Intel®
Server Board
SE7501HG2
Product Brief

Is there a server board that features superior performance, reliability, and manageability for departmental servers?

Yes. The Intel® Server Board SE7501HG2 has the processing power, memory capacity, and reliability you need to build powerful departmental servers.

The Intel® Server Board SE7501HG2 accommodates two Intel® Xeon™ processors with 512KB Advanced Transfer Cache and includes dual-channel U320 SCSI and dual integrated Intel® PRO 1000+ Server Network Connections.

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Intel® Server Board SE7501HG2

The Intel® Server Board SE7501HG2 gives businesses an ideal solution to the challenges of building, running, and supporting departmental and Internet-driven applications. For performance, the board supports dual Intel® Xeon™ processors with a 533MHz system bus, dual-channel Ultra320 SCSI, dual integrated Intel® PRO 1000+ Server Network Connections, and registered ECC DDR266 SDRAM. It also provides triple-peer PCI buses and six PCI slots with three PCI-X slots supporting speeds of up to 133 MHz.

Flexibility and Performance

The Intel® Server Board SE7501HG2 is a remarkably versatile board, having been validated for pedestal and rack configurations and with a number of third-party chassis to meet a variety of price points and features[1]. This makes the Server Board SE7501HG2 an excellent solution for customers whose workgroup database, groupware, or secure Web-server applications must evolve and grow. Performance, reliability, manageability, and flexibility make the Intel® Server Board SE7501HG2 a smart choice for you and your customers.

The Intel® Server Board SE7501HG2 provides the extra performance, memory capacity, and bandwidth you need to build high-end servers that can expand to meet changing demands.

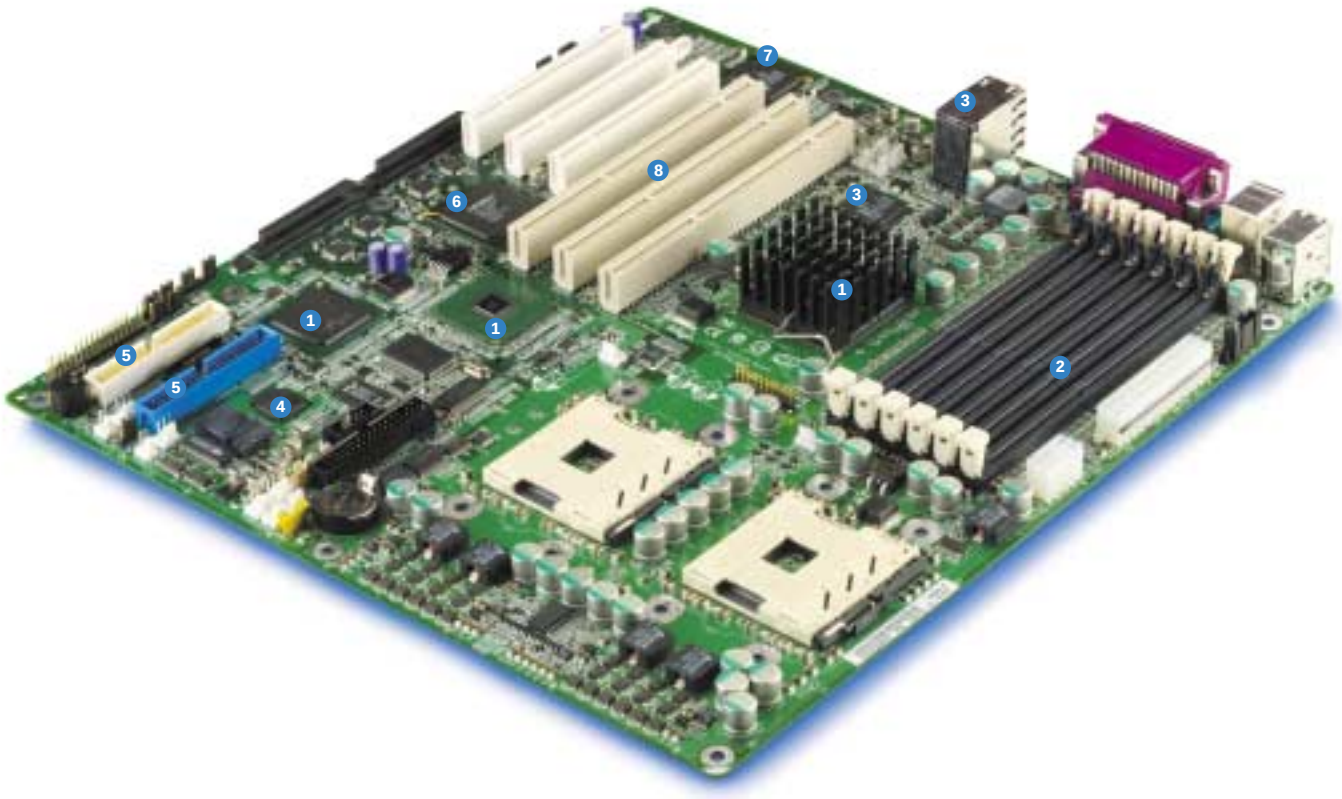
For a cost-effective RAID solution, the Server Board SE7501HG2 supports Intel® RAID Controller SRCZCR.

Features	Benefits
Support for one or two Intel® Xeon™ processors with 512KB L2 cache	Power, bandwidth, and processing performance to meet the demanding requirements of departmental loads
Intel® E7501 chipset	High performance, quality, and improved memory reliability
Support for up to 12 GB of registered ECC DDR266 memory through six DIMM sockets	Memory flexibility with the price/performance advantage of DDR to support a wide range of solutions
Dual memory channel architecture	High performance, high-reliability memory subsystem with up to 4.3 GB/sec of data transfer
Support for Intel® x4 Single Device Data Correction	Memory fault tolerance
Three independent PCI buses on six slots: one 64-bit/133MHz PCI-X, two 64-bit/100MHz PCI-X, and three 32-bit/33MHz	Distributed I/O workload for boosting overall I/O throughput, flexibility, and scalability
Support for the Intel® RAID Controller SRCZCR	The ability to use low-cost RAID solutions through the server board's integrated Ultra320 SCSI controller
Two integrated Intel® PRO1000+ Server Network Connections	Networking capabilities with widespread compatibility, scalable bandwidth, and redundant links
Integrated Adaptec* dual-channel Ultra320 SCSI controller with integrated mirroring and striping	High-performance storage options and enhanced data protection
Integrated ATI* Rage* XL SVGA PCI video controller with 8 MB of video memory	High-quality video without the loss of a PCI slot or the cost of adding a graphic card
Intel® Server Management including integrated in-band and out-of-band remote management and event alerting and logging; IPMI 1.5 compliant	Simplified security, troubleshooting, problem resolution, and maintenance
Three-year limited warranty	Peace of mind

Intel® Server Board SE7501HG2 for the Intel® Xeon™ Processor with 512KB Cache

Built-in SCSI, graphics, network connections, and Intel® Server Management mean less development work and faster time-to-market.

1. Intel® E7501 chipset
2. Up to 12 GB of ECC registered DDR266 SDRAM
   - Dual memory channels for up to 4.3 GB/sec data transfer
3. Dual integrated Intel® PRO1000+ Server Network Connections on high-performance PCI-X bus
4. Intel® Server Management
5. Two ATA/100 IDE channels
6. Integrated dual-channel SCSI on high-performance PCI-X bus
   - Adaptec* AIC-7902W Ultra320 SCSI controller
7. Integrated graphics
   - ATI* Rage* XL SVGA PCI video controller with 8 MB of memory
8. Three independent PCI buses
   - Bus A: 32-bit/33MHz
   - Bus B: 64-bit/100MHz PCI-X
   - Bus C: 64-bit/133MHz PCI-X



The Intel® Xeon™ processor with 512KB L2 cache features Hyper-Threading Technology and the Intel® NetBurst™ microarchitecture to deliver unprecedented performance to workgroup-level computing.

The Boxed Intel® Server Board SE7501HG2

The hardware, software, and documentation you need to quickly build powerful departmental servers.

Included for easy integration:

1. **One Intel® Server Board SE7501HG2**
2. **Quick Start User Guide**
3. **CD-ROM with Intel® Server Management software**
4. **CD-ROM with software drivers, configuration tools, Intel® SMaRT tool software, and technical product information**
5. **Cable kit**
6. **SSI-compliant I/O shield**
7. **Board stickers (reference, I/O, and warning)**

Deliver the most advanced server technology with world-class customer support. With Intel, you can.

Technology leadership. Take advantage of Intel's 20 years of experience designing and engineering industry-leading server building blocks such as the Intel® Xeon™ processor. Intel® Server Management and the Intel® SMaRT tool are Intel extras that contribute tremendously to server uptime, customer peace of mind, and lower ownership costs.

With Intel, you can give your customers access to the latest server technologies, the highest quality, and the most responsive technical support.

Unsurpassed quality. Intel spends 10,000+ hours testing and validating every piece of an Intel server stack. Uncompromising quality standards translate into higher reliability, fewer repairs, and greater customer satisfaction.

World-class technical support. Intel offers 24x7 phone and Web-based technical support, Advanced Warranty Replacement, a three-year limited warranty, spares kits, and extensive technical training. Integrators also receive a wealth of sales and marketing support in the form of sales tools, videos, and high-quality images for advertising.
For more information on Intel's added-value server offerings please visit:

www.intel.com/go/serverbuilder

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Complete Your Intel® Server Board SE7501HG2 with Intel Server Building Blocks

Add the following Intel building blocks to your Intel Server Board SE7501HG2 to ensure a highly reliable, available, and scalable server:

Intel® Server Chassis SC5200 is a 5U server chassis designed for a variety of applications. A pedestal form factor with five one-inch-high fixed-drive bays supports drives that operate at up to 15K RPM, three full-size 5.25-inch peripheral bays[2], four fans for ample cooling, and an option for a 450W PFC static or hot-swap redundant power supply with integrated fan. A second pedestal option includes three full-size 5.25-inch peripheral bays[2], five hot-swap redundant fans, and a 650W PFC redundant-capable power supply with integrated fans. And a black rack-optimized ordering option offers three full-size 5.25-inch peripheral bays[2], five hot-swap redundant fans, and a 650W PFC redundant-capable power supply with integrated fans. All options can support a hot-swap backplane upgrade for additional storage capacity.

Intel server building blocks are validated to work together, saving you R&D, validation, and support expenses—and speeding your time-to-market.

Intel® Xeon™ Processors, based on Intel® NetBurst™ microarchitecture and Hyper-Threading Technology, can slice through the toughest business problems facing dynamic start-ups, large enterprises, and everything in between.

Intel® RAID Controllers are designed to protect data, applications, and the server operating system from disk failures. Intel offers an affordable high-performance line of RAID products, which are tested and validated for easy integration with Intel server building blocks.

Intel® PRO Server Adapters, including Fast Ethernet and Gigabit Ethernet server adapters, help to reduce bottlenecks and improve availability with industry-leading performance and advanced server features.

Intel® Server Management monitors key server components and helps solve many problems easily with integrated in-band and out-of-band remote management through LAN and modem connections, event logging and alerting through e-mail or paging devices, and proactive fault management. Intel® Server Management is included with every boxed Intel® Server Board SE7501HG2 at no additional cost.

Use the Intel® Server Board SE7501HG2 to build pedestal or rack-mount solutions. The Intel® Server Chassis SC5200 is designed to support the Intel® Server Board SE7501HG2, so you can provide a high-performance server for businesses requiring maximum reliability and manageability.

Intel® Server Board SE7501HG2 Specifications

Processor/Cache	
Intel® Xeon™ processors with 512KB of integrated L2 cache and a 400MHz or 533MHz system bus; for the latest processor support, visit http://support.intel.com/support/motherboards/server	
System Memory	
Memory Capacity	Six DIMM sockets for up to 12 GB of registered ECC DDR266 memory
Memory Type	Registered ECC DDR266 (PC-2100) SDRAM, 184-pin gold-plated DIMMs
DIMM Sizes	128 MB, 256 MB, 512 MB, 1 GB, 2 GB
Memory Voltage	2.5 V only
Error Detection	Corrects single-bit errors, detects double-bit errors (using ECC memory), and supports Intel® x4 Single Device Data Correction (using x4 DRAM devices only)
Integrated On-Board	
Chipset	Intel® E7501 chipset
Ultra320 SCSI Dual-Channel Controller	Adaptec* AIC-7902W: two Ultra320/LVD Channels (connected via two onboard internal 68-pin-wide connectors); supports RAID levels 0 and 1 (embedded striping and mirroring); maximum data transfer: 320 MB/sec on each Ultra320/LVD channel
Intel® Server Network Connections	Two Intel® PRO1000+ Server Network Connections (Intel® 82546EB controller, supports 10BASE-T, 100BASE-TX, and 1000BASE-T); RJ45 output
Graphics	ATI* Rage* XL SVGA PCI video controller with 8 MB of video memory
Super I/O Controller	National Semiconductor* PC87417
Input/Output	
PCI	Three independent PCI buses, six total slots: three 32-bit/33MHz, two 64-bit/100MHz, one 64-bit/133MHz
IDE	Two ATA/100 EIDE channels for a total of four IDE devices backward compatible to provide CD-ROM drive support
USB	Five USB 1.1–compliant ports: three stacked USB connectors on I/O rear panel, two via 10-pin internal header
Serial Ports	Two serial ports: one asynchronous 9-pin RS-232C, one via 10-pin internal header
Floppy Controller	1.44MB and 2.88MB, 3-mode support
Keyboard/Mouse	Two PS/2 ports, 8240A-compatible
Intel® Server Management[3] Solution	
Hardware	Integrated Baseboard Management Controller (BMC) and instrumentation
Software	Intel® Server Management
Remote Management	Remote access both in-band and out-of-band to system status, logs, configuration data, and utilities without the need for a remote-management card; event filtering and proactive alerting through LAN and mobile devices; serial and console redirection over LAN
Server Monitoring and Autorecovery	System health indicators and corrective actions including automated power cycling, OS watchdog timer, and fault-resilient booting
Server Troubleshooting	Continuous health monitoring, text-console redirection, and error logs
Server Maintenance	Rolling single-boot BIOS and firmware update and integrated with Intel® SMaRT tool module for Server Board SE7501HG2
Operating Systems Supported by Intel® Server Management	Microsoft* Windows* 2000 Advanced Server, Red Hat* Linux*, Caldera* OpenUnix and Novell* NetWare*
Intelligent Platform Management Support	Intelligent Platform Management Interface (IPMI) 1.5

Tested Operating Systems	
Microsoft* Windows* 2000 Advanced Server, Red Hat* Linux*, Novell* Netware, Caldera* OpenUnix, SuSE Linux*	
System BIOS	
BIOS Type	4Mb Flash EEPROM with AMI* BIOS, Multiboot BBS (BIOS Boot Specification) 1.4 compliant
Special Features	Plug and Play, IDE drive autoconfigure, SMBIOS 2.3, ECC/parity support, multilingual support
Configuration Utilities	System Setup Utility (SSU) for easy system setup of BIOS utilities, Plug and Play
Jumpers and Front-Panel Connectors	
Jumpers	CMOS clear, Password clear, BMC Flash, BIOS Recovery
Front-Panel Connectors	Three switches: power on/off, reset, and sleep; LEDs: power on/off, HDD activity, NIC activity (two), ID (rack configuration only)
Mechanical	
Server-Board Form Factor	SSI Entry E-Bay 3.0 (fits in many ATX-compliant tower chassis)
Server Board Size	12" x 13"
Power Requirements	
+5V	12.9A maximum continuous current
+5V Standby	2A minimum continuous current
+12V	30A maximum continuous current
+3.3V	14.8A maximum continuous current
–5V	0A maximum continuous current
–12V	0.5A maximum continuous current

Environment	
Ambient Temperature[4]	Operating (system): 10°C to 35°C; non-operating/storage (system): –40°C to +70°C
Relative Humidity	Non-operating: 95%, non-condensing at 30°C
Safety Compliance	
EMC regulatory compliance (based on board configured in a compatible[5] Intel host system)	
Australia/New Zealand	Verified to AS/NZS 3548, Class A (C-tick Mark)
Canada	CSA 60950; verified to ICES-003 (Class A)
Europe	EN60950; verified to EN55022 (Class A) and EN55024 (CE Mark-EU Directive 89/336/EEC)
International	IEC60950; verified to CISPR-22 (Class A)
Japan	Verified to CISPR-22/VCCI (Class A)
Korea	RRL Certification to MIC Notices 1997-41 & 1997-42
Russia	GOST R 50377-92; Verified to GOST R 29216-91, GOST R 50628-95
Taiwan	Verified to BSMI CNS 13438 (Class A)
United States	UL 60950; verified to FCC (Class A)

N232 E139761 CANADA ICES-003 CLASS A ME06 D33025

Order Codes

For information on the most recent product updates and their availability, visit www.intel.com/go/serverbuilder. For a complete list of Intel and third-party compatible chassis and adapter cards, visit http://support.intel.com.

Item	Product Order Code
Intel® Server Board SE7501HG2	SE7501HG2
Intel® Server Chassis SC5200 Base Configuration (beige pedestal)[6]	KHD3BASE450
Intel® Server Chassis SC5200 Base Redundant Power Configuration (beige pedestal)[7]	KHD3RP450
Intel® Server Chassis SC5200 Hot-Swap Redundant Power and Cooling Configuration (beige pedestal)[8]	KHD3HSRP650
Intel® Server Chassis SC5200 Rack-Optimized, Redundant Power and Cooling Configuration (black)[8]	KHD3HSRP650R
Intel® Server Chassis SC5200 Rack Conversion Kit (Base and Base Redundant Power Configuration)	AHD2RACK and AHD3RACK
Intel® Server Chassis SC5200 Rack Conversion Kit (Hot-Swap Redundant Power and Cooling Configuration)	AHD3RACK
Intel® Server Chassis SC5200 Spares Kit	FHD3SPRS
Intel® PRO/1000 XT Server Network Connections	PWLA8490XT
Intel® RAID Controllers[9]	

For the most current product information on Intel server building blocks, visit:
www.intel.com/go/serverbuilder

[1] See http://support.intel.com/support/motherboards/server/ for a complete list of Intel and third-party chassis that are compatible with the Intel® Server Board SE7501HG2.

[2] Peripheral-bay support is dependent on chassis configuration and thermal loading. Please refer to the Intel® Server Chassis SC5200 Technical Product Specification for full details.

[3] Full usage of some server management features requires the use of an Intel® Server Chassis.

[4] Environment ambient temperature is the system-intake measurement for an Intel® Server Board SE7501HG2 installed in an Intel® Server Chassis SC5200.

[5] Compatible host system denotes the system(s) with which Intel tested the board and found it compliant.

[6] See http://support.intel.com for a complete list of Intel and third-party-compatible chassis.

[7] Full redundancy requires the addition of an optional power-supply module, order code FHD3BRPS450W.

[8] Full redundancy requires the addition of an optional power-supply module, order code AXX2PSMODL350.

[9] Please visit http://support.intel.com/support/motherboards/server/se7501hg2 for a complete list of validated Intel and third-party adapter cards.

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