Intel® Server Board SE7501BR2 Product Brief

Can Intel help me build workgroup servers with high performance, high bandwidth, and advanced management?

The Intel® Server Board SE7501BR2 provides the processing power, bandwidth, and manageability work-groups need.

The Intel® Server Board SE7501BR2 supports dual Intel® Xeon™ processors with up to 2MB cache and Intel® Server Management to bring high-end performance and advanced server management to workgroups of all sizes.

Intel® Server Board SE7501BR2

The Intel® Server Board SE7501BR2, supporting dual Intel® Xeon™ processors, a 533MHz system bus, and the Intel® E7501 chipset enables you to create an extraordinary selection of powerful systems—including high-powered workgroup servers, high-throughput Web servers, fast-access database servers, high-transaction e-mail servers, and more. Building on the bandwidth and performance-enhancing features of Intel® NetBurst™ microarchitecture and Hyper-Threading Technology, the Server Board SE7501BR2 adds power and flexibility in multiple dimensions. The board also includes an Ultra320 single-channel SCSI controller, two integrated Intel® PRO Network Connections, and three independent PCI buses.

Highly manageable servers help reduce your support costs

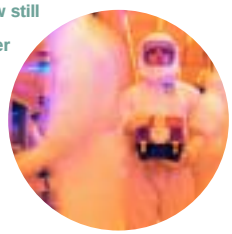
With the Intel® Server Board SE7501BR2, businesses can take advantage of a sophisticated approach to server management. A new version of Intel® Server Management provides integrated in-band and out-of-band remote management, event alerting and logging (including e-mail notification), and proactive fault management. These capabilities help keep servers up and maintenance costs down, while freeing support staff to focus on enhancing system effectiveness and user productivity.

Designed to grow with your customers

The Intel® Server Board SE7501BR2 addresses diverse customer needs, with support for up to 8 GB of ECC DDR266 SDRAM[1] using a dual channel architecture for improved performance, six full-length PCI slots with support for PCI-X adapter cards, and support for the Intel® RAID Controller SRCZCR, which provides a low-cost U320 SCSI RAID solution using the on-board SCSI controller. All this gives small and medium-sized companies a smooth growth path for their applications and businesses.

Choose Intel and deliver the highest quality, investment safety, and peace of mind.

At Intel, Moore's Law still holds with ever-faster processors and more capable server building blocks based on those processors.

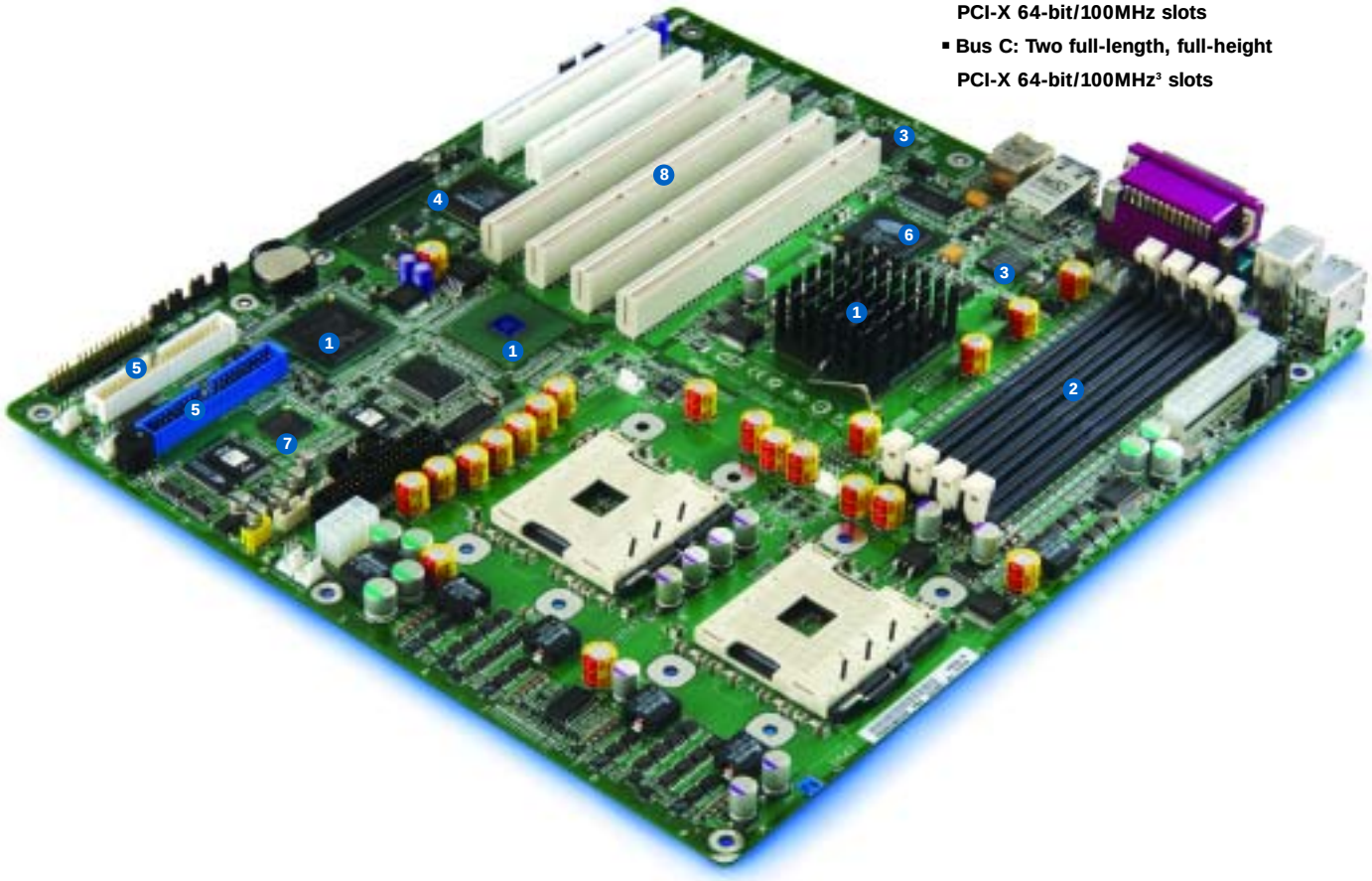


Features	Benefits
Support for one or two Intel® Xeon™ processor(s) with up to 2MB cache	Power, bandwidth, and processing performance to meet the demanding requirements of workgroup loads
Intel® E7501 chipset	High-performance, quality, and improved memory reliability
Support for up to 8 GB of registered ECC DDR266 memory through four DIMM sockets[1]	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
Support for Intel® x4 Single Device Data Correction[2]	Memory fault tolerance
Three independent PCI buses on six slots: four PCI-X[3] 64-bit/100MHz, two PCI 32-bit/33MHz	Elimination of data bottlenecks for the increased bandwidth necessary for intensive I/O, flexibility and scalability
Support for the Intel® RAID Controller SRCZCR[4]	Enables low-cost RAID solutions through use of the server board's integrated Ultra320 SCSI controller
Two integrated Intel® PRO Network Connections: one Intel PRO/100+ and one Intel PRO/1000	Networking capabilities with widespread compatibility, scalable bandwidth, and redundant links
Integrated Adaptec* single-channel Ultra320 SCSI controller[5]	High-performance storage options and enhanced data protection
Integrated ATI* Rage* XL video controller with 8 MB of video memory	High-quality video without losing a PCI slot or the cost of adding a graphics 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 SE7501BR2 for the Intel® Xeon™ Processor with up to 2MB cache

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

1. Intel® E7501 chipset
2. Up to 8 GB of registered ECC DDR266 SDRAM[1]
   - Dual memory channels for high speed data transfer
3. Two Intel® PRO Network Connections
   - One 10/100 Intel® 82550PM Fast Ethernet controller
   - One 10/100/1000 Intel® 82540EM Gigabit Ethernet controller
4. Integrated single-channel Ultra320 SCSI
   - Adaptec* AIC-7901 controller
5. Two ATA/100 IDE channels
6. Integrated graphics
   - ATI* Rage* XL video controller with 8 MB of memory
7. Intel® Server Management
8. Three independent PCI buses
   - Bus A: Two full-length, full-height PCI 32-bit/33MHz slots
   - Bus B: Two full-length, full-height PCI-X 64-bit/100MHz slots
   - Bus C: Two full-length, full-height PCI-X 64-bit/100MHz[3] slots



The Intel® Xeon™ processor with up to 2MB cache features Hyper-Threading Technology, and the Intel® NetBurst™ microarchitecture to deliver unprecedented performance to work-group-level computing.

intel inside XEON

The Boxed Intel® Server Board SE7501BR2

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

Included for easy integration:

1. **One Intel® Server Board SE7501BR2**
2. **Quick-Start User Guide**
3. **CD-ROM with software drivers, configuration tools, and technical product information**
4. **CD-ROM with Intel® Server Management software**
5. **Cable kit**
6. **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

Complete Your Intel® Server Board SE7501BR2 with Intel® Server Building Blocks

Add the following Intel building blocks to your Intel Server Board SE7501BR2 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[6], includes four fans for ample cooling, and a 450W PFC power supply with integrated fan. A second pedestal option includes three full-size 5.25-inch peripheral bays[6], 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[6], 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 SE7501BR2 at no additional cost.

Use the The Intel® Server Board SE7501BR2 to build pedestal or rack-mount solutions. The Intel® Server Chassis SC5200 is designed to support the Intel® Server Board SE7501BR2, so you can pack a tremendous volume of power into a compact space.

Intel® Server Board SE7501BR2 Specifications

Processor/Cache

One or two Intel® Xeon™ processor(s) with up to 2MB cache and a 400MHz or 533MHz system bus; for the latest processor support information, visit http://support.intel.com/support/motherboards/server

System Memory

Memory Capacity	Four DIMM sockets for up to 8 GB of registered ECC DDR266 memory[1]
Memory Type	Registered ECC DDR266 SDRAM 72-bit, 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 provides Intel® x4 Single Device Data Correction support (using x4 DRAM devices only)

Integrated On-Board

Chipset	Intel® E7501
Ultra320 SCSI Single-Channel Controller	Adaptec* AIC-7901 (single-ended mode not supported)
Intel® PRO Network Connections	Two Intel® PRO Network Connections via RJ45 connectors (one 10/100 Intel® 82550PM Fast Ethernet controller, one 10/100/1000 Intel® 82540EM Gigabit Ethernet controller)
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: four PCI-X 64-bit/100MHz[3], two PCI 32-bit/33MHz
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	1.44 MB, 2.88 MB, 3-mode support
Keyboard/Mouse	Two PS/2 ports, 8240A-compatible

Intel® Server Management Solution

Hardware	Integrated Baseboard Management Controller (BMC) and instrumentation
Software	Intel® Server Management
Remote Management	Remote access to system status, system control, 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
Intelligent Platform Management Support	Intelligent Platform Management Interface (IPMI) 1.5
Operating Systems Supported by Intel® Server Management	Microsoft Windows* 2000 Advanced Server, Red Hat* Linux*, NetWare*, Caldera OpenUnix See http://support.intel.com/support/motherboards/server/ for additional details

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

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; five LEDs: power on/off, HDD activity, NIC activity (two), ID (rack option only)

Mechanical

Server Board Style	SSI EEB 3.0 (fits in many ATX-compliant tower chassis)
Server Board Size	12" x 13"

Power Requirements

+5V	20A maximum continuous current
+5V Standby	2A minimum continuous current
+12V	30A maximum continuous current
+3.3V	24A maximum continuous current
–5V	0A maximum continuous current
–12V	0.5A maximum continuous current

Environment

Ambient Temperature[7]	Operating (system): 10°C to 35°C; non-operating/storage (system): –40°C to +70°C ambient
Relative Humidity	Non-operating: 95%, non-condensing at 30°C

Safety

EMC regulatory compliance (based on board configured in a compatible[8] 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 / CISPR 22
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 GOSTR 29216-91, GOSTR 50628-95
Taiwan	Verified to BSMI 13438, Class A
United States	UL 60950 / Verified to FCC, Class A

N232 E139761 CANADA ICES-003 CLASS A ME06 D33025

Order Codes

Item	Product Order Code
Intel® Server Board SE7501BR2	SE7501BR2
Intel® Server Chassis SC5200 (pedestal optimized, base configuration)[9]	KHD3BASE450
Intel® Server Chassis SC5200 (pedestal, hot-swap, redundant power and cooling configuration)[10]	KHD3HSRP650
Intel® Server Chassis SC5200[9] (black, rack-optimized, hot-swap, redundant power and cooling configuration)[10]	KHD3HSRP650R
Intel® Server Chassis SC5100 Rack Conversion Kit for Base SKU	AHD2RACK
Intel® Server Chassis SC5200 Rack Conversion Kit for HSRP SKUs	AHD3RACK
Intel® Server Chassis SC5200 Spares Kit	FHD3SPRS
Intel® Server Chassis SC5200 Hot-Swap Backplane Upgrade	AXX2HSDRVUG
Intel® PRO/1000 XT Server Network Adapter	PWLA8490XT
Intel® RAID Controllers[11]	

For the most current product updates, tested hardware, operating-system lists, and product information on Intel server building blocks, visit:
www.intel.com/go/serverbuilder

[1] The Server Board SE7501BR2 has been designed to support up to 8GB of memory using 2GB memory modules. Please see http://support.intel.com/support/motherboards/server/SE7501BR2 for the latest tested memory list.

[2] In a x4 DDR memory device, provides error detection and correction for 1, 2, 3 or 4 data bits within that single device.

[3] Segment C can operate at 64-bit/133MHz when only one of the two slots is populated in this segment.

[4] SRCZCR is supported in slot 4. Use of SRCZCR is supported only in PCI 64-bit/66MHz mode.

[5] Single-ended mode not supported.

[6] 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.

[7] Environment ambient temperature is the system-intake measurement for an Intel® Server Board SE7501BR2 installed in an Intel® Server Chassis SC5200.

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

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

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

[11] Please visit http://support.intel.com/support/motherboards/server/SE7501BR2 for a complete list of validated Intel and third-party adapter cards.

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