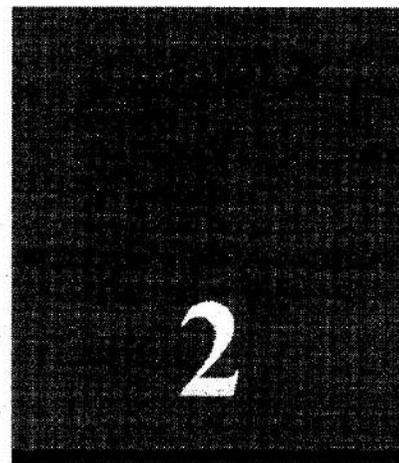


## Package Checklist

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Please check that your package is complete . If you discover any item damaged or missed , please contact with your retailer.

- ⊗ The 6LX87 mainboard.
- ⊗ 1 x IDE ribbon cable.
- ⊗ 1 x floppy ribbon cable.
- ⊗ 6LX87 support software: ( option )
  - Flash Memory Write utility to update the FLASH BIOS.
  - LAN Desk Client Manager (LDCM) Software.
  - GL520 Hardware monitor AP.
  - Technical Support Form.
- ⊗ This user's Manual



# Features

## Features of the 6LX87 Mainboard

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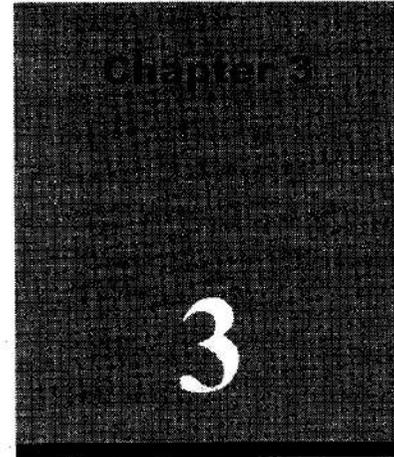
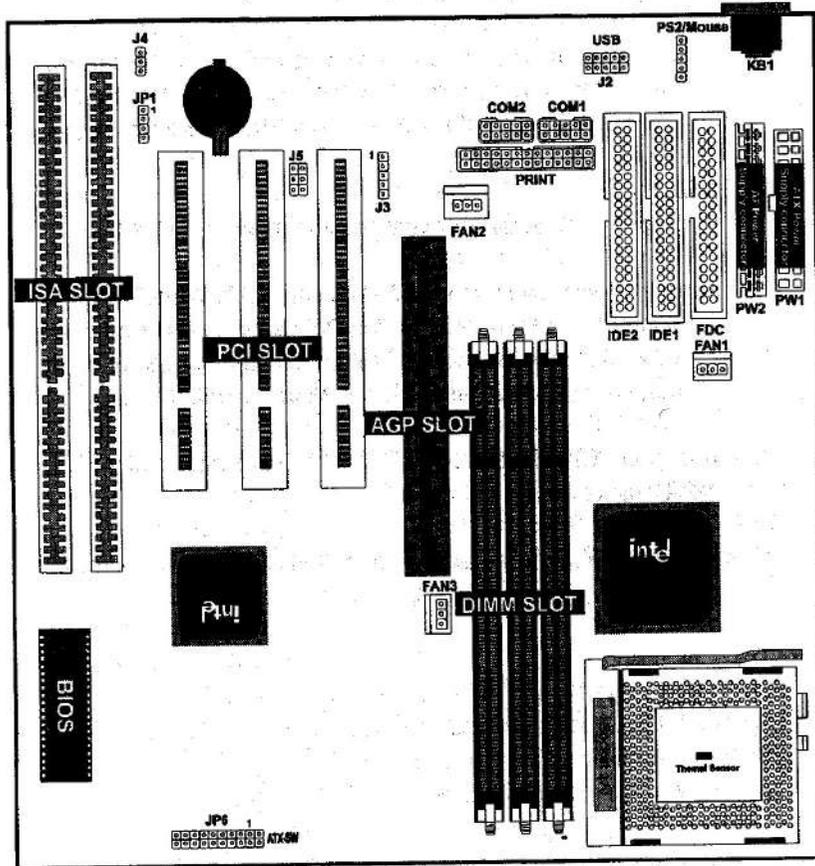
The 6LX87 is seriously designed for the demanding PC user who wants many new key features processed by the fastest CPU in a economic package. This mainboard :

- ⊗ **New general CPU support :**  
Intel Mendocino Celeron ( 300MHz-433MHz ) processor.
- ⊗ **Intel Chipset :**  
Intel 440 LX PCIset™ chips with I/O subsystems.

- ⌘ **Biggest memory capacity :**  
Is equipped with three DIMM socket to support (16MB, 32MB, 64MB, 128MB,256MB) 168 pin 3.3v EDO RAM Module Maximum memory up to 768MB or 3.3v SDRAM. Maximum memory up to 768MB.
- ⌘ **AGP for fast VGA solution :**  
AGP (Accelerator Graphic Port) will enhance & improve display performance and Application. The bus speed is 66/133 MHz.
- ⌘ **ISA & PCI Expansion Slot :**  
Provide two 16 bit ISA, and three 32 bit PCI slots.
- ⌘ **PCI Bus Master IDE Controller :**  
Comes with an onboard PCI Bus Master IDE controller with two connectors that supports four IDE devices in two channels, enable to transfer data at much faster rate, and supports Enhanced IDE devices such as Tape Backup and CD-ROM devices (ATAPI). This controller supports PIO modes 3 and 4 (16.6MB/sec.) , and Ultra DMA/33 (33MB/Sec.) , also supports ZIP100 and LS-120. BIOS supports IDE CD-ROM or SCSI bootup.
- ⌘ **Super Multi-I/O :**  
Provides two high-speed UART serial compatible ports (match NS16C550A compatible) and one parallel port with SPP,EPP and ECP capabilities. UART2 can also be directed from COM2 to the Inferred Module for wireless connections. Two floppy drives of either 5.25" or 3.5" (1.25MB,1.44MB or 2.88MB) are also supported without an external card.
- ⌘ **CPU built-in Level 2 Cache :**  
128KB Pipeline Burst Level 2 cache in the Pentium Mendocino Celeron (Socket 370) cartridge.

- ⌘ **Advanced Configuration of Power management Interface (ACPI) :**  
Support ACPI function BIOS which allows System to control seriously power management.
- ⌘ **Thermal detect (GL520) :(Optional)**  
The system's BIOS will sense CPU's temperature through GL520 on board. The User can watch what current temperature of CPU is & current CPU FAN status is from Win System. The user will watch the indication on Win 95/98 environment.
- ⌘ **IrDa Port :**  
Support this serial fast communication up to 115.2Kbps.
- ⌘ **Support Power on by modem/ Alarm on/ LAN Wake Up :**  
Support System power up from Modem ring up or timer or LAN Wake Up of System. Required enabled in Ring on by modem and Alarm on and LAN Wake Up in BIOS.
- ⌘ **To support CPU FAN ON/OFF and LED indicator under SUSPEND mode.**
- ⌘ **To support CPU temperature and Alarm system by warning with sound.**

The 6LX87 Mainboard layout



# Installation

## Jumper

### Jumper

### Refer to pages

- |        |                             |    |
|--------|-----------------------------|----|
| ♦ FAN1 | - FAN CONN. for Pentium II  | 19 |
| ♦ FAN2 | - FAN CONN. for Pentium II  | 19 |
| ♦ FAN3 | - FAN CONN. for Pentium II  | 19 |
| ♦ JP1  | - Real time Clock RTC clean | 10 |
| ♦ J4   | - LAN Card Wake Up          | 23 |

## Expansion Slot

### Refer to pages

- ◆ CPU Socket370 15
- ◆ 168 pin DIMM Socket 14
- ◆ AGP (Accelerated Graphic port) SLOT
- ◆ PCI SLOT 1,2,3 -32bits PCI SLOT
- ◆ ISA SLOT,1,2 - 16bits ISA SLOT

## Connectors

### Refer to pages

- ◆ PW1/PW2- ATX/AT Power Connector 23
- ◆ PS2/Mouse- PS/2 Mouse port. 18
- ◆ KB1 - AT Keyboard port 18
- ◆ J2 - USB Port 18
- ◆ COM1 - COM 1 serial port 18
- ◆ PRINT - Parallel port 18
- ◆ COM2 - COM 2 serial port 18
- ◆ FDC - FLOPPY connector 18
- ◆ IDE1 - Primary IDE connector 20
- ◆ IDE2 - Secondary IDE connector 20
- ◆ JP6 - HDDLED 22
- ◆ JP6 - Reset Switch 22
- ◆ JP6 - Speaker Connector 23
- ◆ JP6 - PowerLED 23
- ◆ JP6 - ATX Power switch 23
- ◆ J3 - IrDA connector 21

## System Installation Setups

Before using your computer, you must finish the following steps:

1. Set jumpers on mainboard
2. Install SDRAM module.
3. Install the Socket 370 CPU Processor.
4. Connect Ribbon Cables, Cabinet Wires, and Power supply.
5. Install Add on Cards.
6. Setup the BIOS software.

## Static Electricity Precaution

- ⊗ Keep the mainboard and other system components in their anti-static packaging until you are ready to install them.
- ⊗ Do all preparative work on a static-free surface with the main board components facing up.
- ⊗ Unplug your computer when working on the inside.
- ⊗ Wear an Anti-static wrist strap.
- ⊗ Hold the system components, boards or cards by its edges only. Be careful not to touch any of IC chips, circuitry, contacts or connections, especially gold contacts on the mainboard.

## System Memory ( DIMM Module)

This main board supports, three 168 pin DIMM ( Dual Inline Memory Module) of 16 MB, 32 MB, 64 MB, 128 MB ,256MB to form a memory size between 16MB to 256MB.

The DRAM can be either 45ns,50ns,or 60ns 3.3v SDRAM,and 3.3v Enhanced Data Output (EDO) RAM.

Install memory in any or all Banks in Combination:

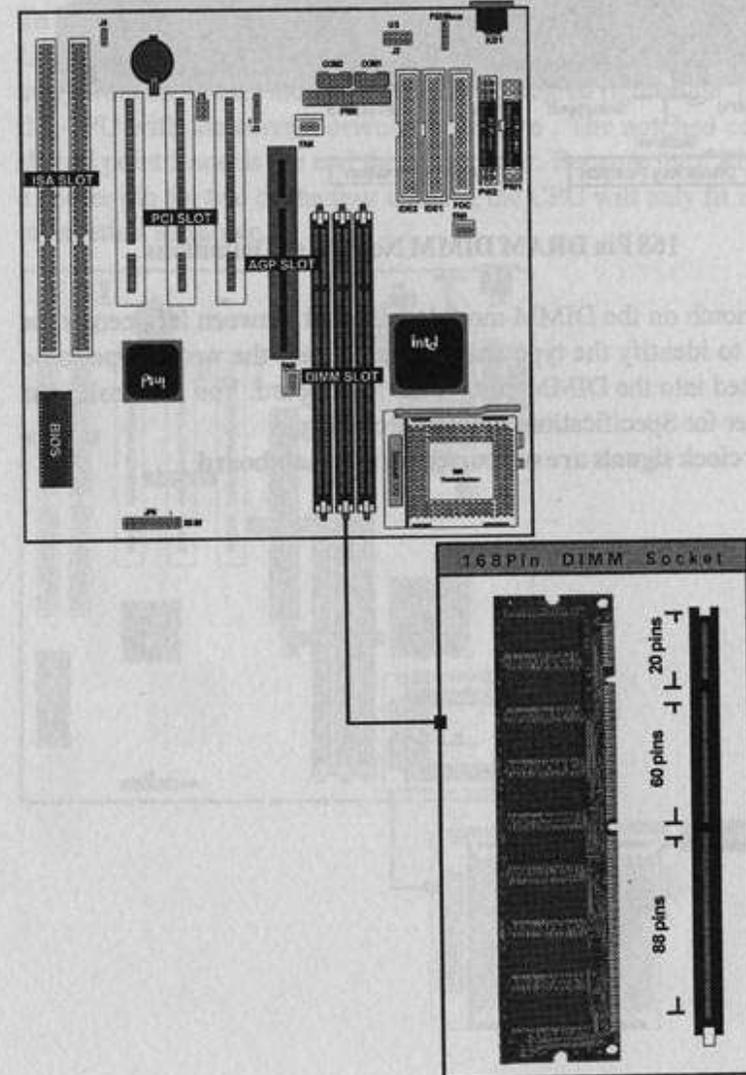
Bank	Memory module
DIMM 1	16MB,32MB,64MB,128MB,256MB
( Bank 0-1 )	168 pin,3.3v SDRAM / EDO RAM
DIMM 2	16MB,32MB,64MB,128MB,256MB
( Bank 2-3 )	168 pin 3.3v,SDRAM / EDO RAM
DIMM 3	16MB,32MB,64MB,128MB,256MB
( Bank 4-5 )	168 pin 3.3v,SDRAM / EDO RAM
	<b>Total System Memory(Max 768MB)</b>

### Note :

- The DIMM Slot does not support any 5v EDO DIMM module.
- The DIMM Slot does not support any 5v SDRAM DIMM module.
- Memory speed setup is required through "Auto Configuration" in BIOS chipset Setup of BIOS SOFTWARE. If several speed memory are used, You must set Auto Configuration to low. Example If both 50ns, 60ns are used, Please set Auto configuration to 60ns.
- It's allowed any DIMM module put in any DIMM slot. It's allowed there are different capacity DIMM module in all DIMM slot.

## DIMM Memory Installation

Insert the module (s) as shown. Because the number pins are different on either side of the breaks,the module will only fit in the orientation as shown. SDRAM DIMM modules have different pin contact on each side and therefore have a higher pin density.



## Clearance Requirements

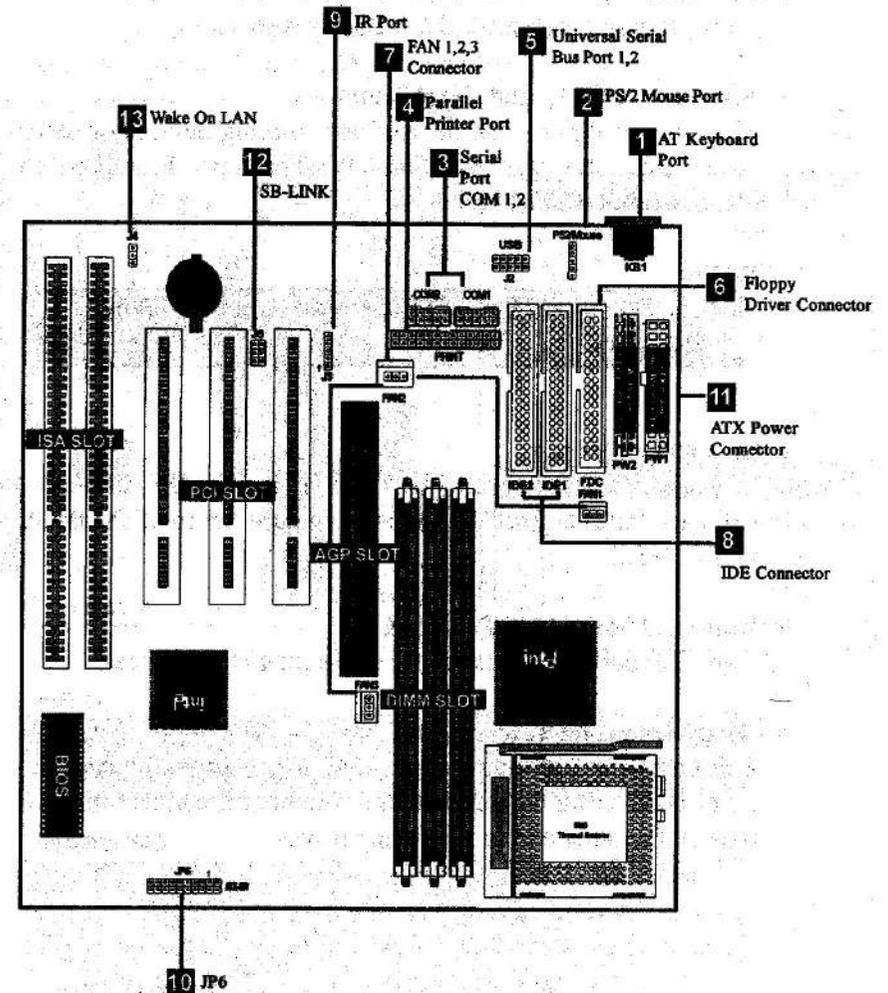
To maintain proper airflow once the processor is installed on the mainboard, the processor and fan heatsink require certain space clearances. The clearance above the processor must be at least 0.3 inches. The clearance on at least 3 of 4 sides of the processor and fan heatsink must be at least 0.2 inches. All cables (for Floppy drive, Hard drive, CD-ROM, and so on) must be routed clear of the processor and its airspace.

## Fan Exhaust

The processor must be kept cool by using a processor with heatsink and fan attached. The temperature of the air filled with the fan/heatsink cannot exceed 45 °C (113 °F). The ambient or room temperature must be below 37 °C (99 °F).

## EXTERNAL CONNECTORS

Both Ribbon cable and Connectors on board are with direction sign to avoid that user insert wrong direction. On other hand, The ribbon cables should always be connected with the red stripe on the pin 1 of side of the connector.



**1. AT Keyboard port**

This connection is for a standard keyboard using an PS/2 plug (mini DIN) . This connector will not allow standard AT size (large DIN) keyboard plugs. You may use a DIN to mini DIN adapter on standard AT keyboards.

**2. PS/2 Mouse port**

This system will direct IRQ12 to PS/2 mouse.

**3. Serial Port COM 1 and COM 2 port**

The two serial ports can be used for pointing devices or other serial devices. See "Onboard Serial Port" in chipset Feature Setup of the BIOS SOFTWARE.

**NOTE:**

Serial {D-type 25pin (F) } must be connected to the serial port.

**4. Parallel Printer port**

You can enable the parallel port and choose the IRQ through " Onboard Parallel Port" in Chipset. Feature Setup of the BIOS SOFTWARE.

**5. Universal Serial BUS Ports 1 & 2**

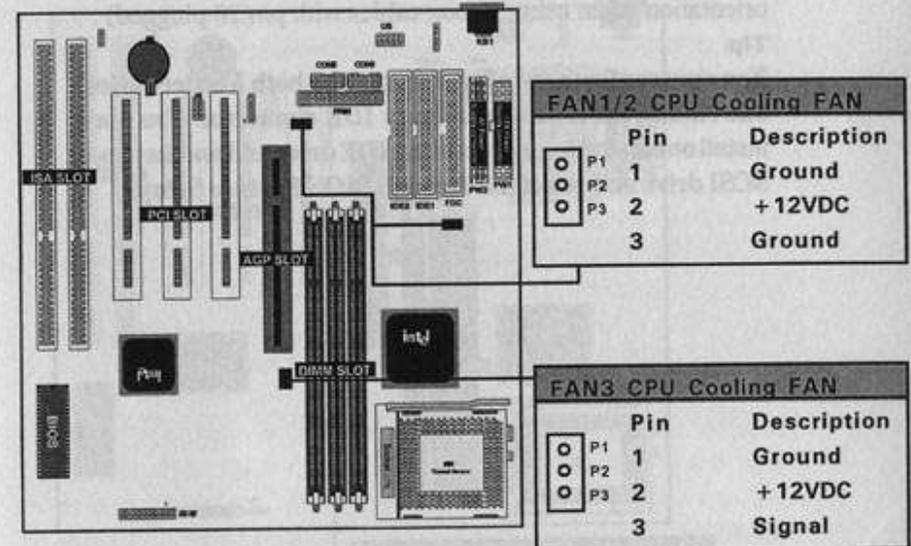
Two USB ports are available for connecting USB devices.

**6. Floppy drive connector**

This connector supports the provided floppy drive ribbon cable. After connecting the single end to the board, connect the two plus on the other end to the floppy drives.

**7. FAN1 , FAN2 , FAN3 CPU Cooling Fan (FAN/PWR)**

These connectors support cooling fans of 500mAmp (6Watt) or less. Orientate the fans so that the heat sink fins allow airflow to go across the onboard heat sink(s) instead of the expansion slots. Depending on the fan manufacturer, the wiring and plug may be diferent. The red wire should be positive, while the black should be ground. Connect the fan's plug to the board taking into consideration the polarity of the this connector.



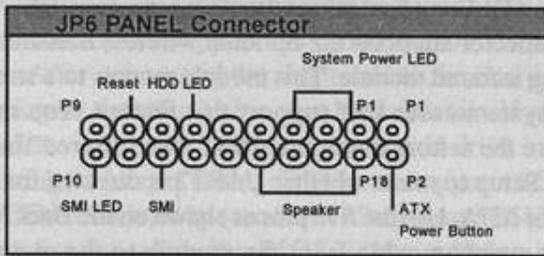
**NOTE :**

The "Rotation" signal is to be used only by a specially designed fan with rotation signal.

**WARNING :**

The CPU and/or motherboard will overheat if there is no air flowing across the CPU and onboard heatsinks. Damage may occur to the motherboard and/or the CPU fan if there pins are incorrectly used. These are not jumpers, do not place jumper cap over these pins.

10. JP6



a. IDE activity LED (IDE LED)

This connector supplies power to the cabinet's IDE activity LED. Read and write activity by devices connected to the Primary or Secondary IDE connectors will cause the LED to light up.

b. Power LED Lead (PANEL)

The system power LED lights when the system's power is on.

c. SMI Suspend Switch Lead (PANEL)

This allows the user to manually place the system into a suspend mode or "Green" mode where systematic activity will be instantly decreased to save electricity and expand the life of certain components when the system is not in use. This 2-pin connector (see the figure below) connects to the case-mounted suspend switch. If you do not have a switch for the connector, you may use the "Turbo Switch" since it does not have a function. SMI is activated when it detects a short to open moment and therefore leaving it shorted will not cause any problems. It may require one or two pushes depending on the position of the switch. Wake-up can be controlled by settings in the BIOS but the keyboard will always allow wake-up (the SMI lead cannot wake-up the system). If you want to use this connector, "Suspend Switch" in the Power Management Setup of the BIOS SOFTWARE section should be on the default setting of Enable

d. SMI Suspend LED

e. Reset Switch Lead (PANEL)

This 2-pin connector connects to the case-mounted reset switch for rebooting your computer without having to turn off your power switch. This is a preferred method of rebooting in order to prolong the life of the system's power supply.

f. System Power LED (PANEL)

The system power LED lights when the system's power is on (same as above Power LED).

g. Speaker Connector (PANEL)

This 4-pin connector connects to the case-mounted speaker.

ATX Power Switch (PANEL)

The system power is controlled by a momentary switch connected to this lead. Pushing the button once will switch the system ON. The system power LED lights when the system's power is on

11. ATX Power Supply Connector (20-pin block) - PW1

This connector connects to a ATX power supply. The plug from the power supply will only insert in one orientation because of the different hole sizes. Find the proper orientation and push down firmly making sure that the pins are aligned.

**IMPORTANT:**

Make sure that the ATX power supply can take at least 10mAmp load on the 5Volt standby lead (5VSB). You may experience difficulty in powering on your system without this.

PW2

Pin	Description	Pin	Description
1	Power Good	7	Ground
2	+5V DC	8	Ground
3	+12V DC	9	-5V DC
4	-12V DC	10	+5V DC
5	Ground	11	+5V DC
6	Ground	12	+5V DC

PW1

Pin	Description	Pin	Description
1	VCC	2	NC
3	VCC	4	GND
5	GND	6	GND
7	-12V	8	+12V
9	VCC	10	Power Good

### 12. SB-LINK : J5

“SB-Link” originated from Creative to propose a standard which can be a bridge between the mainboard and PCI sound card to deliver Sound Blaster 16 compatibility under DOS real-mode environment. Sound Blaster 16 was almost the standard of the ISA Bus sound cards, a lot of games were Programmed for Sound Blaster especially under DOS environment. If the users are still interested in playing these game titles, they might have compatibility problems with the new up graded PCI Bus sound card. This header adopts Intel’s PC/PCI technology to deliver Sound Blaster 16 compatibility to PCI Bus sound card, enabling users to play real-mode DOS games. Connect the cable provided by PCI sound card to this connector.

### 13. Wake Up On LAN : J4

This connector connects LAN cards and a Wake On LAN output. When the system is in soft-off mode LAN activity will power on the system.

