



Configuration Guide

*AP450GX MP
Server System
Quad Pentium[®] Pro
Processor-Based Platform*



AP450GX Configuration Guide

Revision History		
Date	Version	Modifications
2/98	1.0	Initial release

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AP450GX Configuration Guide

This document is a basic guide for the configuration of the AP450GX Server System. The document is in three sections.

- The first is a complete description of each system.
- The second is a checklist for configuring any one of the systems listed in Section 1.
- The third is a detailed description of each accessory and option.

HOW TO USE THIS DOCUMENT:

1. Select the basic system you want to configure from Section 1.
2. Go to the part in Section 2 that matches your selection from Section 1.
3. Refer to Section 3 if you need more detail on accessories and options.

INTENDED AUDIENCE:

This document is intended for use by Intel OEM customers and distributors. It is not intended for direct use by end-users. If you are an end-user and interested in obtaining information on how to place an order, please contact an Intel OEM customer or distributor directly. A list of distributors is available on the Intel corporate web site: <http://developer.intel.com/design/disti/index.htm>

Section 1. System Configurations:

Base System Configuration (ALPCD200512C)

This system configuration will support OEM customers. This configuration provides complete flexibility for customers to add memory and hard disks of their choice.

Please refer to the qualified memory list for a selection of memory SIMMs/DIMMs at:

<http://support.intel.com/support/motherboards/server/ap450gx>

Real World Applications:

- ❑ Highly robust database applications
- ❑ Engineering CAD design applications
- ❑ Graphics intensive publishing applications

The configuration of the base system includes:

- **Baseboard**
 - Two slots for Pentium Pro processor modules
 - Slot connector to support DRAM memory module
 - 6 PCI slots, 4 EISA slots
 - Integrated graphics controller – Cirrus Logic CL-GD5424 SVGA with 1MB VRAM
 - Integrated SCSI controller – dual channel SCSI-2 adapter, Adaptec AIC-7880 chipset

- **Processor Module *with* Processors**
 - 1MB processor module with two 200MHz / 512KB cache Pentium Pro processors

- **Memory Module**
 - 2GB SIMM memory module (*memory not included*)

- **Terminator Card**

Required when only one dual Pentium[®] Pro processor module is used in the system. The empty processor module slot must be filled with this card.

- **Base System Chassis**
 - Two 420W power supplies with cord (supports expansion to 3 power supplies)
 - One floppy drive bay with a 3.5-inch diskette drive
 - Four 5.25-inch half-height peripheral bays for removable media devices
 - IDE CD-ROM drive in the top peripheral bay
 - Two bays mounted to a hot swap SCSI backplanes (each bay supports up to six 3.5-inch standard 80-pin SCA-2 hard drives)
 - Three system fans to cool the baseboard and adapter card area
 - Two power supply fans to cool the hard drives

- **Country Kit**
 - The Country Kit contains system documentation and software drivers.

System Configuration II (ALPCD2001MC)

Real World Applications:

- Professional multi-node clustering database systems
- High speed Internet commerce transaction server
- Mission critical applications with failover and failback capabilities

This system configuration is similar to the base system configuration; the difference is the 200 MHz / 1MB cache Pentium Pro processors. This configuration provides complete flexibility for customers to add memory and hard disks of their choice.

Please refer to the qualified memory list for a selection of memory SIMMs/DIMMs at:

<http://support.intel.com/support/motherboards/server/ap450gx>

- **Baseboard**
 - Two slots for Pentium Pro processor modules
 - Slot connector to support DRAM memory module
 - 6 PCI slots, 4 EISA slots
 - Integrated graphics controller – Cirrus Logic CL-GD5424 SVGA with 1MB VRAM
 - Integrated SCSI controller – dual channel SCSI-2 adapter, Adaptec AIC-7880 chipset

- **Processor Module *with* Processors**
 - 1MB processor module with two 200MHz / 1MB cache Pentium Pro processors

- **Memory Module**
 - 2GB SIMM memory module (*memory not included*)

- **Terminator Card**

Required when only one dual Pentium Pro processor module is used in the system. The empty processor module slot must be filled with this card.

- **Base System Chassis**
 - Two 420W power supplies with cord (supports expansion to 3 power supplies)
 - One floppy drive bay with a 3.5-inch diskette drive
 - Four 5.25-inch half-height peripheral bays for removable media devices
 - IDE CD-ROM drive in the top peripheral bay
 - Two bays mounted to a hot swap SCSI backplanes (each bay supports up to six 3.5-inch standard 80-pin SCA-2 hard drives)
 - Three system fans to cool the baseboard and adapter card area
 - Two power supply fans to cool the hard drives

- **Country Kit**
 - The Country Kit contains system documentation and software drivers.

AP450GX Application and Hardware Matrix

Recommended Configurations:

	Hard Drives	Memory	Processors Pentium® Pro 200MHz/1 MB Cache	RAID	Video Card Add-on
CAD	9-27GB+	2GB+	2+	No	Yes
Database	27-54GB+	4GB	4+*	Yes	No
Developer	18-36GB+	2GB+	2+	No	Yes
E-mail Server	24-54GB+	4GB	4+*	Yes	No
File Server	27-54GB+	2GB+	2+	Yes	No
Graphics Design	45-54GB+	4GB	4+*	No	Yes
Web Servers	54GB+	4GB	4+*	Yes	Yes

* = *clustering environment*

Section 2: AP450GX Configuration Checklist

Base System Configuration

Select a base system configuration:

System contains two Pentium Pro processors with 512KB cache **ALPCD200512C**

Processor Module with Processors Selection:

To add two more **200MHz / 512KB processors**, check here **PALCPA2X200512**

To upgrade to two **200MHz / 1MB processors**, check here **PALCPA2X2001M**

Note: 512KB and 1MB cache processors may not be mixed on a single system.

Memory Module Upgrade: (Memory not included)

To support up to 4GB of memory, check here **ALMEM4GBM0**

Third Power Supply: (optional)

The system includes two power supplies. Adding a third allows one to be replaced without Shutting down the system.(Hot-Swap enabled)

To add a third power supply, check here **PPS420WHS**

Server Monitor Module (optional)

Enables out-of-band monitoring of critical server functions. Enables remote diagnostics via modem.

Check here to select the Server Monitor Module **PSERVERMON1**

What do I do now?

Contact your Intel Representative to order.

System Configuration II

Select a system configuration:

System contains two Pentium Pro processors with 1MB cache **ALPCD2001MC**

Processor Module with Processors Selection:

To add two more **200MHz / 1MB processors**, check here **PALCPA2X2001M**

Memory Module Upgrade: (Memory not included)

To support up to 4GB of memory, check here **ALMEM4GBM0**

Third Power Supply: (optional)

The system includes two power supplies. Adding a third allows one to be replaced without Shutting down the system.(Hot-Swap enabled)

To add a third power supply, check here **PPS420WHS**

Server Monitor Module (optional)

Enables out-of-band monitoring of critical server functions. Enables remote diagnostics via modem.

Check here to select the Server Monitor Module **PSERVERMON1**

What do I do now?

Contact your Intel Representative to order.

Section 3: Components and Accessories

Processor Module

- ❑ One 1MB processor module *with* two 200MHz / 512KB cache Pentium Pro processors (PALCPA2X200512)
- ❑ One 1MB processor module *with* two 200MHz / 1MB cache Pentium Pro processors (PALCPA2X2001M)

Power Supply Upgrade:

The AP450GX system is capable of having 3 power supplies. With a third power supply, the system power is redundant and the power supplies are hot-swappable.

- ❑ 420W power supply for redundancy (PPS420WHS)

Heat Sink Kit

- ❑ Passive heat-sink for 200MHz / 512KB Pentium Pro processor (ALCPUUPKIT)
- ❑ Active heat-sink for 200MHz / 1MB Pentium Pro processor (ALFSINKKIT)

Check your local supplier for monitors, keyboards, mouse, and other accessories not listed here.

Hardware and Vendor List

For a complete up to date detailed listing of the hardware that have been tested with the AP450GX server system refer to the **Hardware/Operating Systems Test Cross-Reference List**. To obtain the document, please go to the following URL:

<http://support.intel.com/support/motherboards/server/ap450gx>

CD-ROM Drives

MicroSolutions Backpack 8X (ext, EPP)

MicroSolutions Backpack 4X (ext,EPP)

<http://www.micro-solutions.com/>

NEC CDR 271 (int, IDE)

NEC PCDR-501 (SCSI)

NEC CDR 502 (int, SCSI)

NEC CDR 601 (int, SCSI)

<http://www.nec.com/>

Panasonic CR-563B (int, proprietary)

<http://www.panasonic.com/pic/index-comput.html>

Pioneer DRM-604X (ext, SCSI)

<http://www.pioneerusa.com/massstorage.html>

Plextor PX-6CH (int, SCSI)

Plextor PX-8CH (int, SCSI)

Plextor PX-43CH (int, SCSI)

Plextor DM 3028 (SCSI)

<http://www.plextor.com/product.htm>

Sony CDU76S (int, SCSI)

Sony CDU76SB (SCSI)

Sony CSD76SB (int, SCSI II)

<http://www.ita.sel.sony.com/products/storage/cddrives/>

TEAC CD-56E (int, IDE)

<http://www.teac.co.jp/dspd/>

Toshiba XM-3401 (int, SCSI)

Toshiba XM-3501B (int, SCSI)

Toshiba XM-3701 (int, SCSI)

Toshiba XM-5302B (int, IDE)

<http://www.toshiba.com/taisdpd/products.htm#4>

SCSI / RAID Controllers

Adaptec 1542CF (ISA/SCSI)

Adaptec 2740A (EISA/SCSI)

Adaptec 2740T (EISA/SCSI)

Adaptec 2742T (EISA/SCSI)

Adaptec 2930 (PCI/SCSI)

Adaptec 2940 (PCI/SCSI)

Adaptec 2940UW (PCI/SCSI ultra wide)

<http://www.adaptec.com/products.html#server>

BusLogic BT-747C (EISA/SCSI)

BusLogic BT-948 (PCI/SCSI)

BusLogic BT-958 (PCI/SCSI)

Mylex DAC960PL-2A RAID (PCI/SCSI)

Mylex DAC960-3 (EISA/SCSI)

<http://www.mylex.com/>

DPT 2022 (EISA/SCSI)

DPT 2122 (EISA/SCSI)

<http://www.dpt.com/products.html>

Qlogic FastSCSI IQ (PCI/SCSI)

<http://www.qlc.com/>

Symbios 8251S (PCI/SCSI)

<http://www.symbios.com/scsichra.htm>

Hard Drives

Seagate ST11950N (SCSI)
Seagate ST12450W (SCSI wide)
Seagate ST31220A (IDE)
Seagate ST31230WC (SCSI fast wide)
Seagate ST31250WC (SCSI fast wide)
Seagate ST32550W (SCSI wide)
Seagate ST51080N (SCSI)
Conner CFP 1060S (SCSI)
Conner CFP 1060W (SCSI wide)
Conner CFP 1080S (SCSI)
Conner CFP 1275A (Mode 4 EIDE)
Conner CFP 2107E (SCSI)

<http://www.seagate.com/disc/disctop.shtml>

Fujitsu M1606SAU (SCSI)

http://www.fcpa.com/cgi-bin/goFrames.cgi/product/hd/hd_cat.html

Maxtor MXT1240S (SCSI)

Maxtor MXT7345AT (IDE)

<http://www.maxtor.com/products.html>

Micropolis MC2217A (IDE)

<http://www.micropolis.com/Prod.html>

Quantum Pro-Lightening

<http://www.quantum.com/products/>

Western Digital AC1270 (IDE)

Western Digital Caviar 2700 (IDE)

Western Digital AC21000H (EIDE)

<http://www.wdc.com/products/>

Network Interface Cards

3Com 3C509B (EISA)

3Com 3C590 EtherLink III (PCI)

3Com 3C579 Etherlink III (EISA)

3Com 3C579TX

3Com 3C595-TX PCI

3Com TokenLink III (PCI)

http://www.3com.com/products/nic_modem.html

IBM 10/100 Ethernet (PCI)
IBM Token Ring 16/4 ISA-16
IBM Token Ring 16/4 II
IBM Token Ring Auto 16/4 ISA
IBM Token Ring Auto 16/4 II
IBM Auto LANStreamer (PCI)
<http://www.networking.ibm.com/netprod.html>

Intel EtherExpress™ Pro 16
Intel EtherExpress 32
Intel EtherExpress PRO 10A (PnP)
Intel EtherExpress PRO 10 (PCI)
Intel EtherExpress PRO 10FX (PnP)
Intel EtherExpress PRO/100 (PCI)
Intel EtherExpress PRO 100B (PCI)
Intel EtherExpress PRO 100E (PCI)
Intel EtherExpress PRO 100SA (PCI)
Intel Server Management Module
Intel TokenExpress™ PRO (ISA)
Intel TokenExpress Pro/16s
Intel TokenExpress 16/4s
Intel TokenExpress 32 (EISA)
<http://www.intel.com/network/products/index.htm>

Madge Smart 16/4 AT Ringnode
Madge Smart 16/4 PCI Ringnode
<http://www.madge.com/>

SMC 9332DST
SMC Elite 32C Ultra (EISA)
SMC EtherEZ (ISA)
SMC EtherPower PCI
SMC EtherPower 10 PCI
SMC EtherPower 10/100 PCI
SMC TokenCard Elite (ISA)
SMC UltraElite Combo
<http://www.smc.com/network/adapt.html>

ZNYX ZX312 EtherAction (PCI)
http://www.znyx.com/nb_over.htm

Sound Cards

Sound Blaster Pro II

Sound Blaster 16 Value

<http://www.soundblaster.com/sound/>

Video Cards

#9 9FX Motion531 2MB (PCI)

#9 GXE 64 2MB (PCI)

#9 GXE 64 Pro 2MB (PCI)

#9 GXE 64 Trio 2MB (PCI)

#9 Imagine 128 2MB (PCI)

<http://www.nine.com/products/index.html>

ATI Graphics Xpression 2MB (PCI)

ATI Pro Turbo 4MB (ISA)

ATI Pro Turbo 4MB (PCI)

ATI UltraPro EISA 2MB

ATI Win Boost 2MB (PCI)

<http://www.atitech.ca/products/>

Diamond Stealth 64 4MB (PCI)

Diamond Viper Pro 2MB (PCI)

<http://www.diamondmm.com/>

Hercules Dynamite Power 2MB DRAM (PCI)

Hercules Graphite Terminator 64 2MB DRAM (PCI)

Hercules Graphite Terminator 64 video w/MPEG 2MB DRAM (PCI)

Hercules Graphite Terminator Pro 4MB VRAM (PCI)

Hercules MGA

Hercules Stingray 64/video 2MB DRAM (PCI)

Hercules Stingray Pro PCI 1MB DRAM

<http://www.hercules.com/presale/specs/>

Matrox Millennium 3D 4MB (PCI)

<http://www.matrox.com/mgaweb/products/products.htm>

Orchid Fahrenheit 64 2MB (PCI)

Orchid Kelvin 64 2MB (PCI)

<http://www.orchid.com/>

STB PowerGraph 64 1MB (PCI)

STB PowerGraph 64V 2MB (PCI)

<http://www.stb.com/products/products.html>