adapter expansion card, connect it to the wake on LAN connector WOL1. If you have installed an internal fax/modem expansion card, connect it to the wake on modem connector WOM1.
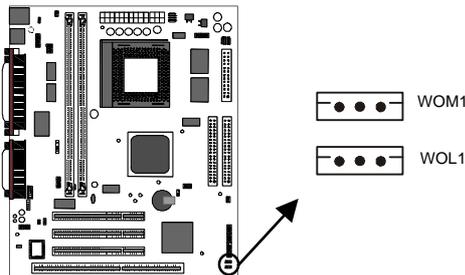
10. The mainboard has four audio connectors. J1 is an 4-pin audio connector which can be used to input the audio from a CD-ROM or DVD drive. J2 is exactly the same, except that it supports an alternative kind of connector. Use either J1 or J2 to connect your CD/DVD drive audio output. If you have installed a device which supports SPDIF digital audio, you can connect the device to the SPDIF output connector J$. If you disable the built-in audio and install a Sound Blaster PCI sound card, you can connect it to the SB-Link connector J3. SB-Link allows a PCI Sound Blaster card to function correctly while playing DOS real-mode games.

15
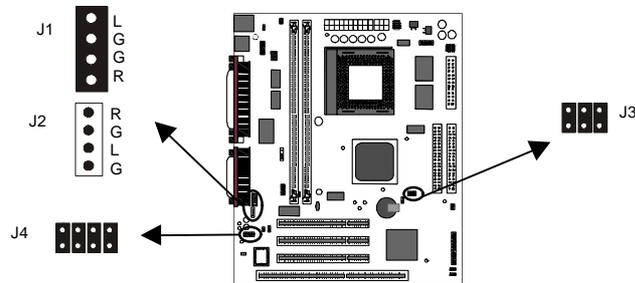
11. Locate the 32-bit PCI expansion slots and the 8/16 bit ISA expansion slots. Install any expansion cards into the correct kind of slot, and secure the card bracket to the system case.

PCI Slots

ISA Slot
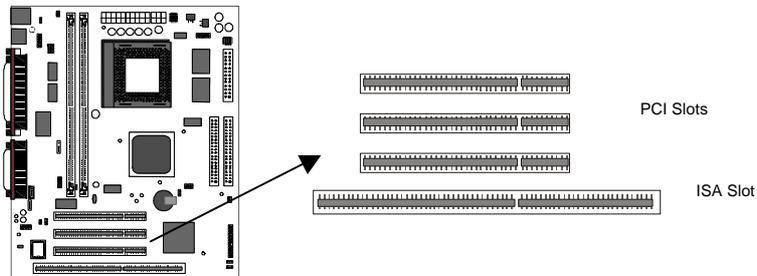
Part Two – External Connections

After you have installed the mainboard and completed the internal connections, you can use the external connectors to attach peripheral devices to your system.
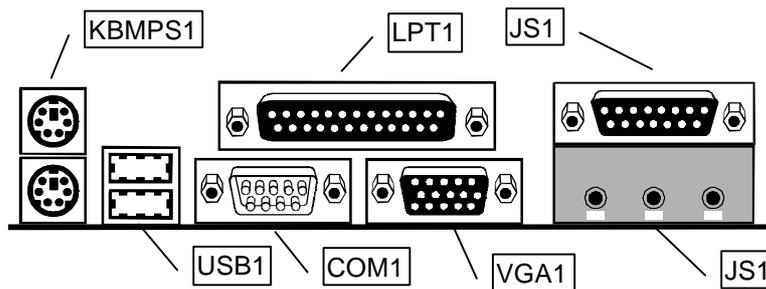
1. KBMPS1 is a stack of two PS/2 mini-DIN ports. The upper port can be used by a PS/2 mouse or pointing device. The lower port can be used by a PS/2 keyboard.
2. LPT1 is a parallel port that can be used by printers or other parallel communications devices. The system identifies the parallel port as LPT1.

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3. The upper 15-pin port JS1 is a game/MIDI port. You can use this port to connect a joystick or a MIDI device to your system
4. The lower part of JS1 is three audio jacks. 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.
5. VGA1 is the connector for the external monitor. Use this port to connect to a VGA or higher resolution display monitor.
6. COM1 is a serial port that can be used by serial devices such as a mouse, a fax/modem and so on. This serial port is identified by the system as COM1/3.
7. USB1 is a stack of two Universal Serial Bus ports. Use these ports to connect to USB devices.

Chapter 3: Setup

About the Setup Utility

This chapter explains how to use and modify the BIOS setup utility that is stored on the mainboard. The setup utility stores information about the mainboard components, and the configuration of other devices that are connected to it. The system uses this information to test and initialize components when it is started up, and to make sure everything runs properly when the system is operating.

The setup utility is installed with a set of default values. The default values are designed to ensure that the system will operate adequately. You will probably have to make changes to the setup utility whenever you add new components to your system such as new disk drives. You may be able to generate increased performance by changing some of the timing values in the setup, but this can be limited by the kind of hardware you are using, for example the rating of your memory chips. In certain circumstances, the system may generate an error message which asks you to make changes to the setup utility. This happens when the system finds an error during the POST (power on self test) that it carries out at start up.

Starting the Setup Utility

You can only start the setup utility shortly after the computer has been turned on. A prompt appears on the computer display which says "*Press DEL to run Setup*". When you see this prompt, press the **Delete** key, and the system will start the setup utility and display the main menu of the utility.

Using the Setup Utility

When you press the **Delete** key to start setup, the main menu of the utility appears.

The main menu of the setup utility shows a list of the options that are available in the utility. A highlight shows 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 dialog boxes which ask you verify that that you wish to execute that option. You usually answer these dialogs by typing **Y** for yes and **N** for no.

Some options lead to dialog boxes which ask for more information. Setting the User Password or Supervisor Password have this kind of dialog box.

```
                    ROM PCI/ISA BIOS (P5SS-ME0)
                       CMOS SETUP UTILITY
                      AWARD SOFTWARE, INC.
  ┌──────────────────────────────────────────────────────────────┐
  │                                                                │
  │   STANDARD CMOS SETUP          │   INTEGRATED PERIPHERALS      │
  │                                │                               │
  │   BIOS FEATURES SETUP          │   PASSWORD SETTING            │
  │                                │                               │
  │   CHIPSET FEATURES SETUP       │   IDE HDD AUTO DETECTION      │
  │                                │                               │
  │   POWER MANAGEMENT SETUP       │   SAVE & EXIT SETUP           │
  │                                │                               │
  │   PNP/PCI CONFIGURATION        │   EXIT WITHOUT SAVING         │
  │                                │                               │
  │   LOAD BIOS DEFAULTS           │                               │
  │                                │                               │
  │   LOAD SETUP DEFAULTS          │                               │
  ├────────────────────────────────┴───────────────────────────────┤
  │   Esc : Quit                       ↑ ↓ → ←  : Select Item      │
  │   F10 : Save & Exit Setup          (Shift)F2 : Change Color    │
  ├──────────────────────────────────────────────────────────────┤
  │                                                                │
  └──────────────────────────────────────────────────────────────┘
```

Some options lead to tables of items. These items usually have a value on the right side. The value of the first item is highlighted, and you can use the cursor arrow keys to select any of the other values in the table of items. When an item is highlighted, you can change the value by pressing the **PageUp** or **PageDown** keys, or the **Plus** or **Minus** keys. The **PageUp** and **Plus** keys cycle forward through the available values, the **PageDown** and **Minus** keys cycle backwards through the values.

When you are in the main menu, you can exit the utility by pressing the **Escape** key. You can save the current selections and exit the utility by pressing the **F10** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key.

When you are in one of the options that displays a dialog box, you can return to the main menu by pressing the **Escape** key.

When you are in one of the options that displays a table of items, you can return to the main menu by pressing the **Escape** key. For some items, you can display a help message by pressing the **F1** key. You can change the color scheme of the utility by pressing the **F2** key while holding down the **Shift** key. You can press **F5** to discard any changes you have made and return all items to the value that they held when the setup utility was started. You can press **F6** to load the displayed items with a standard list of default values. You can press **F7** to load the displayed items with a high-performance list of default values.

Standard CMOS Setup Option

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

```
                    ROM PCI/ISA BIOS (P5SS-ME0)
                       STANDARD CMOS SETUP
                       AWARD SOFTWARE, INC.
 ┌──────────────────────────────────────────────────────────────────┐
 │                                                                    │
 │   Date (mm:dd:yy) : Mon, Nov 30 1998                               │
 │   Time (hh:mm:ss) : 10 : 12 : 25                                   │
 │                                                                    │
 │   HARD DISKS        TYPE    SIZE    CYLS HEAD PRECOMP LANDZ SECTOR  MODE │
 │                                                                    │
 │   Primary Master  :   0       0       0    0       0     0      0 NORMAL │
 │   Primary Slave   :   0       0       0    0       0     0      0 NORMAL │
 │   Secondary Master :  0       0       0    0       0     0      0 NORMAL │
 │   Secondary Slave :   0       0       0    0       0     0      0 NORMAL │
 │                                                                    │
 │   Drive A : 1.44M, 3.5 in.                                         │
 │   Drive B : None              ┌──────────────────────────┐         │
 │                               │                          │         │
 │   Video   : EGA/VGA           │                          │         │
 │   Halt On : All Errors        │                          │         │
 │                               │                          │         │
 │ ESC : Quit          ↑ ↓ → ←  : Select Item    PU/PD/+/- : Modify   │
 │ F1  : Help          (Shift)F2 : Change Color                       │
 └──────────────────────────────────────────────────────────────────┘
```

Date and Time

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

Hard Disks   Defaults: None

These items show the characteristics of any hard disk drives on the four available IDE channels. (Note that SCSI hard disk drives do not appear here.) You can automatically install most modern hard disks using the IDE HDD Auto Detect Option from the main menu. However, if you find that a drive cannot be automatically detected, you can use these items to select USER, and then manually enter the characteristics of the drive. The documentation provided with your drive provides the data you need to fill in the values for CYLS (cylinders), HEAD (read/write heads), and so on.

The documentation provided with the drive may not tell you what value to use under the MODE heading. If the drive is smaller than 528 MB, set MODE to Normal. If the drive is larger than 528 MB and it supports Logical Block Addressing, set MODE to LBA. Very few high-capacity drives do not support Logical Block Addressing. If you have such a drive, you might be able to configure it by setting the MODE to Large. If you're not sure which MODE setting is required by your drive, set MODE to Auto and let the setup utility try to determine the mode automatically.

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.

Video   ***Default: EGA/VGA***

This item defines the video mode of the system. This mainboard has a built-in VGA graphics system so 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 kind of errors in the POST are sufficient to halt the system.

BIOS Feature Setup Option

This option displays a table of items which defines more advanced information about your system. You can make modifications to most of these items without introducing fatal errors to your system.

```
                      ROM PCI/ISA BIOS (P5SS-ME0)
                         BIOS FEATURES SETUP
                         AWARD SOFTWARE, INC.

  ┌─────────────────────────────────────┬─────────────────────────────────────┐
  │ Virus Warning           : Disabled  │ Video  BIOS Shadow  : Enabled        │
  │ CPU Internal Cache      : Enabled   │ C8000-CBFFF Shadow  : Disabled       │
  │ External Cache          : Enabled   │ CC000-CFFFF Shadow  : Disabled       │
  │ Quick Power On Self Test: Enabled   │ D0000-D3FFF Shadow  : Disabled       │
  │ Boot From LAN First     : Enabled   │ D4000-D7FFF Shadow  : Disabled       │
  │ Boot Sequence           : A,C,SCSI  │ D8000-DBFFF Shadow  : Disabled       │
  │ Swap Floppy Drive       : Disabled  │ DC000-DFFFF Shadow  : Disabled       │
  │ Boot Up Floppy Seek     : Enabled   │                                      │
  │ Boot Up NumLock Status  : On        │                                      │
  │ Typematic Rate Setting  : Disabled  │                                      │
  │ Typematic Rate (Chars/Sec) : 6      │                                      │
  │ Typematic Delay (Msec)  : 250       │                                      │
  │ Security Option         : Setup     │                                      │
  │ PCI/VGA Palette Snoop   : Disabled  │                                      │
  │ OS Select For DRAM > 64MB : Non-OS2 ├──────────────────────────────────────┤
  │                                     │ ESC : Quit        ↑↓→← : Select Item  │
  │                                     │ F1  : Help        PU/PD/+/- : Modify  │
  │                                     │ F5  : Old Values  (Shift)F2 : Color   │
  │                                     │ F6  : Load BIOS  Defaults             │
  │                                     │ F7  : Load Setup Defaults             │
  └─────────────────────────────────────┴─────────────────────────────────────┘
```

Virus Warning   ***Default: Disabled***

When this item is enabled it provides some protection against viruses which try to write to the boot sector and partition table of your hard disk drive. This item is disabled as a default so that you can install an operating system. We recommend that you enable Virus Warning 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.

External Cache   ***Default: Enabled***

This mainboard can be installed with external (level 2) cache memory to improve performance. Leave this item at the default value Enabled for better performance.

Quick Power On Self Test   Default: Enabled

You can enable this item to shorten the power on testing 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.

Boot Sequence   Default: A,C,SCSI

This item defines where the system will look for an operating system, and the order of priority. You can boot an operating system from many locations including a SCSI device, a ZIP drive, a floppy diskette drive or an LS-120 high-capacity diskette drive.

Swap Floppy Drive   Default: Disabled

If you have two floppy diskette drives in your system, this item allows you to swap around the assigned drive letters so that drive A becomes drive B, and drive B becomes drive A.

Boot Up Floppy Seek   Default: Enabled

If this item is enabled, the system will check the number of tracks on any installed floppy disk drives. This is required in order to detect 360 KB floppy diskette drives. If you don't have this kind of drive, we recommend you disable this item for a faster start up.

Boot Up NumLock Status   Default: On

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

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 long 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.

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.

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.

Video BIOS Shadow   Default: Enabled

This item allows the video BIOS to be copied to system memory for faster performance.

XXXXX-XXXXX Shadow   Default: Disabled

These items allow the BIOS of other devices to be copied to system memory for faster performance.

Chipset Features Option

This option displays a table of items that define critical timing parameters of the mainboard components including the CPU, the memory, and the system logic.

As a general rule, 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, or load the optimum settings, you may introduce fatal errors or recurring instability into your system. The item list below shows only the default values for some items.

```
                        ROM PCI/ISA BIOS (P5SS-ME0)
                           CHIPSET FEATURES SETUP
                            AWARD SOFTWARE, INC.

   ┌──────────────────────────────────────┬──────────────────────────────────────┐
   │ Auto Configuration    : Enabled      │ AGP Aperture Size     : 64MB         │
   │ Refresh Rate Control  : 15.6us       │ System BIOS Cacheable : Enabled      │
   │ Ref/Act Command Delay : 6T           │ Video  BIOS Cacheable : Enabled      │
   │ Refresh Queue Depth   : 12           │ Memory Hole at 15M-16M : Disabled    │
   │ RAS Precharge Time    : 3T           │ VGA Shared Memory Size : 4 MB        │
   │ RAS to CAS Delay      : 3T           │ VGA Memory Clock (MHz) : 66          │
   │ ISA Bus Clock Frequency : PCICLK/4   │ DRAM Controller 1 T WR : Enabled     │
   │ Starting Point of Paging: 1T         │ DRAM Controller 1 T RD : Enabled     │
   │ NA# Enable            : Disabled     │ PCI Post Write Buffer  : Disabled    │
   │ L2 Cache Burst RD Cycle : Delay 1 T  │ PCI Delayed Transaction : Disabled   │
   │ Asyn/Sync Mode CPU/DRAM : Synchronous│ Auto Detect DIMM/PCI Clk: Enabled    │
   │ SDRAM CAS Latency     : 3T           │ Spread Spectrum        : Disabled    │
   │ SDRAM WR Retire Rate  : X-1-1-1      │                                      │
   │ DRAM Opt RAS Precharge : Enabled     │                                      │
   │ PCI Peer Concurrency  : Enabled      ├──────────────────────────────────────┤
   │ Read Prefetch Memory RD : Enabled    │ ESC : Quit         ↑↓→← : Select Item│
   │ Assert TRDY After Prefet: 2 QWs      │ F1  : Help         PU/PD/+/- : Modify │
   │ CPU to PCI Burst Mem. WR: Enabled    │ F5  : Old Values  (Shift)F2 : Color  │
   │ CPU to PCI Post Write  : Enabled     │ F6  : Load BIOS  Defaults            │
   │                                      │ F7  : Load Setup Defaults            │
   └──────────────────────────────────────┴──────────────────────────────────────┘
```

Auto Configuration   ***Default: Enabled***

Leave this item at the default value enabled. Auto configuration installs preset default values for many of the timing parameters of your system.

Refresh Rate Control   ***Default: 15.6us***
Ref/Act Command Delay   ***Default: 6T***
Refresh Queue Depth   ***Default: 12***

These items define the timing and method that the system uses to refresh the DRAM memory. We recommend that you leave these items at the default settings.

RAS Precharge Time: ***Default: 3T***

The precharge time defines the number of clock cycles used by the Row Address Strobe (RAS) to accumulate charge for a refresh. If insufficient time is allowed, the refresh may be incomplete and data can be lost. We recommend that you leave this item at the default setting.

RAS to CAS Delay   ***Default: 3T***

This item defines the delay between the Row Address Strobe (RAS) and Column Address Strobe (CAS) signals. A shorter delay gives better performance and a longer delay improves stability. We recommend that you leave this item at the default value.

ISA Bus Clock Frequency　　　　　　　　　**Default: PCICLK/4**

This item sets the timing for the ISA bus by dividing the frequency of the PCI bus. The PCI bus is usually set to 33 MHz, and we recommend that you divide this by four to set the ISA bus frequency.

Starting Point of Paging　　　　　　　　　**Default: 1T**

This item controls the start timing of memory paging operations. We recommend that you leave this item at the default setting.

NA# Enable　　　　　　　　　　　　　　**Default: Disabled**

This item enables pipelining so that the chipset can signal the CPU for new memory addresses before all the data transfers for the current cycle are complete. We recommend that you leave this item disabled.

L2 cache Burst RD Cycle　　　　　　　　　**Default: Delay 1 T**

This item determines the burst mode timing for the level 2 cache. Leave this item at the default value.

Asyn/Sync Mode CPU/DRAM　　　　　　　**Default: Synchronous**

This item determines if asynchronous or synchronous timing is used between the CPU and memory. Leave this item at the default value.

SDRAM CAS Latency　　　　　　　　　　**Default: 3T**
SDRAM WR Retire Rate　　　　　　　　　**DefaultL X-1-1-1**

These items define the timing for SDRAM memory. Leave these items at the default value.

DRAM Opt RAS Precharge　　　　　　　　**Default: Enabled**

This item defines the precharge time for the Row Address Strobe for DRAM. Leave this item at the default value.

PCI Peer Concurrency　　　　　　　　　　**Default: Enabled**

Leave this item at the default value Enabled.

Read Prefetch Memory RD　　　　　　　　**Default: Enabled**

When this item is enabled, the system is allowed to prefetch the next read instruction and initiate the next process. Leave this item at the default value enabled for better performance.

Assert TRDY After Prefet　　　　　　　　**Default: 2 QWs**

Leave this item at the default value.

CPU to PCI Burst Mem. WR　　　　　　　**Default: Enabled**

When this item is enabled, the system can assemble long PCI bursts from data held in buffers. Leave this item at the default value enabled for better performance.

CPU to PCI Post Write　　　　　　　　　**Default: Enabled**

When this item is enabled, writes from the CPU to the PCI bus are buffered to compensate for the different speeds of the CPU and PCI buses. Leave this item at the default value enabled.

AGP Aperture Size　　　　　　　　　　　**Default: 64MB**

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

Video BIOS Cacheable	*Default: Enabled*
System BIOS Cacheable	*Default: Enabled*

These two items allow the system and video BIOS to be cached for faster performance. We recommend that you leave these items at the default value Enabled.

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

This item can be used to reserve memory space for some ISA cards that require it. We recommend that you leave this item at the default value Disabled.

VGA Shared Memory Size	*Default: 4 MB*

This system uses a shared memory architecture which allows the graphics system to share some of the main memory. Use this item to define the size of the shared graphics memory.

VGA Memory Clock	*Default: 66*

This item sets the speed of the VGA memory clock. Leave this item at the default value.

DRAM Controller 1 T WR	*Default: Enabled*
DRAM Controller 1 T RD	*Default: Enabled*

These items define timing parameters for installed DRAM. Leave these items at the default values.

PCI Post Write Buffer	*Default: Disabled*
PCI Delayed Transaction	*Default: Disabled*

These items define if the chipset can use a buffer for posted writes, and if delayed transaction cycles are supported. Leave these items at the default values disabled.

Auto Detect DIMM/PCI Clk	*Default: Enabled*

If this item is enabled, the system will reduce the occurrence of electromagnetic interference (EMI) by turning off the clock generator signal to DIMM slots or PCI slots which are unoccupied.

Spread Spectrum	*Default: Disabled*

When this item is enabled, it can significantly reduce the EMI (electromagnetic interference) that your system generates by modulating the extreme values of the clock generator pulses. Enabling this item might cause problems with timing-critical devices such as SCSI adapters. We recommend that you leave this item at the default value disabled.

Power Management Setup Option

This option displays a table of items which lets you control the power management of the system. Modern operating systems take care of much of the routine power management. This mainboard supports ACPI (advanced configuration and power interface).

This system supports three levels of power-saving modes; doze mode, standby mode, and suspend mode. Standby mode uses less power than doze mode and suspend mode uses the least power.

The power management in the setup utility lets you specify a timeout for each of the power-saving modes, and a timeout for a hard disk drive power down. A timeout, means a period of time when the system (or the hard disk drive) is inactive. If the timeout completes, the system power-saving mode will execute, or the hard disk drive will power down.

You can resume from the power-saving modes by carrying out any of the activities which are enabled in the list **PM Events**. If the hard disk has been powered down it will automatically resume to full power when an access to the hard disk is required (this takes just a few seconds).

```
                          ROM PCI/ISA BIOS (P5SS-ME0)
                             POWER MANAGEMENT SETUP
                              AWARD SOFTWARE, INC.
┌─────────────────────────────────────┬─────────────────────────────────────┐
│ ACPI function      : Enabled         │ VGA Activity             : Enabled   │
│ Power Management   : User Define     │ IRQ [3-7,9-15],NMI       : Enabled   │
│ Video Off Option   : Susp,Stby -> Off│ IRQ 8 Break Suspend      : Disabled  │
│ Video Off Method   : DPMS Supported  │ Power Button Over Ride   : Instant Off│
│ Switch Function    : Break/Wake      │ Ring Power Up Control    : Disabled  │
│ Doze Speed (div by): 2/8             │ KB Power ON Password     : Enter     │
│ Stdby Speed(div by): 1/8             │ Power Up by Alarm        : Disabled  │
│ MODEM Use IRQ      : 3               │                                      │
│                                      │                                      │
│ AC Resume          : Disabled        │                                      │
│                                      │                                      │
│       ** PM Timers **                │                                      │
│ HDD Off After      : Disable         │                                      │
│ Doze Mode          : Disable         │                                      │
│ Standby Mode       : Disable         ├──────────────────────────────────────┤
│ Suspend Mode       : Disable         │ ESC : Quit          ↑↓→← : Select Item│
│       ** PM Events **                │ F1  : Help          PU/PD/+/- : Modify│
│ HDD Ports Activity : Enabled         │ F5  : Old Values  (Shift)F2 : Color  │
│ COM Ports Activity : Enabled         │ F6  : Load BIOS  Defaults            │
│ LPT Ports Activity : Enabled         │ F7  : Load Setup Defaults            │
└─────────────────────────────────────┴──────────────────────────────────────┘
```

ACPI Function   *Default: Enabled*
This mainboard supports ACPI (advanced configuration and power interface), so we recommend that you leave this item at the default value Enabled.

Power Management   *Default: User Define*
This item acts like a master switch for the power-saving modes and hard disk timeouts. If this item is set to Max Saving, doze, standby, and suspend mode, will occur after a timeout of 10 seconds. If this item is set to Min Saving, doze, standby, and suspend mode will occur after a timeout of 4 hours. If the item is set to User Define, you can insert your own timeouts for the power-saving modes.

Video Off Option   *Default: Susp,Stby -> Off*
This option defines which level of power-saving mode is required in order to power down the video display. As a default, the video powers down both in suspend mode and standby mode.

Video Off Method   *Default: DPMS Supported*
This item defines how the video is powered down to save power. As a default, this is set to DPMS Support (display power management software).

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Doze Speed (div by)   Default: 2/8

This item defines the clock speed of the CPU when the system is in the Doze power saving mode. As a default, the CPU will run at a quarter of its rated speed.

Stby Speed (div by)   Default: 1/8

This item defines the clock speed of the CPU when the system is in the Standby power saving mode. As a default, the CPU will run at a 1/8 of its rated speed.

Modem Use IRQ   Default: 3

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

AC Resume   Default: Disabled

When this item is enabled, the system will wake up or power up when the AC power supply is reconnected to the system.

HDD Off After   Default: Disabled

You can use this item to set a timeout for a hard disk powerdown. You can set a time from 1 to 15 minutes. If the hard disk is inactive for the time specified, it will power down. It will automatically return to full power when it is next accessed.

Doze Mode   Default: Disabled

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 10 seconds to 4 hours.

Standby Mode   Default: Disabled

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 10 seconds to 4 hours.

Suspend Mode   Default: Disabled

If you have selected User Define for the Power Management item, you can set this item to a selection of timeouts from 10 seconds to 4 hours.

HDD Ports Activity   Default: Enabled

When this item is enabled, any activity on the disk drives connected to the system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

COM Ports Activity   Default: Enabled

When this item is enabled, any transmission through the serial ports connected to the system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

LPT Ports Activity   Default: Enabled

When this item is enabled, any transmission through the parallel ports connected to the system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

VGA Activity   Default: Enabled

When this item is enabled, any activity on the graphics system can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

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

When this item is enabled, any activity through the system interrupt request lines 3-7, 9-15 and the non-masked interrupt can reset power-saving mode timeouts to zero, or resume the system from a power saving mode.

IRQ 8 Break Suspend	Default: Disabled

When this item is enabled, any activity through the system interrupt request line 8 can reset power-saving mode timeouts to zero, or resume the system from a power saving mode. IRQ 8 is normally used by the system realtime clock.

Power Button Over Ride	Default: Instant Off

Under ACPI (advanced configuration and power interface) the system can be turned off mechanically (by the power button) or it can undergo a software power off. If the system has been turned off by software, the system can be resumed by a LAN, MODEM or ALARM wake up signal. This item allows you to define a software power off using the power button. If the value is set to Instant-Off, the power button will automatically cause a software power off. If the value is set to Delay 4 Sec. the power button must be held down for a full four seconds to cause a software power off.

Ring Power Up Control	Default: Disabled

When this item is enabled, any activity through an internal modem that is connected to the Wake On Modem connector can resume the system from a power saving mode or a software power off.

KB Power ON Password	Default: Enter

If your system is installed with a keyboard power on capability, this item lets you add a password that must be typed on the keyboard in order to turn on the power.

Power Up by Alarm	Default: Disabled

If you enable this item, new fields appear which let you set a date and time for an alarm that can resume the system from a power saving mode or a software power off.

PNP/PCI Configuration Option

This option displays a table of items that configures how PNP (Plug and Play) and PCI expansion cards operate in your system. If you have not installed a riser card with expansion slots, you do not need to make any changes to this option.

```
                    ROM PCI/ISA BIOS (P5SS-ME0)
                      PNP/PCI CONFIGURATION
                       AWARD SOFTWARE, INC.
 ┌──────────────────────────────────┬──────────────────────────────────┐
 │ PNP OS Installed       : No      │ PCI IRQ Actived By     : Level    │
 │ Resources Controlled By : Auto   │ Assign IRQ For VGA     : Enabled  │
 │ Reset Configuration Data : Disabled│ Assign IRQ For USB   : Enabled  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │                                  │
 │                                  │ ESC : Quit      ↑↓→← : Select Item│
 │                                  │ F1  : Help      PU/PD/+/- : Modify│
 │                                  │ F5  : Old Values  (Shift)F2 : Color│
 │                                  │ F6  : Load BIOS  Defaults         │
 │                                  │ F7  : Load Setup Defaults         │
 └──────────────────────────────────┴──────────────────────────────────┘
```

PNP OS Installed   **Default: No**
If you have installed a Plug and Play operating system such as Windows 95 or 98, you can change this item to Yes. When the item is set to Yes you can use the Device Manager utility in the operating system to make changes to the configuration of expansion cards.

Resources Controlled By   **Default: Auto**
You should leave this item at the default Auto. If you find that you cannot get a particular expansion card to work properly, you might be able to solve the problem by changing this item to Manual, and defining the characteristics of the card in the new items which appear.

If you change this item to Manual, the display will list a series of items that allow you to define the assignments of the system interrupt lines (IRQs) and Direct Memory Access (DMA) channels. As a default, these items are set to PCI/ISA PnP. If you install an ISA-bus card that does not support PNP, and it requires a special IRQ and DMA, you can modify the list of assignments. Change the values of the IRQ and DMA that are required to Legacy ISA.

Reset Configuration Data   **Default: Disabled**
If you enable this item and restart the system, any PNP configuration data stored in the BIOS setup will be cleared from memory. New updated configuration data will be created.

PCI IRQ Activated By   **Default: Level**
This item defines the signal that is used by the PCI device to trigger an interrupt. Unless you have a PCI device which you know uses an edge signal, leave this item at the default value Level.

Assign IRQ For VGA   **Default: Enabled**
When this item is enabled, the system can assign an IRQ to devices connected to the VGA connector.

Assign IRQ For USB   **Default: Enabled**
When this item is enabled, the system can assign an IRQ to devices connected on the USB port.

Load BIOS Defaults Option

This option displays a dialog box which allows you to install BIOS defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The BIOS defaults do not place great demands on the system and are generally very stable. If your system is not functioning correctly, you might like to install the BIOS defaults as a first step in getting your system working properly again. If you only want to install BIOS defaults for a specific option, select and display that option, and then press the **F6** key.

Load Setup Defaults Option

This option displays a dialog box which allows you to install optimum defaults for all appropriate items in the whole setup utility. Press the **Y** key and then the **Enter** key to install the defaults. Press the **N** key and then **Enter** to not install the defaults. The optimum defaults can place some demands on the system that are greater than the performance level of the components, such as the processor and the memory. You could cause fatal errors or recurring instability of you install the setup defaults when your hardware does not support it. If you only want to install setup defaults for a specific option, select and display that option, and then press the **F7** key.

Integrated Peripherals Option

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

```
                    ROM PCI/ISA BIOS (P5SS-ME0)
                       INTEGRATED PERIPHERALS
                       AWARD SOFTWARE, INC.

   Internal PCI/IDE       : Both      Onboard Parallel Mode   : SPP
   IDE Primary Master PIO  : Auto      ECP Mode Use DMA        : 3
   IDE Primary Slave  PIO  : Auto      Parallel Port EPP Type  : EPP1.9
   IDE Secondary Master PIO: Auto      PS/2 mouse function     : Enabled
   IDE Secondary Slave  PIO: Auto      USB Controller          : Enabled
   Primary Master  UltraDMA: Auto      USB Keyboard Support    : Disabled
   Primary Slave   UltraDMA: Auto      Init Display First      : PCI Slot
   Secondary MasterUltraDMA: Auto
   Secondary Slave UltraDMA: Auto
   IDE Burst Mode          : Enabled
   IDE Data Port Post Write: Disabled  Current CPUFAN1 Speed   :
   IDE HDD Block Mode       : Enabled   Current CPUFAN2 Speed   :
                                       +12(V):         +5 (V):
   Onboard FDD Controller  : Enabled   I/O(V):         CPU(V):
   Onboard Serial Port 1   : 3F8/IRQ4
   Onboard Serial Port 2   : 2F8/IRQ3  ESC : Quit       ↑↓→← : Select Item
   UART 2 Mode             : Normal    F1  : Help       PU/PD/+/- : Modify
   IR Function Duplex      : Half      F5  : Old Values  (Shift)F2 : Color
   RxD , TxD Active        : Hi,Hi     F6  : Load BIOS  Defaults
   Onboard Parallel Port   : 378/IRQ7  F7  : Load Setup Defaults
```

Internal PCI/IDE	**Default: Both**

This item lets you enable or disable the primary and secondary PCI/IDE channels that are integrated into this mainboard. Leave this item at the default value unless you intend using other IDE channels installed on an expansion card.

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

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

Primary Master UltraDMA	**Default: Auto**
Primary Slave UltraDMA	**Default: Auto**
Secondary Master UltraDMA	**Default: Auto**
Secondary Slave UltraDMA	**Default: Auto**

Each IDE channel supports a master device and a slave device. This motherboard supports UltraDMA. UltraDMA technology provides faster access to IDE devices. If you install a device which supports UltraDMA, change the appropriate item on this list to Auto. You may have to install the UltraDMA driver supplied with this motherboard in order to use an UltraDMA device.

IDE Burst Mode	**Default: Enabled**

Burst mode transfers can improve the access to IDE devices. Enable this item for improved performance. If your IDE drives cannot support high perforamcne, or if you feel that too many disk errors are being generated, disable this item.

IDE Data Port Post Write	**Default: Disabled**

If this item is enabled, it speeds up the processing of drive reads and writes, but it can cause instability in IDE subsystems that cannot support such fast performance. If you are getting disk drive errors, set this item to disabled.

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.

Onboard FDC Controller	**Default: Enabled**

Use this item to turn on or off the floppy disk controller that is built into this mainboard.

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

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

Onboard Serial Port 2	**Default: 2F8/IRQ3**

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

UART 2 Select	**Default: Normal**

This item defines the operation of serial port 2. In the default Normal setting, serial port 2 is assigned to the connector on the mainboard. If you have installed an optional infrared port, you must change the setting of this item to one of the Infrared settings (usually IrDA

or FIR). These settings will disable the mainboard serial port connector and assign serial port 2 to the infrared device. If you have selected an IR mode, two items appear, *IR Function Duplex* and *RxD, TxD Active,* which let you set the duplex and transmission parameters for the Infrared port. See the documentation of your infrared port for help on these items.

Onboard Parallel Port	*Default: 378/IRQ7*

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

Onboard Parallel Mode	*Default: SPP*

This item defines the operation of the parallel port. As a default it is set to SPP (standard parallel port). If you are connected to a parallel device that supports the higher-performance EPP (enhanced parallel port) or the ECP (extended capabilities port) make the appropriate changes to this item. If you change the parallel port to EPP or ECP, new items appear to let you configure the EPP and ECP modes.

PS/2 mouse function	*Default: Enabled*

This item lets you disable the PS/2 mouse connector on this system. You should disable this item if you are using a mouse or pointing device which connects through a serial port.

USB Controller	*Default: Enabled*

This item lets you enable or disable the USB ports that are integrated into this mainboard.

USB Keyboard Support	*Default: Disabled*

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

Init Display First	*Default: PCI Slot*

Use this item to define if your graphics adapter is installed in one of the PCI slots, or if you have installed an AGP graphics adapter into the AGP slot.

Password Settings

This item can be used to install a password. To install a password, follow these steps:

1. Highlight the item Password Settings on the main menu and press **Enter.**
2. The password dialog box will appear.
3. If you are installing a new password, carefully type in the password. You cannot use more than 8 characters or numbers. The password will differentiate 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.
4. The system will ask you to confirm the new password by asking you to type it in a second time. Carefully type the password again and press **Enter**, or just press **Enter** if you are deleting a password that is already installed.
5. If you typed the password correctly, the password will be installed.

IDE HDD Auto Detection Option

This item automatically detects and installs any hard disk drives installed on the primary and secondary IDE channel. Most modern drives can be detected. If you are using a very old drive that can't be detected, you can install it manually using the Standard CMOS Setup option.

Setup will check for two devices on the primary IDE channel and then two devices on the secondary IDE channel. At each device, the system will flash an N in the dialog box. Press **Enter** to skip the device and proceed to the next device. Press **Y**, then **Enter** to tell the system to auto-detect the device.

Save And 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 program. When the Save and Exit dialog box appears, press **Y** to save and exit, or press **N** to return to the setup main menu.

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 program. 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.

Chapter 4: Software

About the Software

The support software for this mainboard is supplied on a CD-ROM disk. The CD-ROM disk has a UTILITY folder, and individual folders for all the different kinds of mainboards which are supported with this disk. You can install the software that is stored in the UTILITY folder and the software that is stored in the P5SS-ME folder.

Utility Folder
The utility folder has the following sub-folders:
- **AWDFLASH**: software to erase and install new revisons of the system BIOS
- **DIRECTX5**: software display drivers for Microsoft's DirectX Rev. 5 specification
- **PC-CILLIN**: Anti-virus software

P5SS-ME Folder
The P5SS-ME folder has the following sub-folders:
- **AUDIO**: software for the built-in 3D audio system
- **MONITOR**: software for hardware monitoring for system's that have installed the optional W83781D monitoring chip.
- **Vga**: software for the built-in graphics system

Utility Folder Installation Guide

1. Place the support disk in your CD-ROM drive. If you are running Windows with Autoplay enabled, the opening screen of the support CD should appear automatically. Click on the item READ ME and read the latest instructions.
2. Click on the item BROWSE THE CD TITLE. This uses Windows Explorer to show the contents of the support CD.
3. Double click the Utility folder, and then click on the sub-folder which contains the software that you want to install.
4. Before installing the software, look for a file named README.TXT, or something similar. This file may contain important information to help you install the software correctly.
5. Some software may be installed in separate folders for different operating systems, such as DOS, WIN NT, WIN95/98, and so on. Always log on to the correct folder for the kind of operating system you are using.

Utility Installation Notes

Award Flash Memory Utility

This utility lets you erase the system BIOS that is stored on the system motherboard on a Flash Memory chip, and lets you write a new or updated BIOS onto 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 unsuitable, your system will malfunction.

The flash memory utility is called AWDFLASH.EXE. To use this utility, you must be in real-mode DOS (not the DOS box that is available in Windows 95/98/NT). If you are using WINDOWS 95/98, shut down your computer and select the option Restart in DOS in the shut-down 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.

DirectX5 Drivers

The DirectX drivers are for installation only in Windows 95/98. The directX drivers need to be installed before you install an AGP driver. You may be able to get more up-to-date directX drivers from the Microsoft web site. Start the installation by clicking on the file DX5CORE.EXE.

PC-Cillin Anti-Virus Utility

Anti-virus software is provided for DOS, for WIN95, and WIN 98. Log on to the appropriate directory for your operating system. For DOS, copy all the files in the DOS folder to your hard disk drive. For Windows 95, log on to the Disk 1 folder and run SETUP. For Windows 98, run SETUP.

Mainboard Folder Installation Guide

1. Place the support disk in your CD-ROM drive. If you are running Windows with Autoplay enabled, the opening screen of the support CD should appear automatically. Click on the item READ ME and read the latest instructions.
2. Click on the item BROWSE THE CD TITLE. This uses Windows Explorer to show the contents of the support CD.
3. Double click the folder that is named after the kind of mainboard that you are using., and then click on the sub-folder which contains the software that you want to install.
4. Before installing the software, look for a file named README.TXT, or something similar. This file may contain important information to help you install the software correctly.
5. Some software may be installed in separate folders for different operating systems, such as DOS, WIN NT, WIN95/98, and so on. Always log on to the correct folder for the kind of operating system you are using.

Mainboard Installation Notes

Audio Software

The audio software is stored in the AUDIO sub-folder. Audio drivers are supplied for DOS, for WIN 95/98, and for WIN NT. The MANUAL sub-folder contains a Word document with installation instructions.

System Monitoring Utility

You cannot use this software unless your mainboard has been installed with the optional hardware monitoring chip W83781D. Start the installation by logging on to the folder Disk 1 and then clicking on the SETUP file

Graphics Software

The graphics system software is stored in the Vga sub-folder. The folder has drivers for WIN 95/98/NT. Start the installation by clicking on the SETUP file.

Appendix 1: Quick Jumper Setting Reference

JP1: Clear CMOS memory jumper

Use this 3-pin jumper top clear all the current data stored in the CMOS memory.

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

JP1
1
2
3
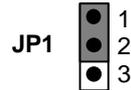
JP2: Keyboard power on jumper

Use this 3-pin jumper to enable keyboard power on with hot keys or password.

Function	Jumper Cap
Enable keyboard power on	Short pins 1-2
Disable keyboard power on	Short pins 2-3

JP2
3
2
1
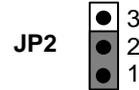
JP3, JP4, JP5: System bus multiplier for CPU clock

Use these three 3-pin jumpers to set as multiplier for the system bus frequency. The product of the multiplier x system bus frequency determines the clock speed for the processor.

System Bus Multiplier	Short Pin Settings		
	JP3	JP4	JP5
2.5	1-2	2-3	2-3
3	1-2	2-3	1-2
2	1-2	1-2	2-3
1.5/3.5	1-2	1-2	1-2
4.5	2-3	2-3	2-3
5	2-3	2-3	1-2
4	2-3	1-2	2-3
5.5	2-3	1-2	1-2

1 2 3
JP5 ● ● ●
JP4 ● ● ●
JP3 ● ● ●
1 2 3
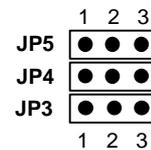
JP6: Processor core voltage setting jumper

Use this jumper to set the core voltage for the CPU that you install on the board.

Voltage	Pin Settings				
	Pins 1-2	Pins 3-4	Pins 5-6	Pins 7-8	Pins 9-10
3.5V	Short	Short	Short	Short	N/A
3.3V	Short	Open	Short	Short	N/A
3.2V	Open	Open	Short	Short	N/A
2.9V	Short	Open	Open	Short	N/A
2.8V	Open	Open	Open	Short	N/A
2.5V	Short	Open	Short	Open	N/A
2.2V	Open	Short	Open	Open	N/A
2.1V	Short	Open	Open	Open	N/A

2 4 6 8 10
JP6
1 3 5 7 9
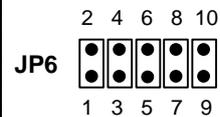
JP7: Frequency setting for system bus, memory bus and PCI bus
Use this jumper to set the frequencies for the system, memory and PCI buses.

Bus Frequencies			JP7 Pin Settings			
System	Memory	PCI	Pins 1-2	Pins 3-4	Pins 5-6	Pins 7-8
133.3	133.3	33.3	Open	Open	Open	Open
124	124	31	Open	Open	Open	Short
112	112	37.3	Open	Open	Short	Open
100	100	33.3	Open	Open	Short	Short
95	95	31.7	Open	Short	Open	Open
83.3	83.3	33.3	Open	Short	Open	Short
75	75	30	Open	Short	Short	Open
66.7	66.7	33.3	Open	Short	Short	Short
133.3	88.9	33.3	Short	Open	Open	Open
124	82.7	31	Short	Open	Open	Short
112	74.7	37.3	Short	Open	Short	Open
105	70	35	Short	Open	Short	Short
100	66.7	33.3	Short	Short	Open	Open
95	63.3	31.7	Short	Short	Open	Short
83.3	66.6	33.3	Short	Short	Short	Open
66.8	89.1	33.4	Short	Short	Short	Short

JP7

```
1 [● ●] 2
3 [● ●] 4
5 [● ●] 6
7 [● ●] 8
```

JP9: Audio enable/disable jumper
Use this jumper to enable or disable the audio system integrated on the mainboard.

| Function	Jumper Cap
Enable audio	Short Pins 1-2
Disable audio	Short pins 2-3

JP9
```
[●] 3
[●] 2
[●] 1
```
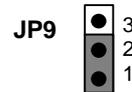
JP10: SPDIF output signal level jumper
Use this 2-pin jumper to set an SPDIF output signal of 0.5V or 5V

Function	Jumper Cap
5 volts	Short pins 1-2
0.5 volts	Open pins 1-2

```
2 [●]
1 [●]  JP10
```

PANEL1: Panel connectors for switches and indicators
Use the panel connector to implement the switches and indicators on your system case.

Function	Pins
Speaker	1, 3, 5, +7
Power Indicator	+2, +4, 6
Keylock	+8, 10
Green Indicator	+13, 14
Hard Disk Indicator	+15, 16
Reset Switch	17, 18
Suspend Switch	19, 20
Power Switch	21, 22

```
       22 21
       [● ●] Power SW
       [● ●] Suspend SW
       [● ●] Reset SW
       [● ●] HDD LED
       [● ●] Green LED
       [● ●]
KeyLock [●]
       [● ●]
       [● ●] Speaker
Power LED [● ●]
       [● ●]
        2  1
```

PANEL1
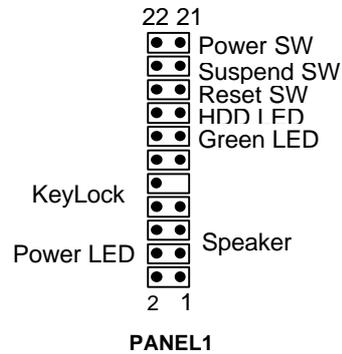
Appendix 2: CPU Settings Table

The table below shows the parameters for a range of socket-7 CPUs

Intel Pentium CPUs (including MMX)

Internal Clock MHz	External Clock MHz	Clock Multiplier
133	66	X 2.0
166	66	X 2.5
200	66	X 3.0
233	66	X 3.5

Cyrix/IBM CPUs 6X86 & 6X86L Series

Internal Clock MHz	External Clock MHz	Clock Multiplier
P166+ (133)	66	X 2.0
P200+ (150)	75	X 2.0

Cyrix/IBM CPUs MII/6X86MX Series

Internal Clock MHz	External Clock MHz	Clock Multiplier
PR166 (133)	66	X 2.0
PR200 (166)	66	X 2.5
PR233 (200)	66	X 3.0
PR200 (150)	75	X 2.0
PR233 (188)	75	X 2.5
PR300 (225)	75	X 3.0
PR233 (166)	83	X 2.0
PR266 (208)	83	X 2.5
PR300 (233)	66	X 3.5

AMD K5 Series

Internal Clock MHz	External Clock MHz	Clock Multiplier
PR133 (133)	66	X 2.0
PR166 (166)	66	X 2.5

AMD K6 Series

Internal Clock MHz	External Clock MHz	Clock Multiplier
PR166 (166)	66	X 2.5
PR200 (200)	66	X 3.0
PR233 (233)	66	X 3.5
PR266 (266)	66	X 4.0
PR300 (300)	66	X 4.5

AMD K6/2 Series

Internal Clock MHz	External Clock MHz	Clock Multiplier
PR300(300)	66	4.5
PR300 (300)	100	3.0
PR333 (333)	66	5
PR333 (333)	95	3.5
PR350(350)	100	3.5
PR380(333)	95	4
PR400(400)	100	4

Notes on the Table

❑ The internal clock speed of the CPU is supposed to be fixed, so always treat the other two factors, the external clock and the clock multiplier as the variable items which have to be changed to produce the desired internal clock. The CPU manufacturer or vendor should provide information on the settings of these items.

❑ Cyrix, IBM, and AMD all make Pentium-class CPUs. Sometimes, when they name a CPU, they do not use the actual internal clock speed. Instead, they name the CPU according to its performance, using standard Pentium CPUs as a benchmark. Therefore the Cyrix P166 is rated as 166 MHz performance, but its actual internal clock is 133 MHz. For all non-Intel CPUs in the table, the name of the CPU is followed by a figure in brackets. The figure in brackets is the true internal clock speed of the CPU, and it is not always the same as the figure in the name of the CPU. Always use the figure in brackets when calculating the CPU settings.

❑ The CPU settings table will be revised at every opportunity. If you have a new CPU which does not appear on the table, check with the manufacturer or vendor for the CPU settings information.