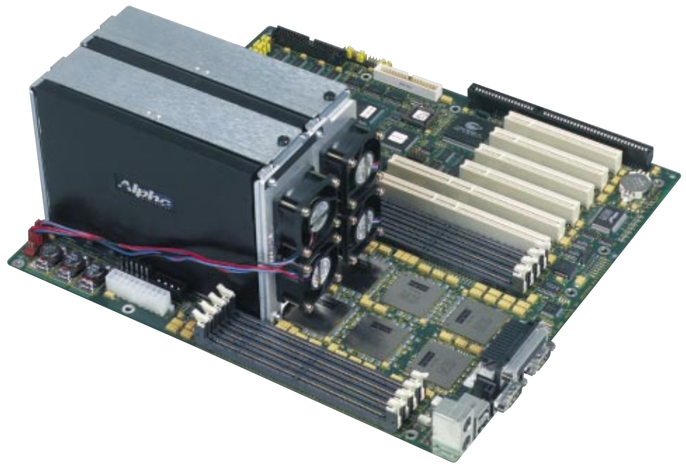
UP2000

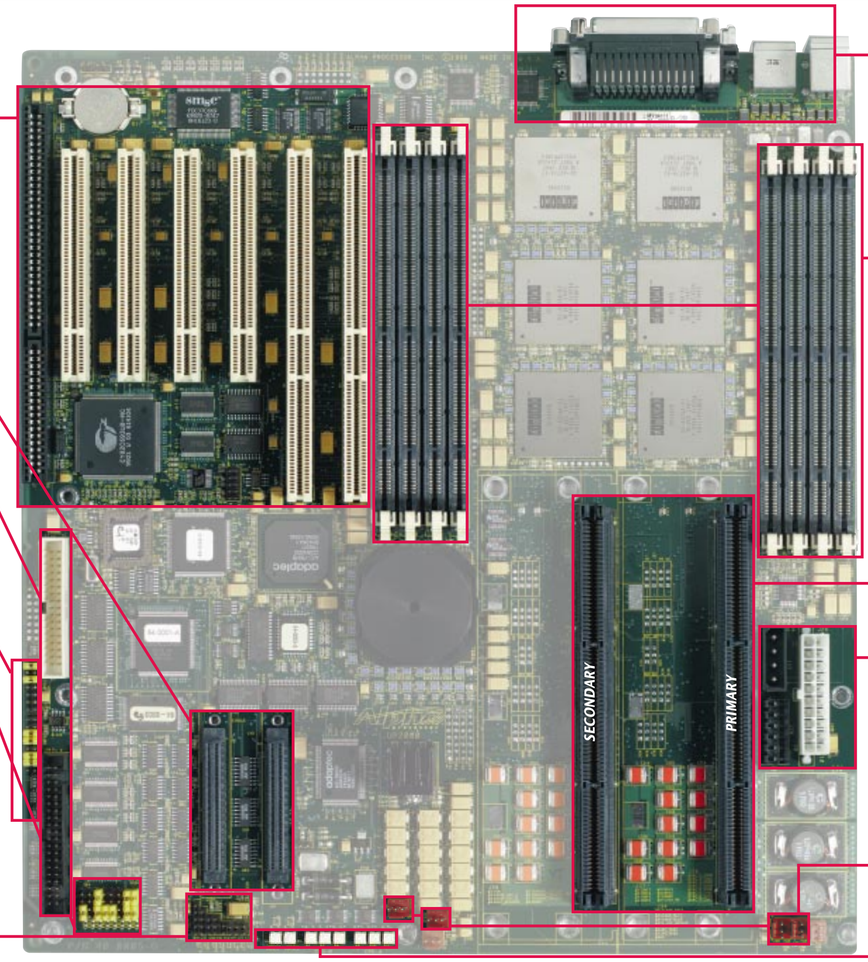
Quick Start Installation Guide



www.alpha-processor.com

51-0030-1A

A Tour of UP2000 Motherboard



Bus Connectors
(Section G)
PCI 64 Bits (2 Slots)
PCI 32 Bits (4 Slots)
ISA (1 Slot-Shared)

Disk Port Connectors
(Section G)
Ultra2 LVD SCSI
Ultra Wide Single Ended SCSI
Floppy Diskette Drive
EIDE

Configuration Jumper Blocks
(Section I)
System
System Speed
CPU Speed
L2 Cache Size

Internal I/O Connectors
(Section F)
Indicators & Buttons
Power Indicator LED
Speaker
Secondary Alpha Slot B Debug Port
Primary Alpha Slot B Debug Port
Power Button
Halt Button
SCSI Indicator LED
Reset Button

Rear Panel I/O Connectors
(Section I)
Keyboard & Mouse (stacked)
USB
Parallel
Serial COM1
Serial COM2

Memory Module Slots
(Section E)
Bank 0
Bank 1
Minimum: 256 Mbyte
Maximum: 2 Gbyte
Bank Slot Pattern: Alternating

Alpha Slot B Module Connectors
(Section H)
Primary Module Slot
(for Single Processor System)
Secondary Module Slot
(for Dual Processor System)

Power Connectors
(Section F)
Alpha Slot B Power
ATX Power
AUX ATX Power

Fan Power Connectors
(Section F)

System LEDs

B Unpack & Set Up

The UP2000 Kit from Alpha Processor, Inc. is configured as a single or dual processor system. A single motherboard supports one or two Alpha Slot B Modules.

Remove the components carefully from their cartons and anti-static packaging bags. Always take appropriate electrostatic discharge safety measures when handling boards or modules.

Contents of the ***UP2000 Kit*** are:

Carton 1

Hardware
- UP2000 Extended ATX Motherboard
- Alpha Slot B Module Support Fixture (Goalposts) (2)
- Goalpost Covers (2) w/captive screw

Documentation
- Installation Guide
- Product Warranty Card
- Read Me First sheet
- ***UP2000 User Manual***

Carton 2 – for single or dual processor systems
- Alpha Slot B Module
- Installation Guide
- Product Warranty Card

Carton 3 – for dual processor systems only
- Alpha Slot B Module
- Installation Guide
- Product Warranty Card

Components

Prepare for the UP2000 installation with the following components:

Level 1 – Required to Test Motherboard with Alpha Slot B Module

- ❑ Power Supply(s)
- ❑ Video Card
- ❑ Keyboard
- ❑ Assorted Peripheral Cables
- ❑ Memory Modules
- ❑ Monitor
- ❑ Mouse
- ❑ Floppy Disk Drive
- ❑ Hard Disk
- ❑ Speaker

+ Level 2 – Required to Load Operating System

- ❑ CD Drive
- ❑ Operating System CD

C Enclosure Requirements

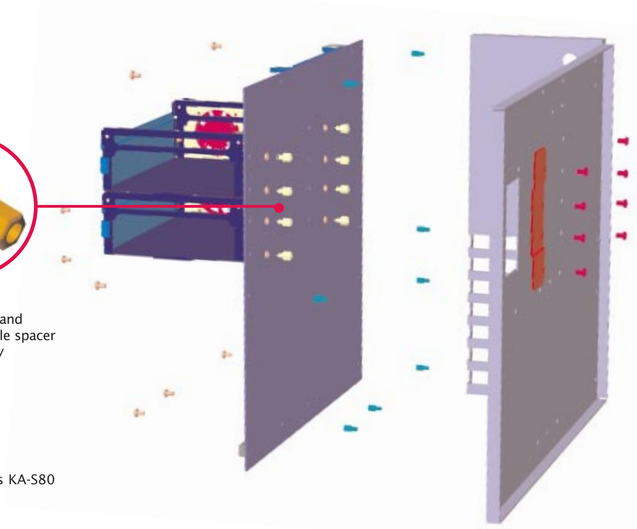
Locate Chassis Mounting Holes

- Identify the **ten** standard Extended ATX mounting holes.
- Check for the **eight** Slot B goalpost mounting holes.

For chassis or enclosures without this mounting hole pattern, obtain a drill template or chassis mounting tips from our website: **http://www.alpha-processor.com/products/downloads/customer_support/UP2000/UP2000_drill_template.pdf**.

Failure to correctly attach the motherboard and goalpost assembly to chassis backplate may damage the motherboard and may affect product warranty.

Spacer washer and hex male/female spacer screw assembly



Chassis:Macase chassis KA-S80

D Chassis Assembly

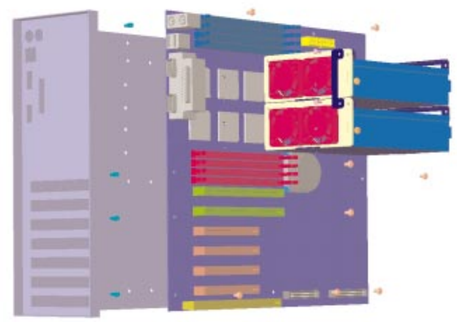
Motherboard & Goalposts to Chassis Assembly

The goalposts hold Alpha Slot B Modules securely in place on the UP2000 motherboard.

Requirements for attaching motherboard and goalposts fixture to the chassis are:
- Fastening Hardware – Eight Alpha Slot B hex male/female spacer screws and spacer washers
  - Eight M4x6mm long Phillips pan head screws
  - Two M3x8mm long pan head Phillips SEMS lock and flat
  - Brace for dual goalpost assembly
  - Assorted standoffs, screws, and miscellaneous hardware supplied by chassis vendor
- Tools – Phillips head screwdriver, Flat head screwdriver, torque wrench, nut driver (1/4")
- Proper chassis mounting holes drilled for goalpost captive nuts

Use this mounting technique:
1. Install goalpost with fan cables labeled J37 and J39 over primary Alpha Slot B connector (J23). Install goalpost with fan cables labeled J35 and J38 over secondary Alpha Slot B connector (J22).
2. Align the goalpost fixture holes with the corresponding motherboard clearance holes.
3. Affix goalposts to motherboard from the backside using eight hex male/female spacer screws and spacer washers. Torque to 8 inch/lbs.
4. Secure this assembly to the chassis with the standoffs and screws supplied by the chassis vendor.
5. Secure M4x6mm screws through chassis to female thread of hex male/female spacer screws (eight places).
6. Attach brace to top left corners of both goalpost's fan mounting plates with M3x8m pan head Phillips SEMS lock and flat.

Alpha Slot B goalposts must be securely fastened to chassis backplate. Do not attempt to assemble a system without Alpha Slot B goalposts.



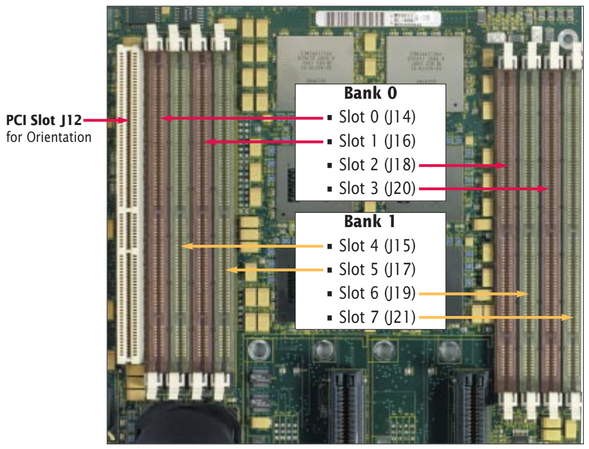
E Install Memory DIMMs

Memory Configuration

The memory subsystem is composed of:

- Two DIMM banks, designated Bank 0 and Bank 1.
- Each bank has four slots (sockets) that accept **168-pin, PC100 SDRAM PLL Registered/Buffered based SPD DIMMs.**
- Slots are configured in an *alternating* pattern.

Before installing DIMMs, carefully review the picture and guidelines shown below.



Memory Guidelines

- A bank **must** be fully populated (all four slots in one bank must be filled).
- Bank 0 **must** be populated first.
- A bank **must** utilize the **same** type, size, and speed DIMMs.
- Bank 0 and Bank 1 do **not** have to have same type, size, and speed DIMMs.
- Memory is supported in a size range between 256 MB (min) to 2 GB (max).

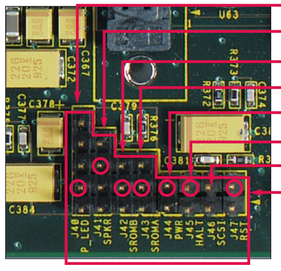
Some typical memory bank configurations

Total System Memory	Bank 0	Bank 1
256 MB	64 MB x 4	
512 MB	64 MB x 4	64 MB x 4
768 MB	128 MB x 4	64 MB x 4
1 GB	128 MB x 4	128 MB x 4
2 GB	256 MB x 4	256 MB x 4

F Internal Connections

Internal I/O Connections

Make the following connections using the appropriate cables:

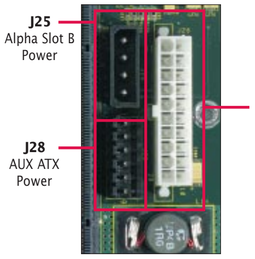


J40	Power Indicator LED
J41	Speaker
J42	Secondary Alpha Slot B Debug Port
J43	Primary Alpha Slot B Debug Port
J44	Power Button
J45	Halt Button
J46	SCSI Indicator LED
J47	Reset Button

Circle indicates ground.

Power Connections

NOTE: Connect both J25 and J26 power leads. Connect AUX ATX Power lead (J28) if available. To mate with this socket, use cable connector Molex 90331-0010 or equivalent.

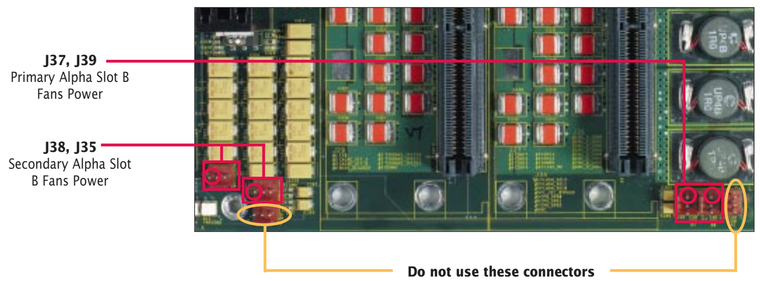


Connect 3.3 V, 12 V and 5 V power leads.

J26
ATX Power

NOTE: When connecting the fan power cables, make sure cables do not interfere with the Alpha Slot B Module installation area on the goalposts.

Fan Power Connections

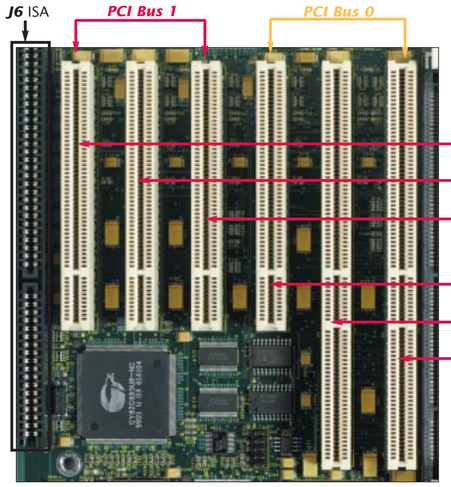


G Install Cards & Cables

Bus Connections

Use slots J6 through J12 for access to ISA and PCI bus support.

NOTE: Video option must be installed on PCI bus 0.



PCI Buses

Bus 1

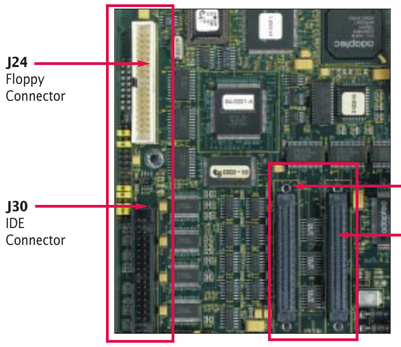
Slot 5 **J7** PCI 32 bits
Slot 4 **J8** PCI 32 bits
Slot 3 **J9** PCI 32 bits

Bus 0

Slot 2 **J10** PCI 32 bits
Slot 1 **J11** PCI 64 bits
Slot 0 **J12** PCI 64 bits

Disk Port Connections

Use sockets J24, J30,J32, and J33 to connect various disk peripheral devices.



H Install Modules

Alpha Slot B Modules

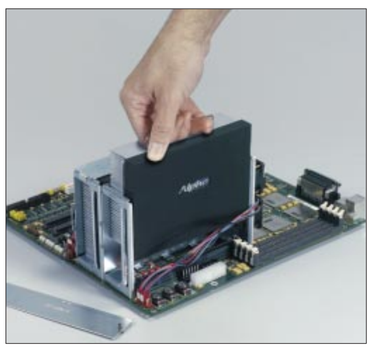
Install these components with special care. They weigh approximately three pounds each. A wire handle provides a convenient mechanism for safely inserting them.

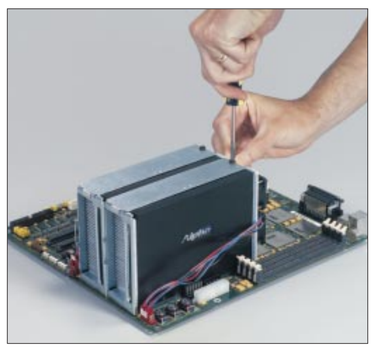
Use this procedure to install Alpha Slot B Modules:

1. Remove the Primary goalpost cover.
2. Insert a module in Primary Slot (J23) for a single processor system.
3. Use an insertion force of 35 pounds to seat the module just below the goalpost level.

NOTE: A single processor system **must** use the Primary Slot (J23).

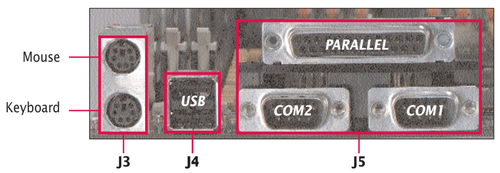
4. Remove the Secondary goalpost cover.
5. Insert a second module in Secondary Slot (J22) for a dual processor configuration.
6. Place a processor cover over each module installed.
7. Fasten each processor cover using its captive screw.





I Final Tasks

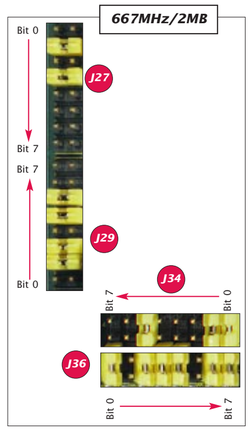
Rear Panel I/O Connections

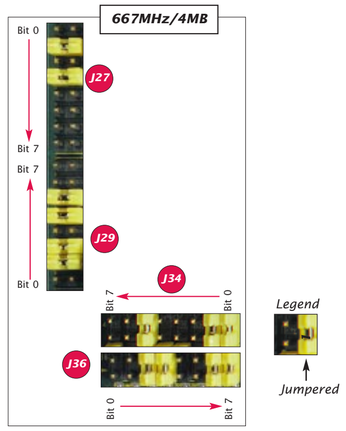


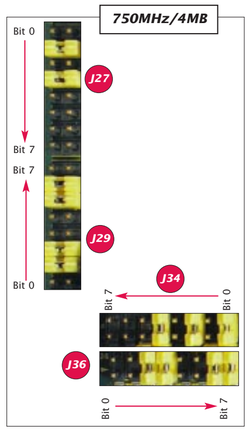
Note: On UP2000-A3 boards and above, COM1 port is reserved for a serial remote console device.

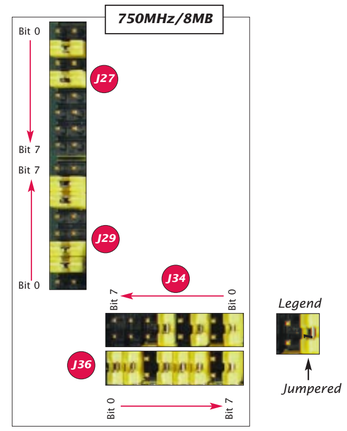
Jumper Configuration

Four jumper blocks must be configured. Use the following pictures to set up the UP2000 System.









Initial System Test

Follow this procedure to confirm the proper installation of the UP2000 system:

1. Ensure that all cables and modules are seated properly.
2. Plug enclosure into power source.
3. Turn on enclosure power.

Your console screen will list the initialization messages.

The following command line prompt will appear:

```
P00>>>
```

NOTE: If the command line prompt does not appear, refer to the ***UP2000 User Manual* (P/N 51-0031-1A)** for troubleshooting information.

Reference Materials

For procedures on booting the UP2000 and other information, refer to the ***UP2000 User Manual* (P/N 51-0031-1A)**.

A copy of the UP2000 User Manual is also available from our website: **http://www.alpha-processor.com**.

Also, refer to the AlphaLinux website: **http://www.alphalinux.org**.