

Intel® C440GX+ Server Board for Intel® Pentium® III Xeon™ Processors

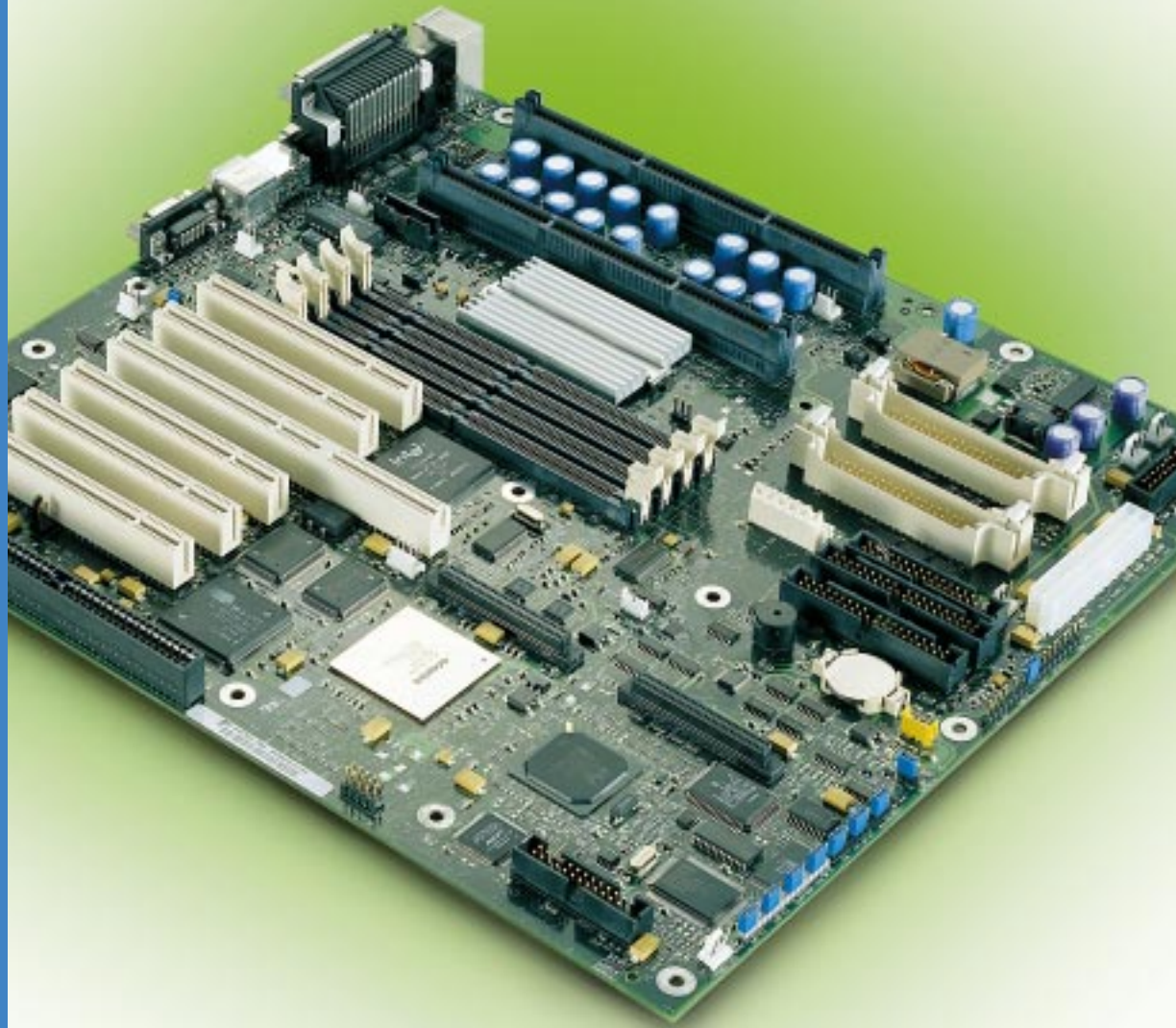
Specifically Designed and Tested for the Server Environment

Increase your profitability with the latest technology from Intel—

Introducing the Intel® C440GX+ server board and the Intel® Pentium® III Xeon™ processor.

Enhance your network's performance with the power of the Intel Pentium III Xeon processor and the C440GX+ server board. Intel has designed the C440GX+ server board to harness the full processing power of the Pentium III Xeon processor. Combining this processor with the C440GX+ server board, you have the building blocks necessary to run your business today and tomorrow with *real* server technology. Look inside to find out how Intel® server technology works for you.

Product
Brief



intel®

Pentium® III Xeon™ Processor—More Power to Serve You The Intel Pentium III Xeon processor adds 70 new instructions to the Pentium® II Xeon™ processor's language, allowing your server to perform up to 5-10% faster, depending on your application. These new instructions, called Streaming SIMD Extensions, deliver benefits to your internet and memory or cache intensive applications by handling multiple data requests in parallel. That means more power to your web server, secure applications, and databases—so you and your customers wait less.

Future-proof Your Business with Intel® Server Technology. The Intel® C440GX+ server board is designed with the latest server technology, including support for two Pentium III Xeon processors, Ultra2 SCSI storage, 2GB of memory, and dual peer PCI buses. By offering all these features, servers based on the C440GX+ server board provide powerful business solutions today and room for expansion as your business grows. You're investing in computer technology. Invest in Intel® server building blocks and get a new level of dependability and productivity.

Boost Your Network's Performance. The C440GX+ server board removes the barriers to your network's performance. Imagine your data traveling down a one-lane road and it encounters a traffic jam. Your network slows to a crawl. If only there were a two-lane freeway to eliminate the data roadblock. That's what Intel has done with the C440GX+ server board. Two peer PCI buses speed data flow by adding that second "lane" to your data freeway. With this advanced technology and support for 66 MHz PCI cards, *the C440GX+ server board has up to three times the PCI bandwidth of most dual-processor servers.*

Reliability through Proactive Server Management. If your network goes down, your business could go down. The C440GX+ server board has an advanced management system that can dramatically reduce server downtime. This system includes a dedicated server management microprocessor, Intel® Server Control (ISC) management software,



Emergency Management Port (EMP), and Platform Event Paging (PEP). Behind the scenes, this board proactively monitors key server operations and alerts you to any unforeseen problems. For example, in the event that a chassis fan should fail, this board can be configured to send a page to the system administrator. The administrator can anticipate and remedy the problem before the server overheats and your business critical data is lost forever.

The Foundation is the Intel C440GX+ Server Board. In today's competitive business environment server requirements are changing. Businesses recognize the value of real server building blocks. A real server, based on the C440GX+ server board, is your foundation for a dependable network—helping you reduce costs and boost profits—keeping you ahead of the competition.

The Boxed Intel C440GX+ Server Board Includes:

- One C440GX+ server board
- Two universal retention mechanisms
- One termination card for uni-processor configurations
- One I/O shield, ATX 2.01 compliant
- Quick Start Guide
- CD-ROM with Intel Server Control, software drivers, configuration tools, and technical product information

For the most current product information on all of Intel's server building blocks, visit Intel's Web site at:
www.intel.com/go/serverbuilder

Features	Benefits
Supports one to two Intel® Pentium® III Xeon™ or Pentium® II Xeon™ processors—550, 500, 450 and 400 MHz with 512 KB to 2 MB of full speed L2 cache	Processing performance for demanding server applications
Supports up to 2 GB of SDRAM memory, four DIMM sockets	Memory capacity to support a wide range of server tasks
Six available PCI slots, two supporting 66 MHz PCI cards, and one ISA slot	Investment protection—room to grow and support for high performance PCI cards
Dual peer PCI buses	Removes the PCI bottleneck—up to 3 times the PCI bandwidth of most dual processor servers
High integration (Ultra2 SCSI, LAN, graphics)	All slots available for expansion
Integrated Intel® PRO/100+ Fast Ethernet Controller (Intel® 82559)	Scalable network bandwidth and redundant links when combined with Intel's complete line of server adapters
Advanced Intel® server management system <ul style="list-style-type: none"> • Server management microprocessor • ISC—Intel® Server Control software • EMP—Emergency Management Port • PEP—Platform Event Paging** 	Remote, realtime server management to reduce server downtime
Designed by Intel	Quality, reliability, and compatibility that you expect from Intel

**BIOS/Firmware available at www.intel.com/go/serverbuilder following product launch.

Intel® C440GX+ Server Board for Intel® Pentium® III Xeon™ Processors

Advanced Intel® Server Management

- Intel® Server Control software
- Server management microprocessor
- EMP—Emergency Management Port
- PEP—Platform Event Paging

Intel® 440GX+ Chipset

Including Intel® 21150 AGP-to-PCI Bridge and PIIX4E

Integrated Adaptec® Dual Channel Ultra2 SCSI (AIC*-7896)

- Ultra2 SCSI
- Ultra-wide SCSI
- ARO* connector

Integrated Graphics

Cirrus Logic® GD 5480, 2 MB

One Dedicated ISA Slot

Dual Peer PCI,

6 Available PCI Slots

- Bus A—four PCI slots
- Bus B—two PCI slots (support for 66 MHz PCI)

Two Processor VRM Sockets

Flexible power configuration

Support for Two Pentium® III Xeon™ or Pentium® II Xeon™ Processors

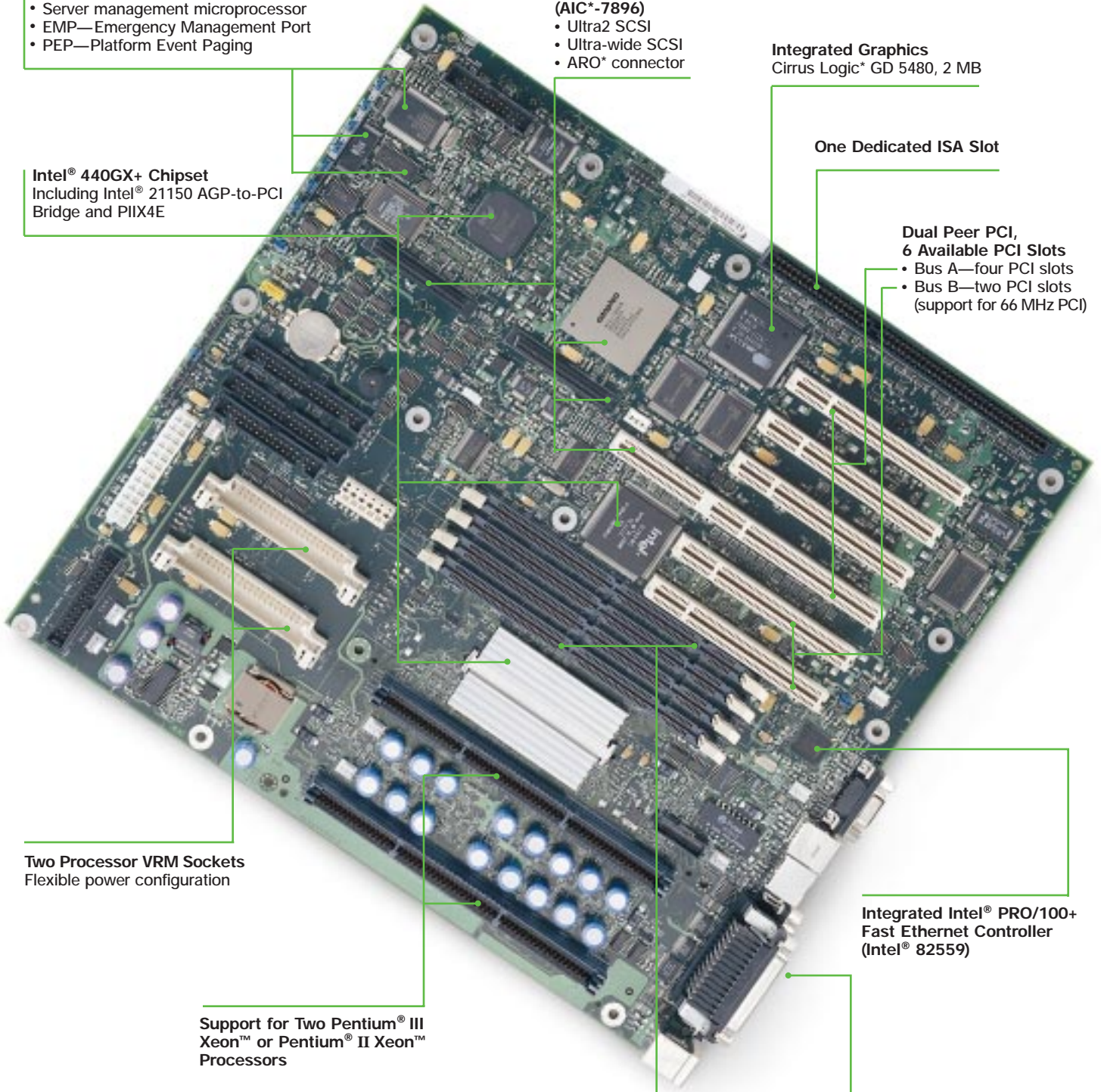
2 GB of SDRAM Support

Four DIMM sockets

Integrated Intel® PRO/100+ Fast Ethernet Controller (Intel® 82559)

EMP and PEP

(com 2 to external modem)



Intel® C440GX+ Server Board Specifications

Intel order code: BOXC440GX

Processor/Cache

Processors Supported Intel® Pentium® III Xeon™ processors 550 MHz and 500 MHz with 512 KB to 2 MB of integrated full speed L2 cache
Intel Pentium® II Xeon™ processors 450 MHz, 400 MHz, and 350 MHz with 512 KB of integrated L2 cache

Intel Chipset

Intel® 82443GX+ (includes Intel® 21150 AGP-to-PCI Bridge), Intel® PIIX4E

System Memory

Memory Capacity Four DIMM sockets for up to 2 GB of SDRAM (32 MB minimum)

Memory Type PC/100 100 MHz SDRAM, 72-bit ECC or 64-bit non-ECC, 168-pin gold plated DIMMs

DIMM Sizes 32 MB, 64 MB, 128 MB, 256 MB, 512 MB

Memory Voltage 3.3V only

Error Detection Corrects single-bit errors, detects double-bit errors (using ECC memory)

Expansion Slots (all full length)

Description Six dedicated PCI slots (bus mastering)
Two 32-bit PCI buses (one 33 MHz, one 66 MHz)
66 MHz Bus- Two slots (Compatible with 33 MHz cards) 33 MHz Bus- Four slots
One dedicated ISA slot

Integrated Adaptec® SCSI Controller

Controller Adaptec® AIC®-7896 Dual Channel-oneUltra2/LVD, one Ultra-wide
Two 68 pin "wide" SCSI connectors
Max data transfer: 120MB/sec (80 + 40)

Integrated Intel® Network Adapter

Controller One Intel® PRO/100+ Fast Ethernet Controller (Intel® 82559)
Supports 10BASE-T and 100BASE-TX, RJ45 output

Integrated Graphics

Controller Cirrus Logic® GD 5480
Maximum Resolution 1,280 x 1,024; 16 colors
Graphics memory 2 MB 10 ns SGRAM

Integrated PCI/ISA IDE Xcelerator (PIIX4e)

IDE Two independent channels for a total of four IDE devices
PIO Mode 0, PIO Mode 3, PIO Mode 4, ATA-33 and CD-ROM support

USB Two stacked USB connectors

Integrated Super I/O

Controller National® Super 87309
Serial ports Two Asynch, RS-232C, 9 pin and 10 pin
Parallel port IEEE 1284, 25 pin bidirectional
Floppy Controller 1.44 MB, 2.88 MB, 3-mode support
Keyboard/mouse PS/2, 8240A compatible

System BIOS

BIOS Type 8 MB Flash EEPROM with Intel Phoenix® BIOS, Multi-boot BBS (BIOS Boot Specification) 1.0 Compliant

Special Features Plug and play, IDE drive autoconfigure, DMI 2.0, ECC/Parity support, multilingual support and jumperless processor speed setup

Configuration Utilities System Set-up Utility (SSU) enables easy system setup of BIOS and utilities, plug and play

Jumpers and Front Panel Connectors

ATX Connectors Speaker, reset, power LEDs, HD LED, power on/off
Jumpers Chassis intrusion; Wake On LAN (WOL) Enable; flash configuration jumpers include: fault-resilient booting timer, boot-block protection, boot recovery, CMOS clear, password protect, BMC Forced Update

Mechanical

Server Board Style Extended ATX, See Reference Chassis List at: www.intel.com/go/serverbuilder

Server Board Size 12" x 13"

Server Board Power Requirements

+5V, +12V Flexible configuration through plug-in VRMs. See www.intel.com/go/serverbuilder for more information on power budgets and choosing VRMs.

+5V Standby 0.8A maximum continuous current

+12V 5.61A maximum continuous current

+3.3V 11.05A maximum continuous current

-5V 0

-12V 0.15A maximum continuous current

Server Management Instrumentation***

Failure detection Voltage variation, thermal, operating-system watchdog, fan failure, hard-disk-drive failure, power-supply failure, processor status, ECC memory, heat-sink fan check

Emergency Management Port Remote reset, power up/down control, read system event log (external modem required)

Platform Event Paging** Paging on 12 configurable events (external modem required)

Event Logging Nonvolatile storage to prevent loss of logs in the event of system failure

Security Chassis intrusion (configured through jumper), video blanking, password protection

**BOIS/Firmware available at www.intel.com/go/serverbuilder following product launch.
***Full utilization of some Server Management features is dependent on the use of an Intel® server chassis.

Intel® Server Control (ISC), Version 1.7

Managed Server Operating systems supported:
Windows® NT® Server 3.51, 4.0
Novell Netware® 4.11, 5.0
SCO UnixWare® 7.0

Management Consoles Supported ISC integrates into the leading management consoles:
Intel® LANDesk® Server Manager 6.01
HP OpenView® Network Node Manager 5.02 for Windows® NT
CA TNG® Framework 2.01 for Windows® NT

Stand-alone Consoles Supported Microsoft Management Console
Internet Explorer® 3.02
Netscape Navigator® 3.0 with ActiveX® snap-in

System Health Monitor Temperature, voltage, cooling fans, chassis intrusion, ECC memory, processor status, power-supply status, on-board NIC and SCSI. OS hang monitoring via Watchdog Timer

Alert Notification When a configured event takes place these methods of notification are available: Network broadcast, SNMP trap, writing into System Event log (non-volatile storage), Message box.

Critical Event Actions Graceful operating system shutdown with reboot or power off at administrator's discretion
Immediate power off or reset
Immediate Generate NMI or Reset

Environment

Ambient Temperature
Operating 0°C to +55°C
Non-operating/storage -40°C to +70°C ambient

Relative Humidity
Non-operating 95% @ 30°C non-condensing

Regulations

Safety Regulations:
U.S. & Canada UL/CUL 950-CSA 950-95, 3rd Edition
Europe EN60950, 2nd Edition; IEC 950, 2nd Edition
CE Mark-European Directive 73/23/EEC

EMI/RFI—in a compatible host system

U.S. FCC, CFR 47 Part 15, Class B

Canada ICES-003, Class B

Europe Verified to EN55022 and EN50082-1

Japan/ Australia/ New Zealand CISPR-22/AS/NZS 3548, Class B

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