

Chapter 2: Installation

Before You Begin

Before you begin to install your P6SE-ML 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 mainboard complies with the specifications for the micro-ATX system case, although it can also be installed in most full-size ATX case designs. The micro-ATX specifications include a maximum size of 9.6" x 9.6" (244mm x 244mm), a reduced number of expansion slots, and support for a smaller power supply unit.

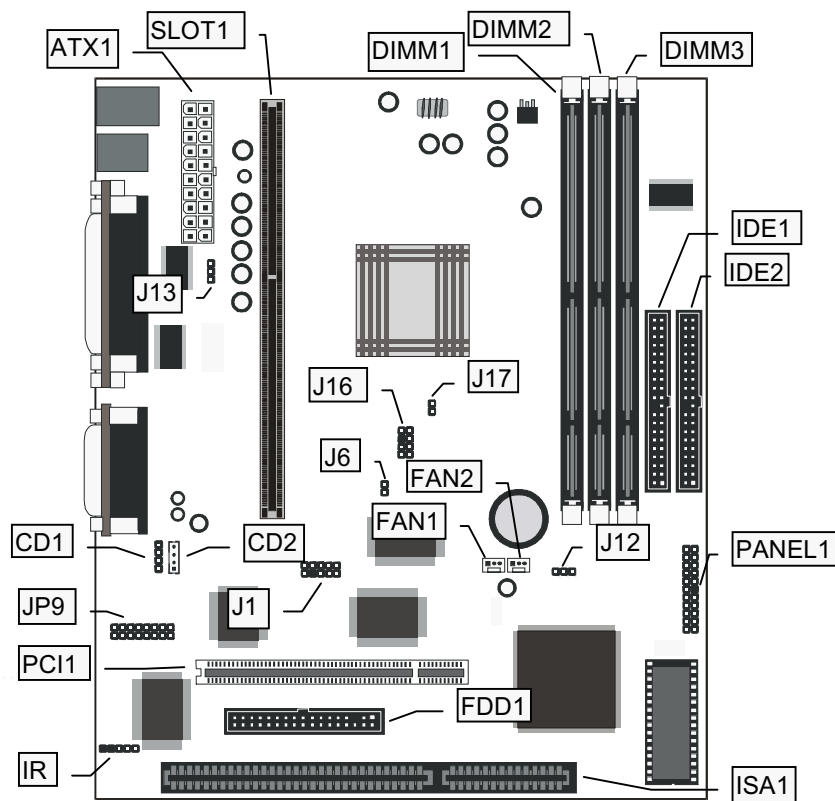
Some features on the mainboard are implemented by cabling connectors on the mainboard to indicators and switches on the system case. Ensure that your case supports all the features required. The P6SE-ML mainboard can support one or two floppy diskette drives and four

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

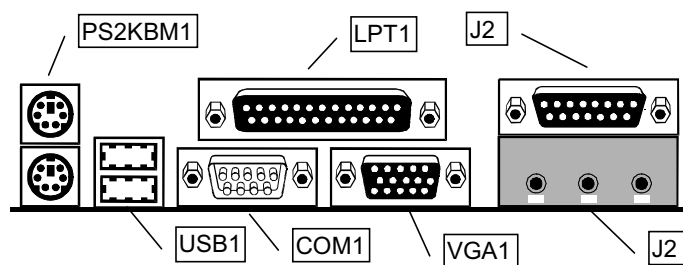
Use the following illustration and key to identify the components on your mainboard.



Key to Mainboard Components

Component	Description
ISA1	8/16-bit ISA expansion slot
PCI 1	32-bit PCI expansion slot
SLOT1	Slot for Pentium-II/III processor or SEPP Celeron processor
DIMM1,2,3	Slots for 168-pin memory modules
FDD1	Connector for floppy disk drives
IDE1, IDE2	Primary and secondary IDE channels
ATX1	Connector for ATX power supply
IR	Connector for optional IR port
PANEL1	Panel connector for switches and indicators
FAN1	Power connector for CPU cooling fan
FAN2	Power connector for case cooling fan
CD1	Audio connector for optional CD-ROM drive
CD2	Auxiliary audio connector for optional CD-ROM drive
JP9	Connector for fax/modem extension bracket
J1	Connector for network adapter extension bracket
J6	Set SPDIF output signal level
J12	Clear CMOS memory jumper
J13	Keyboard power on jumper
J16	SPDIF In/out connector (24-bit digital audio interface)
J17	Connector for SPDIF input

I/O Ports Side View



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
J2 (Upper)	External game/MIDI port
J2 (Lower)	Audio jacks for (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 carrying out the following steps;

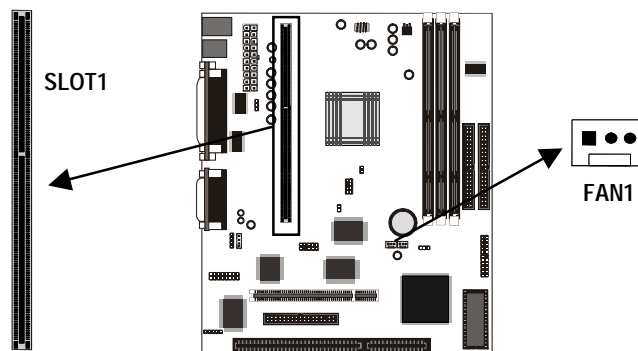
- ◆ Install the processor
- ◆ Install the memory module(s)
- ◆ Check the jumper settings

Install the Processor

This board has a SLOT1 processor cartridge slot. The slot must be installed with a retention mechanism that supports the processor cartridge. The retention mechanism may already be installed on your mainboard, or it may ship as a separate component. Use the following illustrations to locate the slot and prepare the retention mechanism.

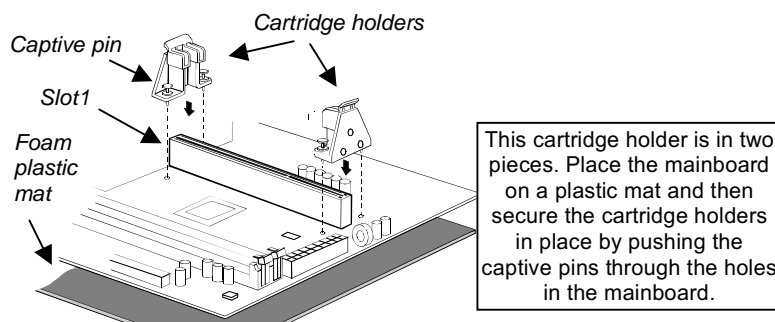
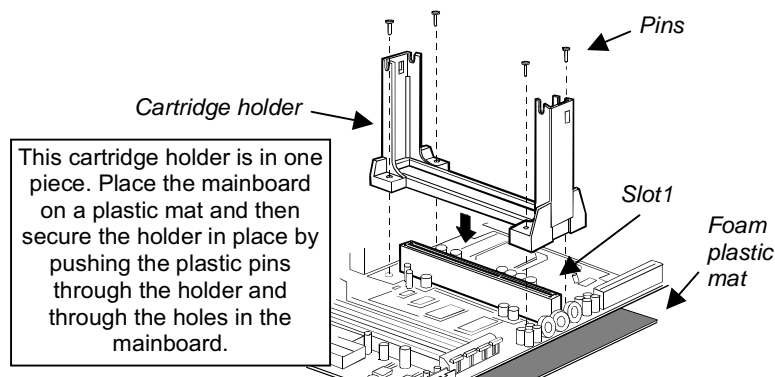
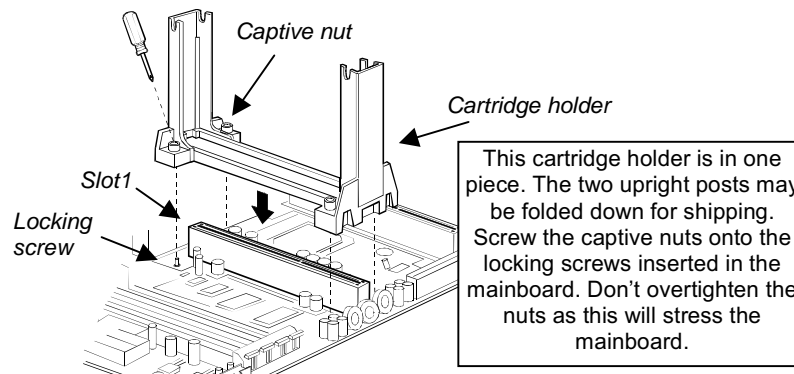
You can install this mainboard with a Pentium-III cartridge, a Pentium-II cartridge, or a SEPP (Single Edge Processor Package) Celeron cartridge. If the processor has a cooling fan assembly, you can connect the cable from the cooling fan to the CPU fan power supply connector FAN1.

Locate SLOT1 and FAN1



Installing a SLOT1 Cartridge Holder and Cartridge

The SLOT1 on the mainboard must be installed with a retention mechanism to support the cartridge. The illustrations below show how to install several different kinds of Slot1 cartridge holders.



Some cartridge holders also include a support bar for the processor heat sink. This bar installs to the side of the cartridge holder. Some processor cartridges have support struts for the heat sink which lock into the support bar. The documentation supplied with the processor shows how to do this.

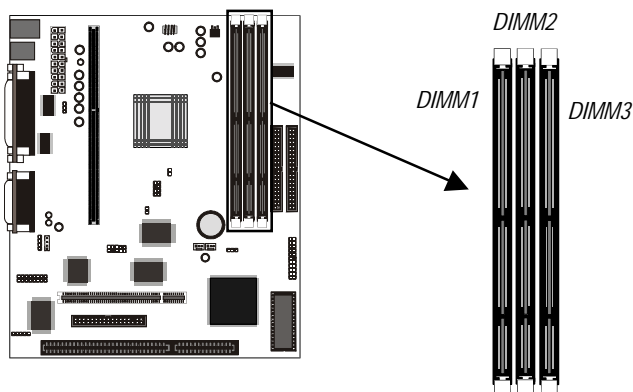
After you have installed the cartridge holder, follow the instructions supplied with the processor cartridge to insert the cartridge into the holder. If the processor has a cooling fan, connect the power cable of the fan to the power supply connector on the mainboard FAN1.

Install the Memory Modules

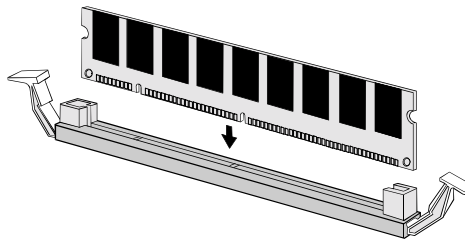
For this mainboard, you must use 168-pin 3.3V non-buffered Dual In-line Memory Modules (DIMMs). The memory chips must be standard or registered SDRAM (Synchronous Dynamic Random Access Memory). The memory bus can run at 66 MHz or 100 MHz. If your processor operates over a 100 MHz system bus, you must install PC-100 memory that also operates over a 100 MHz bus. If you install a processor that operates over a 66 MHz bus, you can install memory chips that operate at 66 MHz.

You must install at least one memory module and the first memory module should be installed in slot DIMM1 where some memory can be shared with the built-in graphics system. Any extra memory modules can be installed in either DIMM2 or DIMM3. Each module may be installed with up to 256 MB of memory so the maximum capacity is 768 MB. The mainboard supports memory chips that have EC (Error Correction) or ECC (Error Correction Code).

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.

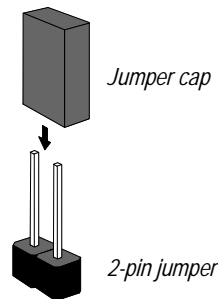


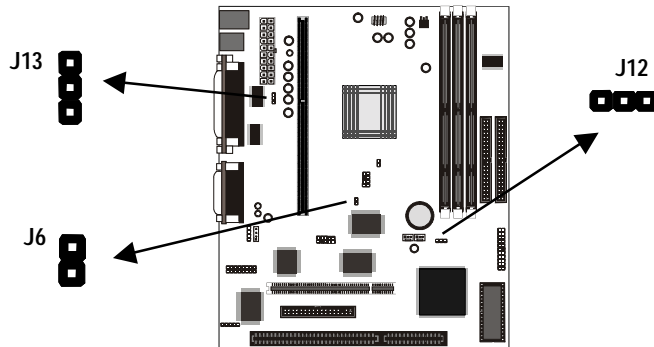
Check all the Jumper Settings

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

A Note on Jumpers

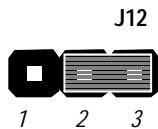
A jumper consists of two or more pins mounted on the mainboard. Some jumpers might be arranged in a series with each pair of pins numbered differently. Jumpers are used to change the electronic circuits on the mainboard. When a jumper cap is placed on two jumper pins, the pins are SHORT. If the jumper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





J12: 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.

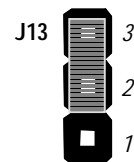


Function	Jumper Cap
Normal Operation	Short pins 1-2
Clear CMOS	Short pins 2-3

J13: 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
Disable keyboard power on	Short pins 1-2
Enable keyboard power on	Short pins 2-3



J6: Set SPDIF Output Signal Level Jumper

If you use the SPDIF Input/Output connector (SPDIF), 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 output	Short pins 1-2
0.5 volts output	Open pins 2-3

Install the Mainboard in the System Case

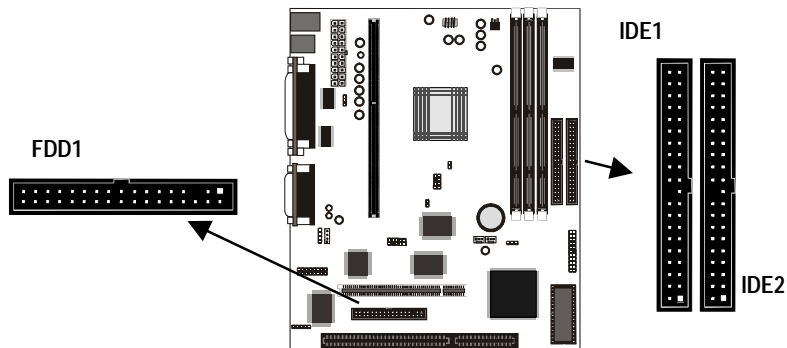
Use the screws and mounting brackets supplied with your system case to install the mainboard. Follow the instructions provided by the case manufacturer.

Connect Devices, Switches and Indicators

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.

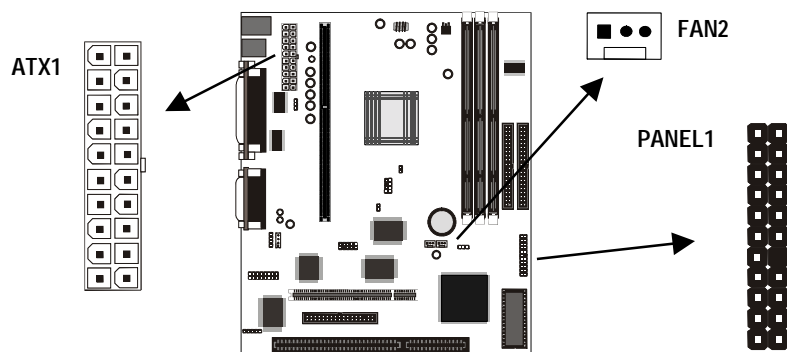
Note: Ribbon cable connectors are usually keyed so that they can only be installed correctly on the device connector. If the connector is not keyed make sure that you match the pin-1 side of the cable connector with the pin-1 side of the device connector. Each connector has the pin-1 side clearly marked.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

IDE & FDD Drives

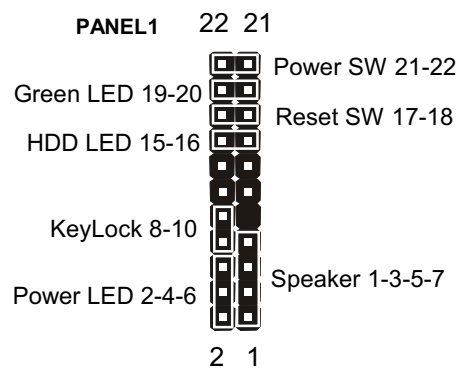


1. Locate the floppy diskette drive connector FDD1. Use the ribbon cable to connect one or two floppy diskettes to the mainboard.
2. Locate the Enhanced IDE connectors IDE1 (primary) and IDE2 (secondary). A single IDE cable is provided with the mainboard. Connect the cable to IDE1. The cable has two 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.

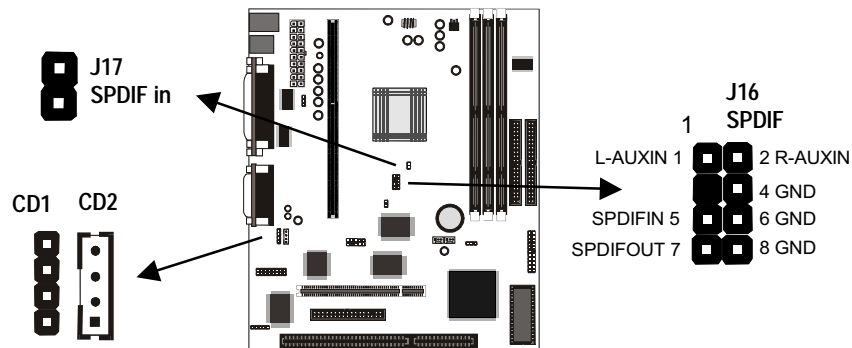
Power Connector, Panel Connector & Case Fan



1. 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.
2. If your system case has a built-in cooling fan, you can supply power to the fan from the case fan power connector FAN2. Connect the power cable from the fan to FAN2.
3. Locate the bank of switch and indicator connectors PANEL1. These connectors provide control functions to your system case. Use the illustration below to make the connections.



Audio Connectors

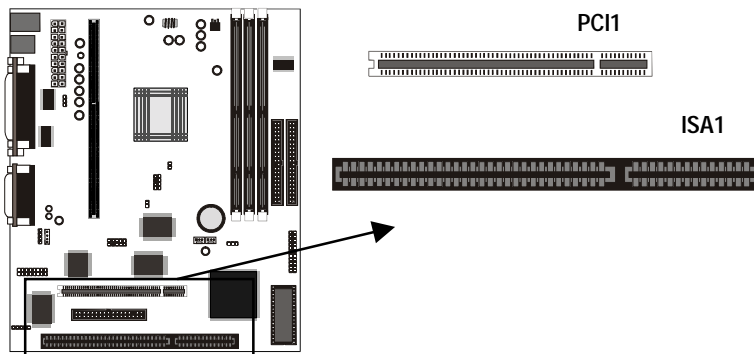


The mainboard has four audio connectors. CD1 is a 4-pin audio connector which can be used to input the audio from a CD-ROM or DVD drive. CD2 is exactly the same, except that it supports an alternative kind of connector. Use either CD1 or CD2 to connect your CD/DVD drive

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 J16. If you have installed a device which outputs 24-bit digital audio, you can input this signal to the sound system through the 2-pin SPDIF input connector J17. If you have already used the SPDIF in/out connector J16, you cannot use the J17 SPDIF input connector.

Expansion Slots

You can use the two expansion slots to install expansion boards that add new features to your system.

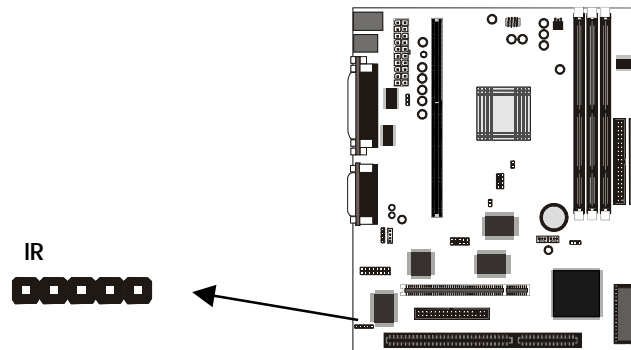


1. If you have a 32-bit PCI expansion card, install in the PCI slot PCI1. If you have an 8/16-bit legacy ISA card, you can install it in the ISA slot ISA1.
2. When you install an expansion card, remove the blanking plate from the case expansion card opening that corresponds to the expansion slot on the mainboard. Fit the bracket of the expansion card into the expansion card opening and secure it in place with a screw.

Install Options and Extension Brackets

On this mainboard you can install an optional infrared port. In order to use the built-in fax modem you must install the fax/modem extension bracket. In order to use the built-in network adapter you must install the network adapter extension bracket.

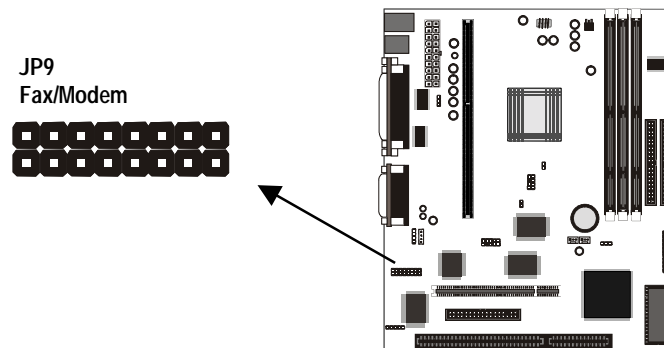
Infrared Port Options



1. If you want to install an optional serial infrared port, connect the cable from the optional IR port to the IR connector on the mainboard.
2. After you have connected the cable, secure the option to the appropriate place on your system case.

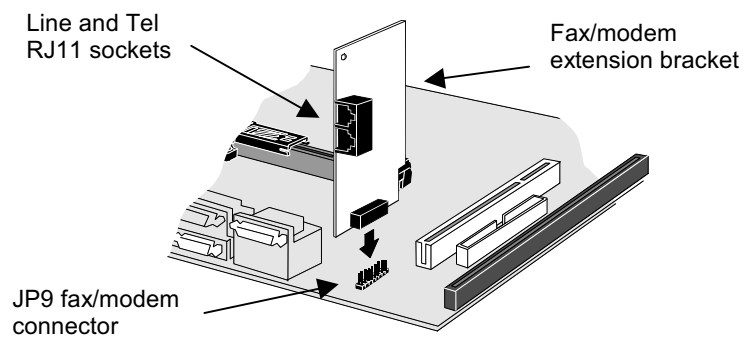
Note: An infrared port uses some of the same resources as the built-in fax/modem. If you have installed the infrared port, you might have to use your system's device manager to reallocate resources between the infrared port and the fax/modem. You might not be able to run both devices at the same time.

Fax/modem Extension Bracket

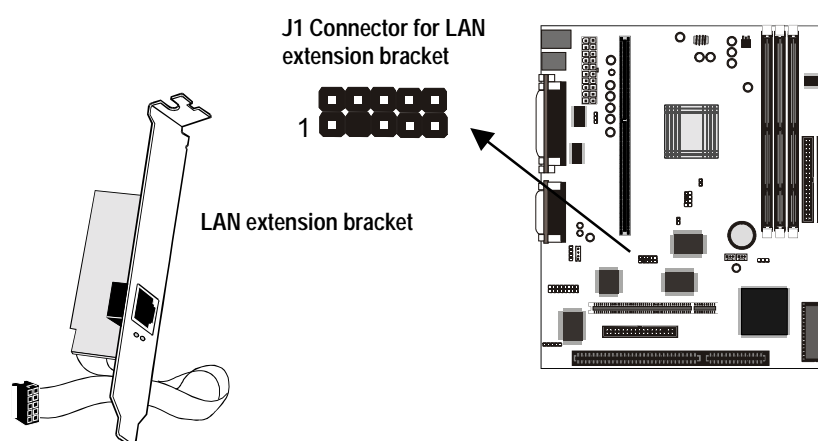


The fax/modem extension bracket is supplied with this mainboard.

1. Locate the JP9 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 JP9 connector as shown below. The RJ11 Line and Telephone sockets on the bracket are positioned in the expansion slot with the removed blanking plate.



Network Adapter (LAN) Extension Bracket

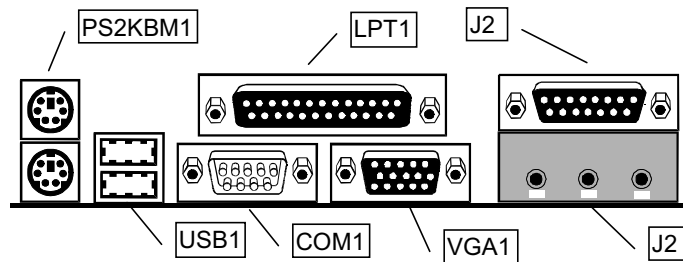


The network adapter extension bracket is supplied with this mainboard.

1. Locate the J1 LAN extension bracket connector on the mainboard.
2. Remove a suitable expansion slot blanking plate from the system chassis.
3. Install the cable from the LAN extension bracket on to the J1 connector on the mainboard. Note the position of pin1 on the connector, and the pin-1 side of the cable is marked with a red stripe.
4. Install the extension bracket into the expansion slot with the removed blanking plate and secure it in place. The RJ45 network socket is positioned on the bracket.

Make the External Connections

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



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 the port for an external monitor. Use this port to connect to monitor that supports the extended VGA resolutions of this system.
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.