

Chapter 2: Installation

Before You Begin

Before you begin to install your P6SEP-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

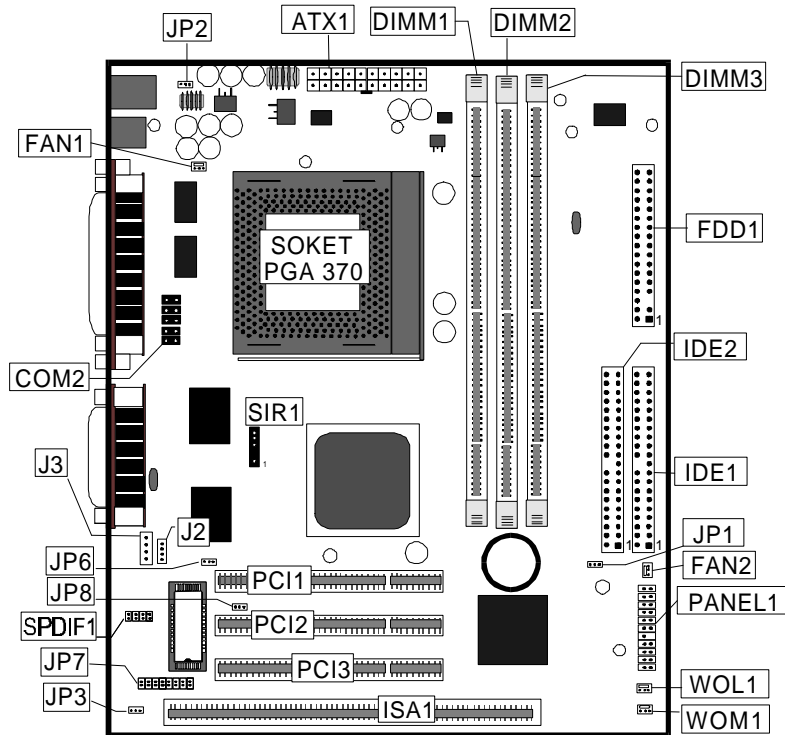
The P6SEP-Me mainboard complies with the specifications for a micro-ATX board. The micro-ATX format features small size, fewer expansion slots and smaller power consumption, so that the system case is less expensive. You can also install this kind of board into a full-size ATX case.

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 P6SEP-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.

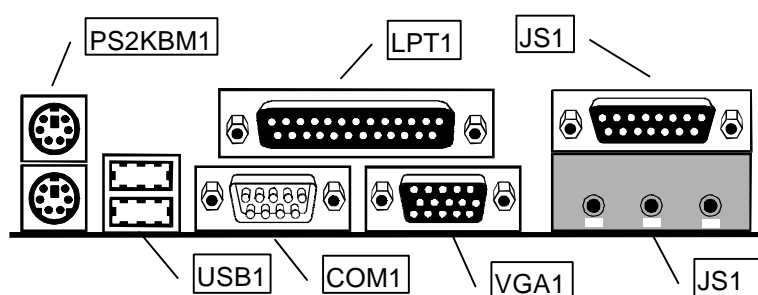


Key to Mainboard Components

Component	Description
ISA1	1 x 8/16-bit ISA expansion slots
PCI 1,2,3	3 x 32-bit PCI expansion slots
SOCKET PGA 370	Processor socket for Celeron processor
DIMMs 1, 2, 3	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
SIR1	Connector for optional infrared port
PANEL1	Panel connector for switches and indicators
FAN1	Power connector for CPU cooling fan
FAN2	Power connector for case cooling fan
WOM1	Connector for modem wake up
WOL1	Connector for LAN wake up
SPDIF	SPDIF In/out connector (professional 24-bit digital audio interface)

COM2	Connector for optional second serial port
J2	Auxiliary audio connector for optional CD-ROM drive
J3	Audio connector for optional CD-ROM drive
JP1	Clear CMOS memory jumper
JP2	Keyboard power on jumper
JP3	Flash BIOS enable/disable jumper
JP6	Audio enable/disable jumper
JP7	Connector for fax/modem adapter card
JP8	Enable/disable onboard modem jumper

Side View of the Input/Output Ports



Key to I/O Ports

Component	Description
PS2KBM1	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 monitor port
COM1	External serial port 1/3
USB1	Two stacked Universal Serial Bus ports

Preparing the Mainboard

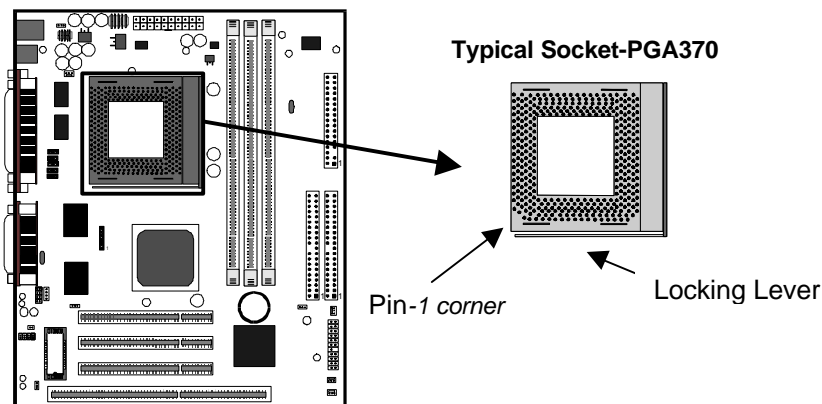
Prepare the main board by installing the Celeron Pentium-II processor and then installing either 1, 2 or 3 memory modules. This board supports the new generation Celeron processor that is packaged in a Plastic Pin Grid Array (PPGA) designed to fit the PGA370 ZIF socket on the mainboard. You can use a Celeron that runs at either 300, 333, 366, 400 or 500 MHz. Next, install one or more memory modules. Finally, review all the important jumper settings to ensure that the board is configured correctly.

Install the Processor

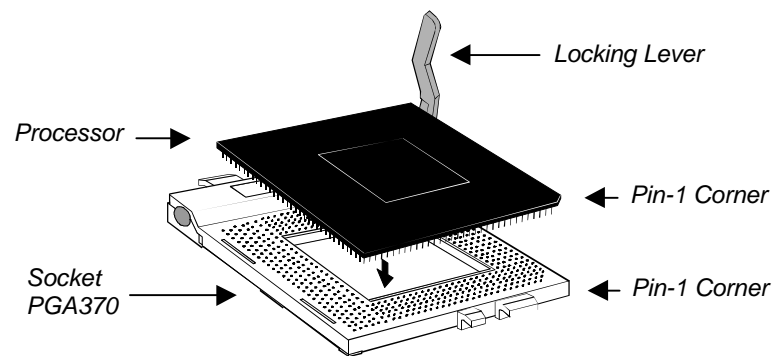
This mainboard is installed with a PGA370 ZIF processor socket. This socket will only support the PPGA Celeron processor. ***Do not try to insert a socket-7 processor such as a Pentium or Pentium-compatible processor.*** The Celeron processors all run over a 66 MHz system bus and have internal clock speeds ranging from 300 to 433 MHz. Configuration of the processor is made automatically using the mainboard BIOS (see the Setup chapter).

Follow the steps below to install the Celeron processor in the PGA370 socket.

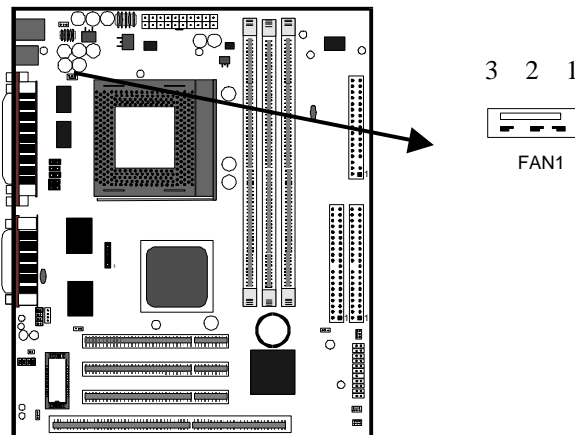
1. Locate the zero insertion force (ZIF) PGA370 socket for the processor.



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 holes on the socket, one hole is absent on two corners. The front corner with the absent hole is the pin-1 corner. On the processor, the pin-1 corner is beveled (see the illustration below).
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 FAN1. If your processor has a cooling fan installed, connect the cable from the cooling fan to FAN1.

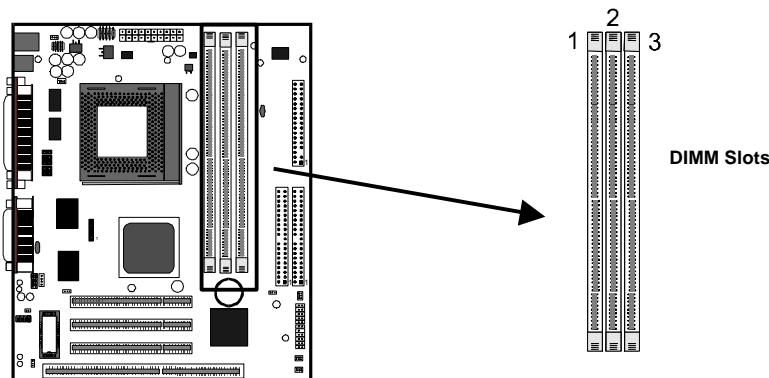


Install the Memory Modules

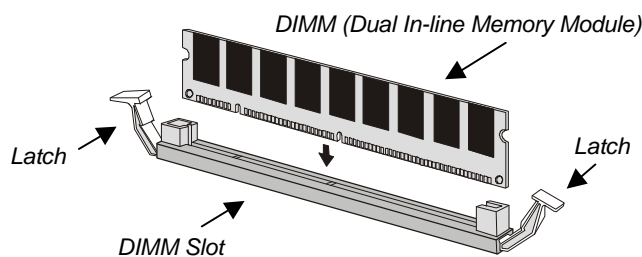
For this mainboard, you must use 168-pin 3.3V non-buffered Dual In-line Memory Modules (DIMMs). The memory chips must be SDRAM (Synchronous Dynamic Random Access Memory). The memory bus can run from 66 MHz through to 100 MHz so you can either use inexpensive 66 MHz memory, or higher performance PC-100 memory. You can use memory modules that have a capacity of 16 MB up to 512 MB. Total installed memory can be up to 1.5 GB.

You must install at least one memory module and the first memory module should be installed in slot DIMM1, the second in slot DIMM2 and the third in slot DIMM3. You can use memory modules which have memory chips on just one side (single-sided) or memory chips on both sides (double-sided).

1. Locate the DIMM slots on the mainboard.



2. The DIMM slots 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 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.



Check all the Jumper Settings

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

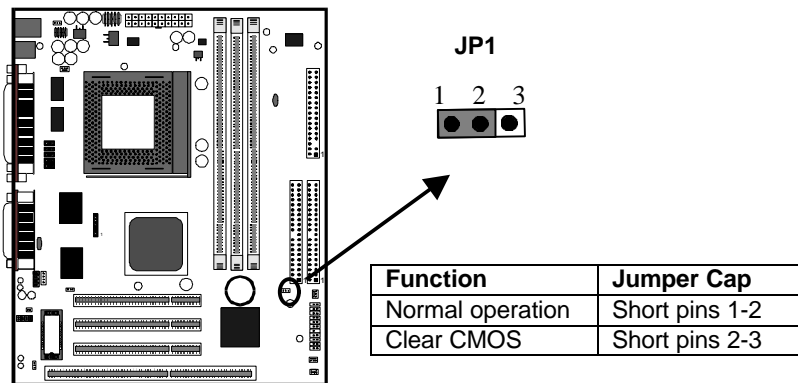
A Note on Jumpers

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

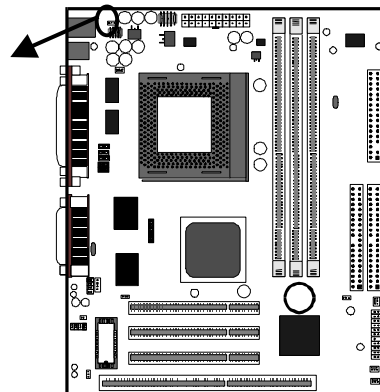
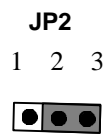
This jumper lets you erase the system setup settings that are stored in CMOS memory. You might need to erase this data if incorrect settings are preventing your system from operating. To clear the CMOS memory, turn off the system, disconnect the power cable from the mainboard, and short the appropriate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



JP2: Keyboard Power On Jumper

This jumper lets you use a typed-in password 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.

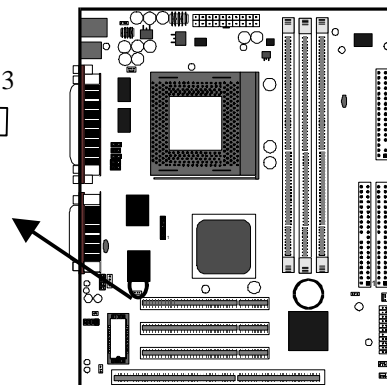
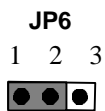
Function	Jumper Cap
Enable keyboard power on	Short pins 2-3
Disable keyboard power on	Short pins 1-2



JP6: 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.

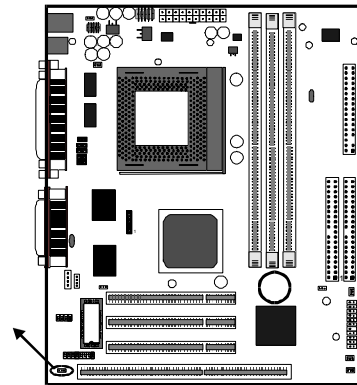
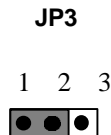
Function	Jumper Cap
Enable audio	Short Pins 1-2
Disable audio	Short pins 2-3



JP3: Flash BIOS Enable/Disable Jumper

The BIOS on this mainboard is stored on an Erasable Programmable Read Only Memory (EPROM) chip. This means that you can erase the current BIOS and install an updated BIOS whenever new upgrades are released. See Chapter 4 for information on using the Flash BIOS utility. Before erasing the old BIOS and flashing a new BIOS, you must set JP3 to Enable. After the new BIOS is installed, set JP3 to Disable so that the BIOS cannot be erased by accident.

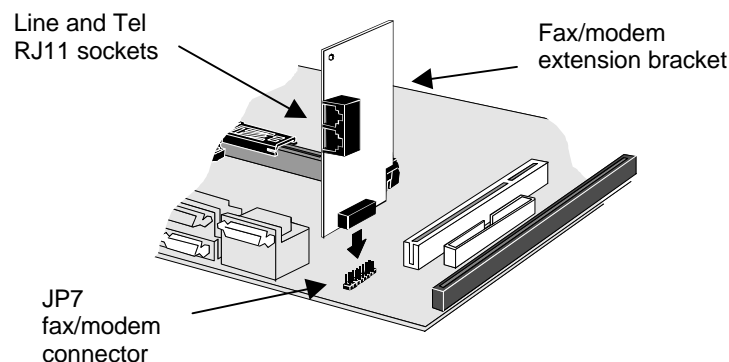
Function	Jumper Cap
Enable Flash BIOS	Short Pins 1-2
Disable Flash BIOS	Short pins 2-3



JP7: Fax/modem Extension Bracket

The fax/modem extension bracket is supplied with this mainboard.

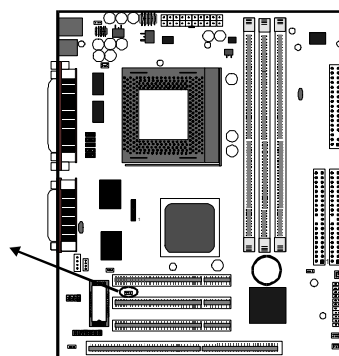
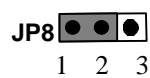
1. Locate the JP7 fax/modem connector on the mainboard.
2. Remove the expansion slot blanking plate from the system chassis that is adjacent to the fax/modem connector.
3. Install the fax/modem extension bracket on to the MDM1 connector as shown below. The RJ11 Line and Telephone sockets on the bracket are positioned in the expansion slot with the removed blanking plate.



JP8: Modem enable/disable jumper

Use this 3-pin jumper to enable or disable the built-in fax/modem.

Function	Jumper Cap
Enable onboard modem	Short pins 1-2
Disable onboard modem	Short pins 2-3



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.

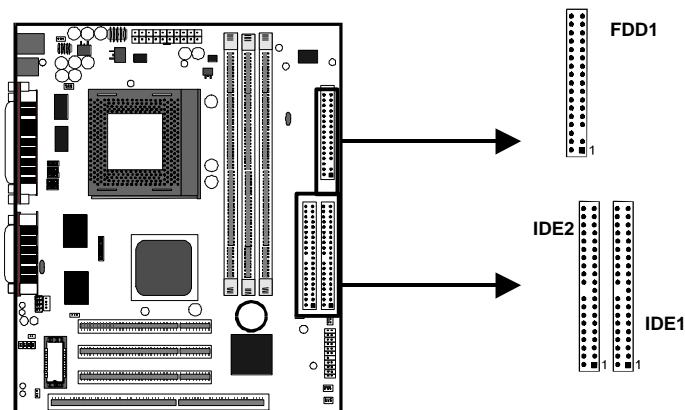
Connect Devices, Switches and Indicators to the Mainboard

***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.*

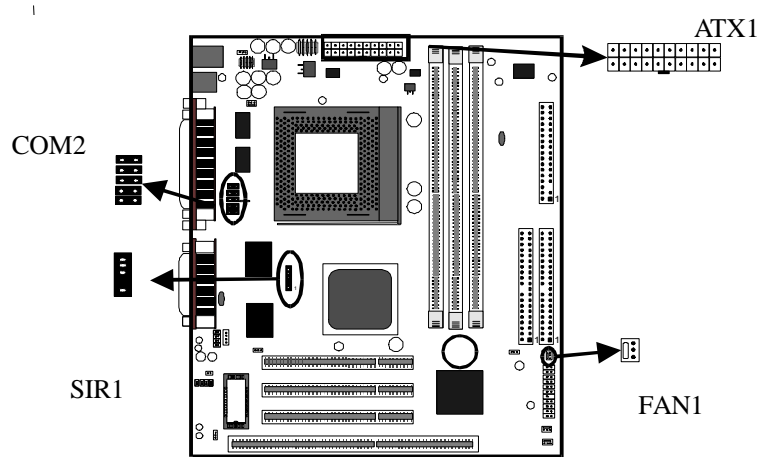
Part One – Internal Connections

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.



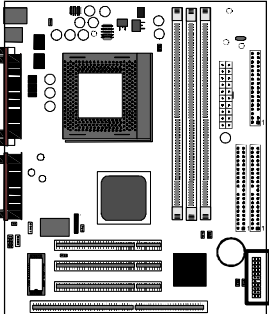
3. Locate the power connector ATX1. Connect the power cable from the power supply unit to ATX1. The connector is keyed so that it can only be installed correctly.

4. If your system case has a built-in cooling fan, you can supply power to the fan from the case fan power connector FAN1. Connect the power cable from the fan to FAN1.
5. 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.
6. If you want to install a second serial port (COM2) locate the connector COM2 on the mainboard and connect it to the optional serial port.



Note: An infrared port (SIR1) and a second serial port (COM2) share the same resources. If you install both of these options, you cannot use them both at the same time. Use the setup utility to configure the system to use either the infrared port or the second serial port. See Chapter 3 for more information.

7. 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.



22 21

- Power SW
- Suspend SW
- Reset SW
- HDD LED
- Green LED

Keylock

Power LED

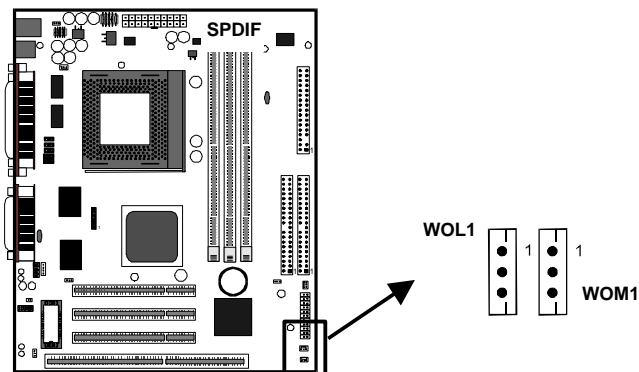
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PANEL1

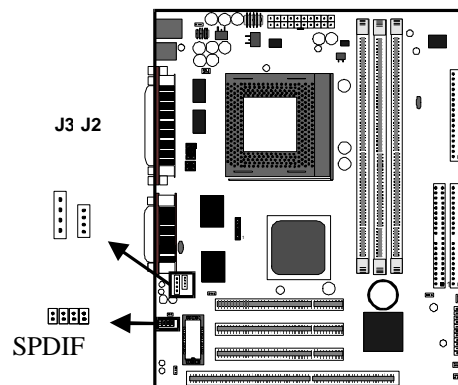
Speaker

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

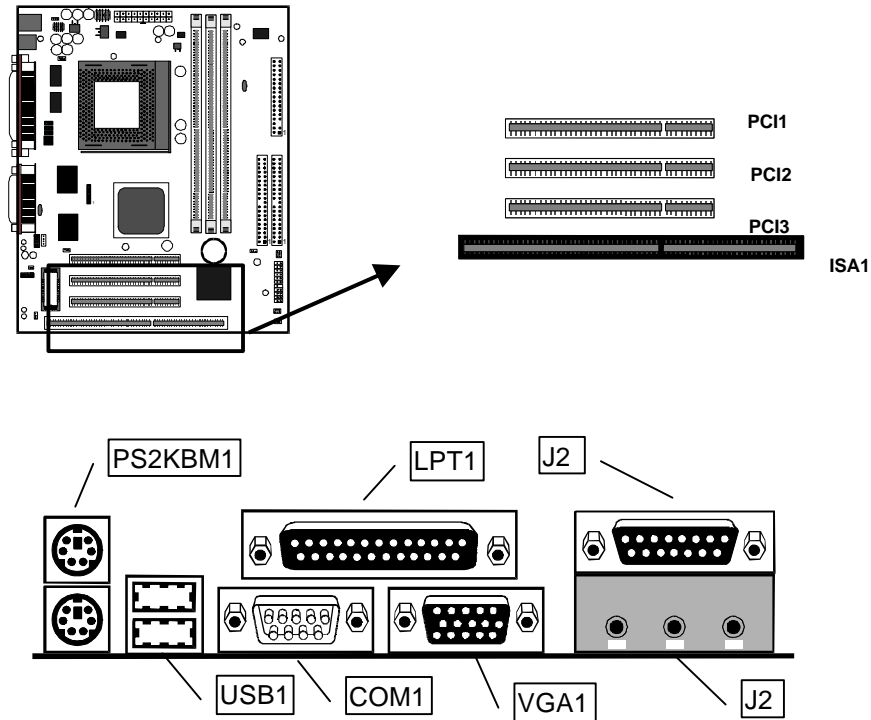
8. The mainboard has wake up connectors for an optional network adapter or an optional internal fax/modem card. If you have installed a network adapter expansion card, connect it to the wake on LAN connector WOL1. If you have installed an internal fax/modem expansion card, connect it to the wake on modem connector WOM1.



9. The mainboard has three audio connectors. J3 is a 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 J3 or J2 to connect your CD/DVD drive audio output. If you have installed a device which supports 24-bit SPDIF digital audio, you can connect the device to the SPDIF input/output connector SPDIF.



10. Locate the three 32-bit PCI expansion slots and the 8/16 bit ISA expansion slot. Install optional 32-bit PCI cards into the PCI slots. Install an optional 8/16-bit card into the ISA slot. The ISA slot is shared with the PCI3 slot just above it. This means that you can only use one of these slots, but not both together.



1. PS2KBM1 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.
3. The upper 15-pin port J2 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 J2 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 an external monitor port. Use this port to connect your system to a monitor that supports VGA or extended VGA resolutions.
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.