Intel AL440LX Motherboard

Quick Reference

Before You Begin

Installation Notes

Items on the CD-ROM

Product warranty
AL440FX Motherboard Product Guide
Software utilities and drivers

Related Documents Available at www.intel.com

AL440LX Motherboard Technical Product Specification
AL440LX Motherboard Specification Update

Part Number: 681837-001

RADIO AND TELEVISION INTERFERENCE STATEMENT

The equipment described in this manual generates and uses radio frequency energy. If it is not installed and used properly, that is, in strict accordance with the manufacturer's instruction, it may cause interference to radio and television reception.

This equipment has been tested and complies with the limits for a Class B digital device in accordance with the specifications in Part 15 of the FCC Rules. These rules are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio or television reception, which can be determined by turning the equipment on and off, the user is encouraged to try to correct the interference by one or more of the following measures:

- o   Reorient the receiving antenna
- o   Relocate the computer with respect to the receiver
- o   Move the computer away from the receiver
- o   Plug the computer into a different outlet so that computer and receiver are on different branch circuits

If necessary, the user should consult the dealer or an experienced radio/television technician for additional suggestions. The user may find the following booklet, prepared by the Federal Communications Commission, helpful: *How to Identify and Resolve Radio and TV Interference Problems* This booklet is available from the U.S. Government Printing Office, Washington, DC 20402.

WARNING

This equipment has been certified to comply with the limits for a Class B computing device under Part 15 of FCC Rules. Only peripherals (computer input/output devices, terminals, printers, etc.) certified to comply with the Class B limits may be attached to this computer. Operation with non-certified peripherals is likely to result in interference to radio and TV reception. Any changes or modifications to this equipment not expressly approved by the manufacturer could void the user's authority to operate this equipment.

REMARKS

To meet FCC requirements, shielded cables and power cords are required to connect the device to a personal computer, peripheral, or other Class B certified device.

WARNINGS

This guide is for technically qualified personnel with experience installing and configuring motherboards.

Disconnect the motherboard's power supply from its AC power source before you connect or disconnect cables or install or remove any motherboard components. Failure to do this can result in personal injury or equipment damage. Some circuitry on the motherboard can continue to operate even though the front panel power switch is off.

CAUTION

ESD can damage motherboard components. Install the motherboard at an ESD workstation. If such a station is not available, wear an antistatic wrist strap or touch the surface of the antistatic package before handling the motherboard.

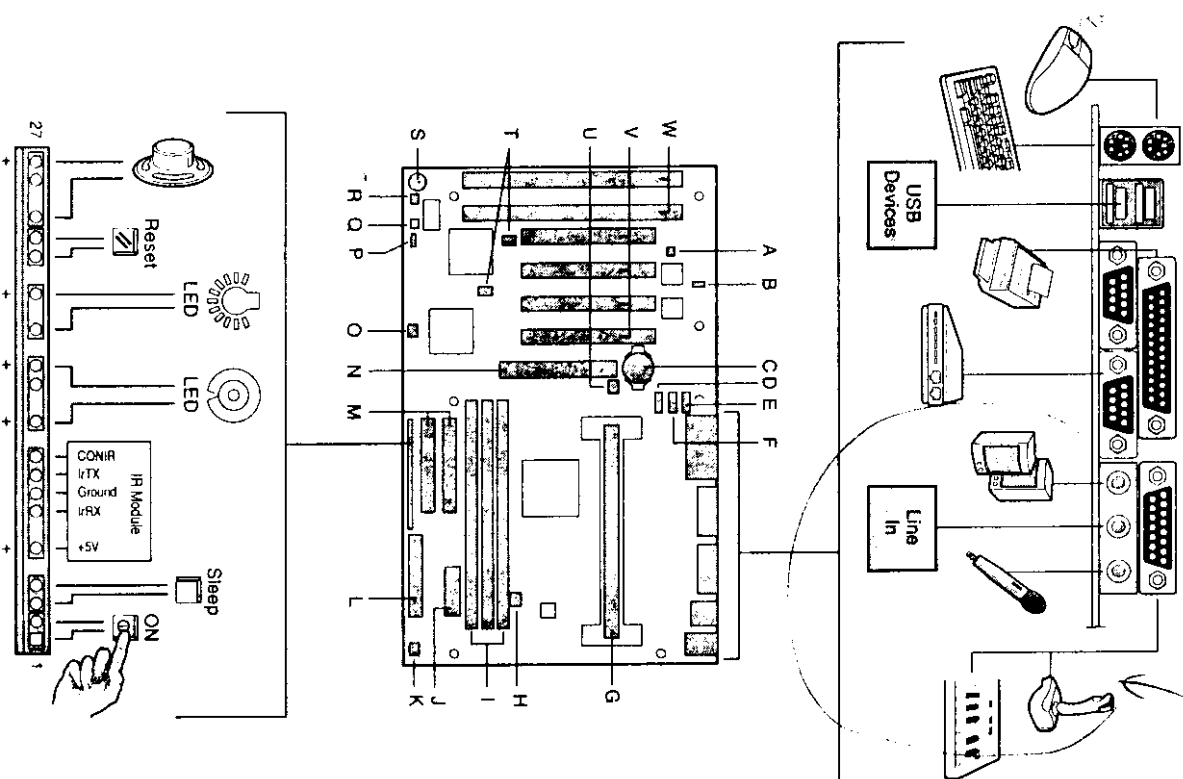## Safety and Regulatory Requirements

See the *AL440LX Motherboard Product Guide* for all applicable safety standards, electromagnetic compatibility (EMC) regulations, and product certification markings.

EMC testing: Before computer integration, make sure that the chassis, power supply, and other modules have passed EMC testing using a motherboard with a microprocessor from the same family (or higher) and operating at the same (or higher) speed as the microprocessor on this motherboard.

Battery warning sticker provided: Place the sticker inside the chassis in an easy-to-see location near the battery but not on the motherboard itself.

Intended uses: This product was evaluated for use in computers that will be installed in offices, homes, schools, computer rooms, and similar locations. Other uses require further evaluation.

Reset
LED
LED
CON:IR
IrTX
Ground
IrRX
+5V
IR Module
Sleep
ON

USB Devices

Line In

27

OM06263

Motherboard Connectors (continued)

A. Chassis intrusion header
B. Wake on LAN† header
C. Battery
D. Line-in audio connector (optional)
E. CD-ROM audio connector (optional)
F. Telephony connector (optional)
G. Slot 1 processor connector
H. Fan 3 connector (for processor fan heatsink)
I. DIMM sockets
J. Power connector
K. Fan 1 connector
L. Floppy connector

M. IDE connectors
N. A.G.P. connector
O. Auxiliary 3-pin LED connector
P. Configuration jumper (see page 8)
Q. SCSI hard disk LED header
R. Wake on ring header
S. Speaker
T. Yamaha wavetable connectors (optional)
U. Fan 2 connector
V. PCI connectors
W. ISA connectors

NOTES

Components labeled "optional" do not come on all AL440LX motherboards; all back panel audio connectors are optional.

If you are installing a processor with a fan heatsink, connect the processor's fan to the connector labeled "fan 3".

Fan Connectors

Fan 2
J3F1

Fan 1
J8M1

Fan 3
J5L1

Fan 1
J5L1
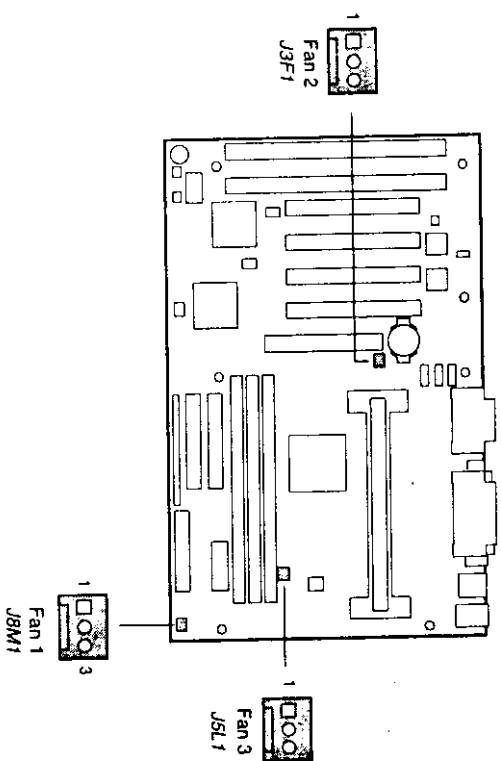
OM06471

Microprocessor Support

The motherboard supports the following processor types and speeds:

- 233 MHz Intel Pentium® II processor
- 266 MHz Intel Pentium II processor
- 300 MHz Intel Pentium II processor

✐ **NOTE**

If you are installing a processor with a fan heatsink, connect the processor's fan to the connector labeled "fan 3" (see page 5).

DIMM Specifications

The motherboard supports SDRAM DIMMs that meet the following specifications:

- 168-pin 3.3 V DIMMs with gold-plated contacts
- 66 MHz 4-clock unbuffered SDRAM
- non-ECC (64-bit) or ECC (72-bit) memory
- 8 MB, 16 MB, 32 MB, 64 MB, and 128 MB modules

✐ **NOTE**

This motherboard supports only SDRAM DIMMS that meet the Intel 4-clock 66 MHz unbuffered SDRAM specifications for either 64-bit or 72-bit SDRAM. For information about vendors that support these specifications, see the Intel World Wide Web site: http://www.intel.com.

Installing the I/O Shield

The motherboard comes with a small I/O shield. From inside the chassis, press the shield into place so that it fits tightly and securely. If the shield doesn't fit, obtain a properly sized shield from the chassis supplier.
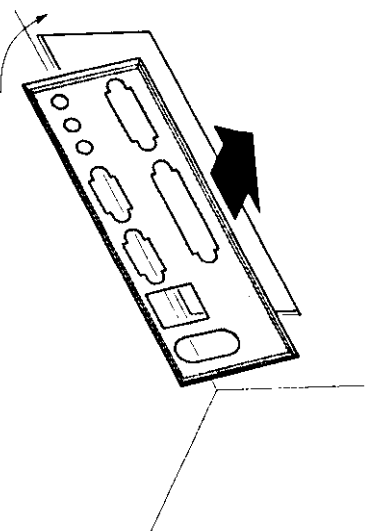
OM05724A

Installing the Processor Retention Mechanism

To install the processor's retention mechanism, mount the mechanism (A) over the Slot 1 connector (B). Mate the key on the connector (C) with the notch in the base of the mechanism. Turn each captive nut (D) until it is loosely fastened to the motherboard.
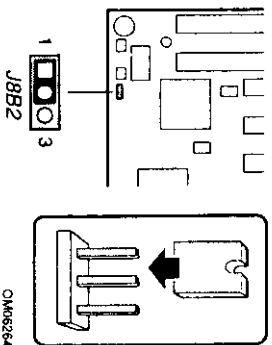
⚠ **CAUTION**

Overtightening the captive nuts can damage the motherboard. With a Phillips #2 torque screwdriver, tighten the nuts to no more than 6 inch-lb. +/- 1 inch-lb (0.678 N-m ± 0.113 N-m).

OM06473

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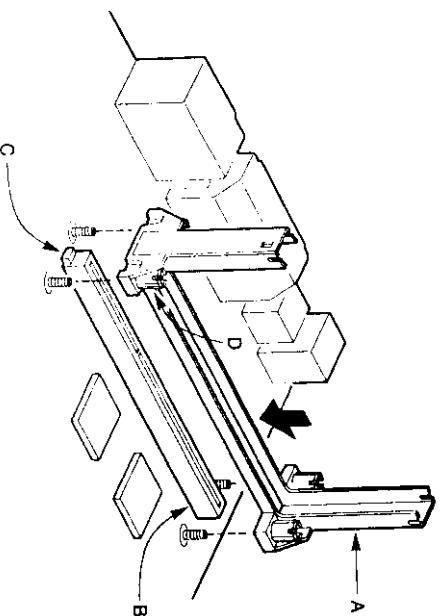
Configuration Jumper

The configuration jumper on the motherboard has three settings and three modes of operation.


J8B2   OM6264

Setting	Mode	Description
Pins 1-2	Normal (default)	The BIOS uses current configuration and passwords for booting.
Pins 2-3	Configure	After the power-on self test (POST) runs, the BIOS displays the Maintenance menu. This menu displays options for setting the processor speed and clearing passwords.
No jumper	Recovery	The BIOS recovers data from a recovery diskette in the event of a failed BIOS upgrade. To upgrade or recover the BIOS, see instructions in the AL440LX Motherboard Product Guide.

Configuring the Processor Speed

To configure the motherboard for the speed of the installed processor, use the Maintenance menu in the BIOS Setup program. To access the Maintenance menu, set the configuration jumper to Configure mode.

1   Turn off the computer and disconnect the motherboard's power cord from the AC power source (wall outlet or power adapter).

2   On jumper block J8B2, place the jumper on pins 2-3 (Configure mode).

J8B2   OM06431
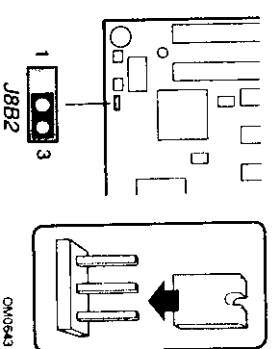
3   Reconnect the motherboard's power cord. Turn on the computer and the video monitor.

4   The Setup program automatically displays the Maintenance menu with the processor speed option selected.

5   To view the processor speed options, press <Enter>. Use the arrow keys to select the correct processor speed. Press <Enter>.

6   Exit the Maintenance menu saving the changes.

7   Turn off the computer and disconnect the power cord from the AC power source.

8   On jumper block J8B2, place the jumper on pins 1-2 (Normal mode).

9   Reconnect the motherboard's power cord and turn on the computer and the video monitor. The motherboard is now configured for the correct processor speed.

BIOS Setup Program Defaults

Following is a partial list of Setup default settings. For a complete list, see the *AL440LX Motherboard Product Guide*.

Maintenance Menu*	Default
Processor Speed	Not set
Clear All Passwords	Not set

Main Menu	Default
Language	English
Diskette A:	1.44/1.25, 3.5-inch
Diskette B:	Disabled
Floppy write protect	Disabled
Primary IDE master	Auto
Primary IDE slave	Auto
Secondary IDE master	Auto
Secondary IDE slave	Auto

Advanced Menu	Default
Plug and Play OS	Yes
Reset configuration data	No
Memory cache	Enabled
Serial Port A	Auto
Serial Port B	Auto
Mode (Serial Port B)	Normal
Parallel port	Auto
Mode (parallel port)	Bi-directional
Floppy disk controller	Enabled
IDE controller	Both
Audio (optional)	Enabled
Palette snooping (video)	Disabled
Event logging	Enabled

Security Menu	Default
User password is	Not set
Supervisor password is	Not set
Unattended start	Disabled

BIOS Setup program defaults (continued)

Power Menu	Default
Power management	Disabled
Inactivity timer	Off
Fixed disk	Enabled
Video	Enabled

Boot Menu	Default
After power failure	Power on
First Boot Device	Removable devices
Second boot device	Hard drive
Third boot device	CD-ROM drive
Fourth boot device	Network

* To access the Maintenance menu, set the configuration jumper on the motherboard to Configure mode (see Configuration Jumper).

> **NOTE**
>
> *To disable the onboard audio interface, in the BIOS Setup program, select the Advanced Menu. Set the Audio feature to "Disabled."*