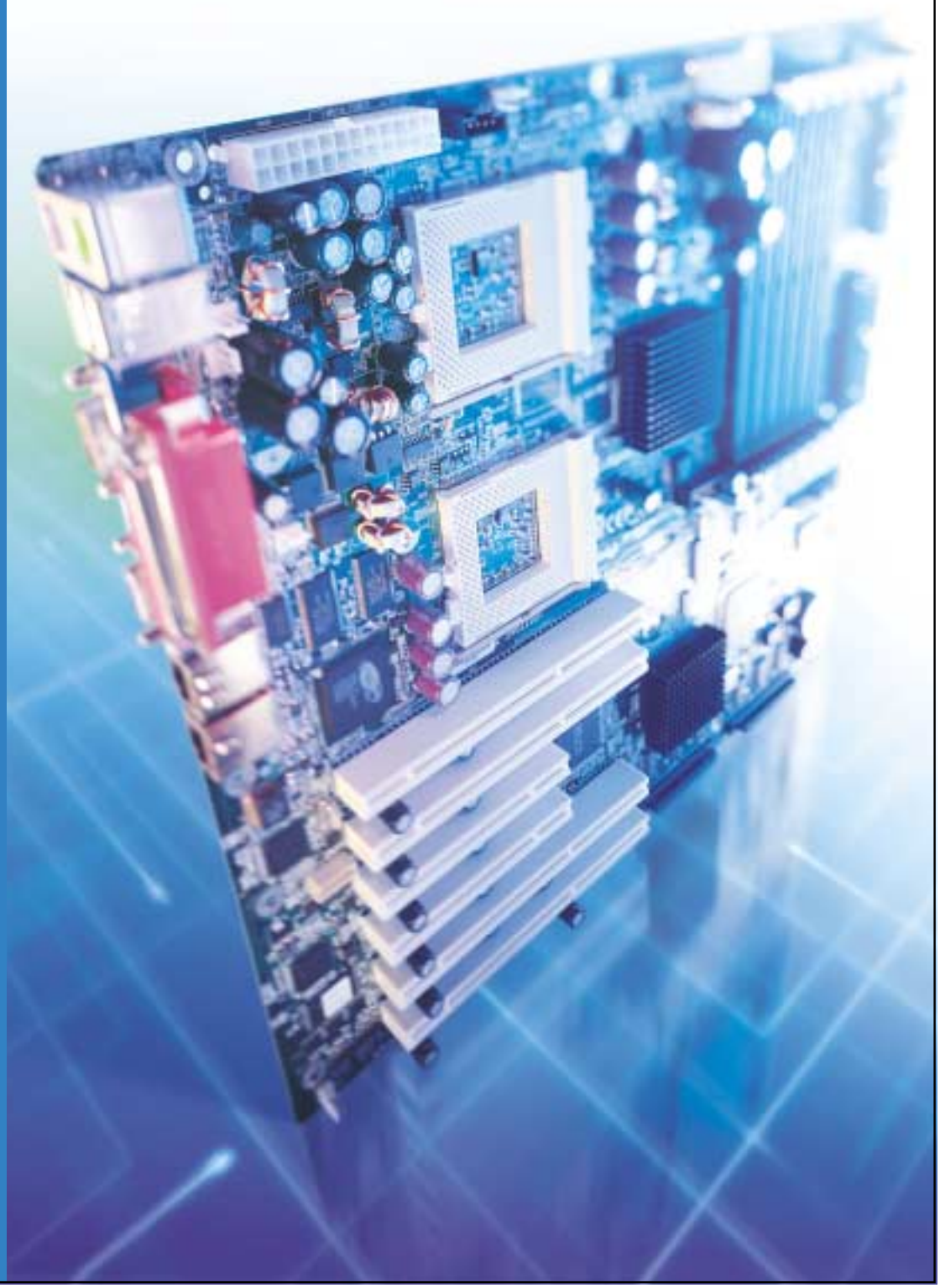
Intel® Server Board SDS2

Powerful, Multi-Purpose Server Board for Workgroup and Internet Applications

Product Brief

- Dual Intel® Pentium® III Processor with 512-KB L2 Cache Support
- Triple Peer PCI Buses
- Advanced Intel® Server Management



Powerful, Multi-Purpose Server Board for Growing e-Businesses

The Intel® Server Board SDS2 is a powerful server board with support for two Intel® Pentium® III processors with 512-KB L2 cache and 6 GB of two-way interleaved PC133 ECC SDRAM memory. The increased L2 cache and extensive memory support will enable you to meet your customers' growing business needs. The Server Board SDS2 has a number of powerful features to ensure high reliability and availability, including Intel® Server Management and more than 240 integrated components dedicated to monitoring and managing the health of your server. These features will help you ensure that this server board is the foundation for a highly reliable server.

Flexibility and Scalability

The flexibility of the Server Board SDS2 allows you to customize solutions to meet a range of customer needs. For added flexibility and easy expansion, the Server Board SDS2 includes six PCI slots, all of which support full-length adapter cards. It also supports Triple Peer PCI buses, which provide superior I/O throughput and the ability to better manage high-speed I/O. Additional server technologies include dual integrated Intel® PRO Server Ethernet Controllers, dual-channel Ultra160 SCSI storage, and advanced Intel® Server Management capabilities. Because these features are integrated on the server board, all six PCI slots are available for further expansion. The Server Board SDS2 is also optimized to work with the Intel® RAID Controller SRCMR, which utilizes the server board's SCSI controllers to give you a dual-channel RAID solution with compelling price and performance benefits.

Solutions to Meet Your Customers' Unique Needs

The Intel® Server Board SDS2 is extraordinarily flexible, allowing you to develop many different solutions to meet a wide range of customer needs. Use it to build a robust general-purpose server with sufficient power to perform a multitude of tasks in a small business. It is also a great foundation for a dedicated database server for a corporate workgroup. Use it to build a rack-optimized web server or a powerful Network Attached Storage (NAS) server capable of supporting up to ten 1" Ultra160 SCSI hard drives (when combined with the Intel® Server Chassis SC5100). The Server Board SDS2 provides the headroom to be successful in many different applications. It can also be combined with a variety of third-party server chassis to meet an even wider range of e-Business needs.

Features	Benefits
Supports up to two Intel® Pentium® III processors with 512-KB cache	Powerful processing performance for demanding server applications
Two integrated Intel® PRO 82550PM Server Ethernet Controllers	Excellent networking capabilities with widespread compatibility, scalable bandwidth, and redundant links
Supports up to 6 GB of PC133 ECC SDRAM memory with six DIMM sockets	Memory capacity to support a wide range of server tasks, six DIMM sockets for greater flexibility to configure memory suitable for diverse customers' needs, ECC for increased data reliability
Two-way interleaved memory	Higher-performance memory subsystem architecture helps improve system performance and provides up to 2.1 GB/sec of peak data transfer throughput
Six PCI slots (four 64-bit/66-MHz, two 32-bit/33-MHz)	Investment protection—room to grow with support for high-performance PCI cards
Triple Peer PCI buses	Separate PCI buses to help eliminate data bottlenecks, increase bandwidth for intensive I/O needs, and provide up to 1.1 GB/sec of data transfer
Integrated dual Ultra160 SCSI channels on 64-bit/66-MHz PCI bus	Excellent data throughput and balance due to independent SCSI channels
Integrated ATI* Rage* XL PCI graphics controller with 4 MB of memory	High-quality integrated video to eliminate the need for a PCI video card, saving a PCI slot and additional expense
Advanced Intel® Server Management	Reliability and server management capability to help ensure maximum server availability
Three-year limited warranty	Peace of mind
Designed to work with Intel® RAID Controller SRCMR	Economical Intel RAID controller that uses the SDS2's on-board SCSI controller and provides RAID levels 0, 1, 4, 5, and 10 for increased data protection and performance

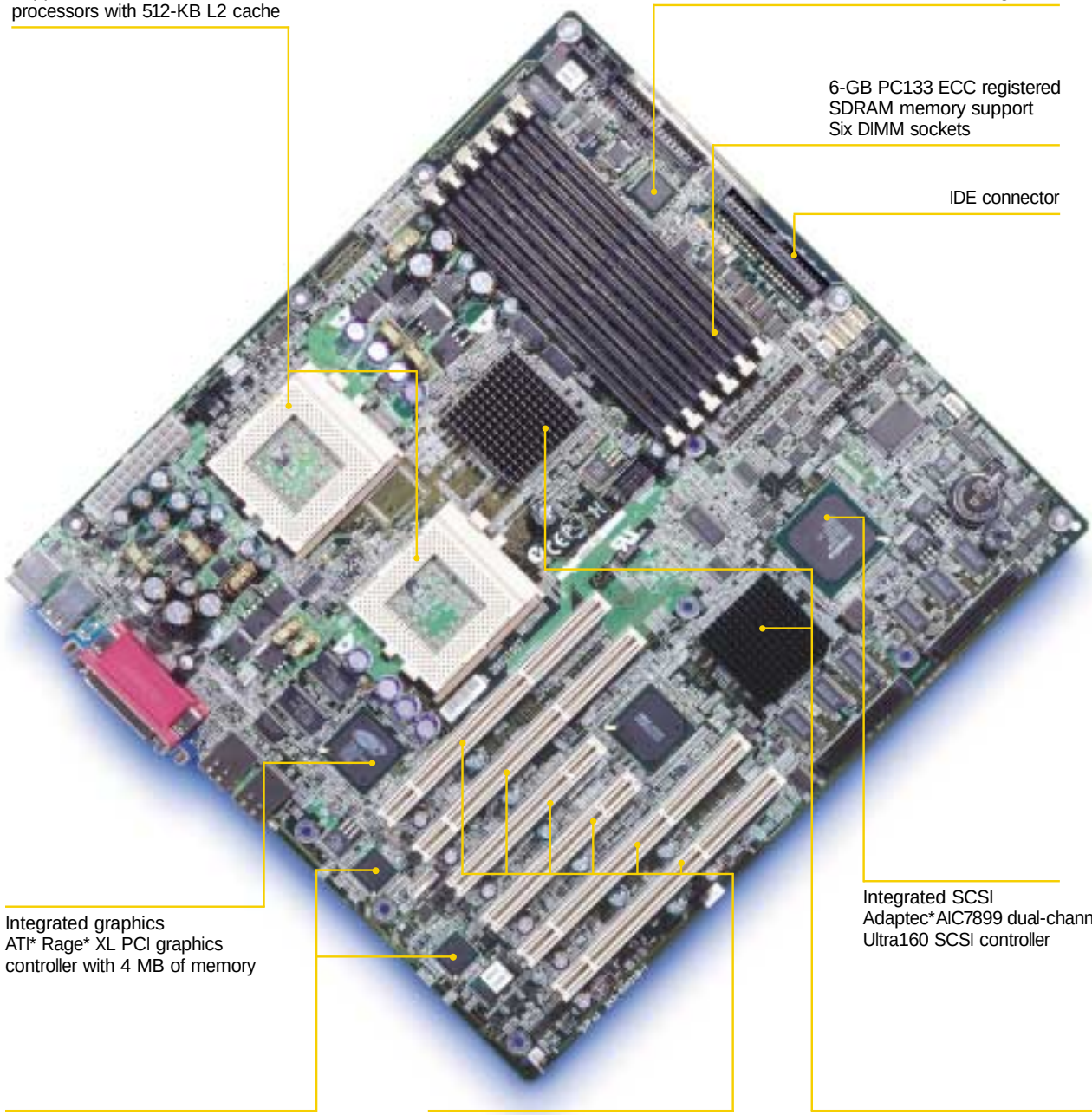
Intel® Server Board SDS2 for the Intel® Pentium® III Processor

Support for two Intel® Pentium® III processors with 512-KB L2 cache

Advanced Intel® Server Management

6-GB PC133 ECC registered SDRAM memory support
Six DIMM sockets

IDE connector



Integrated graphics
ATI* Rage* XL PCI graphics controller with 4 MB of memory

Integrated SCSI
Adaptec* AIC7899 dual-channel Ultra160 SCSI controller

Two integrated Intel® PRO 82550PM Server Ethernet Controllers

Triple Peer PCI, six available PCI slots
- Bus A: two 64-bit/66-MHz PCI slots
- Bus B: two 64-bit/66-MHz PCI slots, Ultra160 SCSI
- Bus C: two 32-bit/33-MHz PCI slots, server Ethernet controllers, video

ServerWorks* Enterprise ServerSet* III HE-SL chipset

The Boxed Intel® Server Board SDS2

Included for easy integration:

1. One Intel® Server Board SDS2
2. QuickStart User Guide
3. CD-ROM with Intel® Server Management software, configuration tools, software drivers, warranty, and technical product information
4. One termination module for uniprocessor configurations
5. One I/O shield, ATX 2.03-compliant
6. Serial cable
7. Floppy cable
8. IDE cable
9. SCSI (Ultra160 with four connectors) cable with termination
10. Configuration label with board layout and back-panel I/O configurations

Build Value with Intel: Server Products, Programs, and Support

Intel is committed to providing industry-leading server building blocks, programs, and support services to help system integrators successfully compete in the evolving Internet economy. Get the high-value server solutions you need to succeed by taking advantage of the outstanding value Intel provides its system integrators:

- High-quality server building blocks
- Extensive breadth of server building blocks
- Solutions and tools to enable e-Business
- Comprehensive training services
- Worldwide 24x7 technical support
- World-class service, including a three-year limited warranty and Advanced Warranty Replacement

For more information on Intel's added-value server offerings, please visit: www.intel.com/go/serverbuilder

Complete Your Intel® Server Board SDS2 with Intel Server Building Blocks

Add the following Intel building blocks to your Intel® Server Board SDS2 to ensure a highly reliable, available, and scalable server:

Intel® Pentium® III Processors with 512-KB L2 cache support provide powerful performance to meet the needs of your server customers and give them the reliability, flexibility, and headroom necessary for e-Business transaction surges.

Intel® Server Management monitors key server components and fixes many problems automatically, keeping your customers up and running. Intel Server Management offers several key high-availability features including:

- Integrated remote management
- Event alerting and logging
- Proactive fault management

Intel® Server Management is included with every boxed Intel® Server Board SDS2 at no additional charge.

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 Chassis SC5100 is designed to work in tandem with the Intel® Server Board SDS2. Multiple chassis options allow you to customize the SC5100 for your customers' needs, including:

- A pedestal base configuration with five 1-inch high fixed drive bays supporting drives that operate at up to 15K RPM, two full size 5.25-inch peripheral bays, one slim-line 5.25-inch peripheral bay, four fans for ample cooling, and a 300W PFC power supply
- A redundant power pedestal version includes the base configuration features plus a hot-swap drive bay with capacity for five 1-inch high SCSI hard drives and 350W 1+1 dual line cord redundant power
- A black rack-optimized, redundant power version that gives you all the functionality of the redundant power pedestal version in an easy-to-install 5U rack-optimized chassis
- An optional 10 hot-swap SCSI hard-drive upgrade option for high internal-storage capacity

In addition, the Server Chassis SC5100 comes with extensive international safety and EMC regulatory approvals and offers the added reliability, availability, and scalability that customers demand.

Intel® Server Board SDS2 Specifications

Processor/Cache	
Processors Supported	Intel® Pentium® III processors with up to 512-KB of integrated L2 cache. For the latest processor support information, go to: http://support.intel.com/support/motherboards/server
System Memory	
Memory Capacity	Six DIMM sockets for up to 6 GB of PC133 SDRAM (64-MB to 1-GB DIMMs supported, memory must be populated in pairs) PC133 SDRAM
Memory Type	PC133 Registered SDRAM 72-bit ECC, 168-pin gold-plated DIMMs
DIMM Sizes	64 MB, 128 MB, 256 MB, 512 MB, 1 GB
Memory Voltage	3.3V only
Error Detection	Corrects single-bit errors, detects double-bit errors (using ECC memory)
Integrated On Board	
Chipset	ServerWorks* Enterprise ServerSet* III HE-SL
Ultra160 SCSI Controller	Adaptec* AIC7899 Dual Channel SCSI Controller. Two Ultra160/LVD channels, two 68-pin "wide" SCSI connectors. Max data transfer: 160 MB/sec on Ultra160/LVD channel
Integrated LAN	Two Intel® PRO 82550PM Server Ethernet Controllers support 10BASE-T and 100BASE-TX RJ45 output
Graphics	ATI* Rage* XL SVGA PCI video controller with 4 MB of video memory
Super I/O Controller	National* PC97317
Input/Output	
PCI	Six total: Four 64-bit/66-MHz, two 32-bit/33-MHz Triple Peer PCI Buses
IDE	One EIDE channel for a total of two IDE devices backward compatible to provide CD-ROM drive support
USB	Three stacked USB connectors for back-panel and one for front-panel connectivity
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

Server Management[1]	
Remote Management	Remote access to system status, logs, configuration data, and utilities, without a remote management card. Event filtering and alerting through proactive LAN and mobile devices
System Monitoring and Auto-recovery	System health indicators and corrective actions including: • Automated power cycling • OS watchdog timer • Fault-resilient booting
Server Troubleshooting	Remote diagnostics, continuous health monitoring, text console redirection, error logs, and drive predictive failure
Operating Systems Supported	Microsoft* Windows* 2000, Microsoft* Windows NT*, Red Hat* Linux*, SCO UnixWare*, and Novell* NetWare*
System BIOS	
BIOS Type	8-MB Flash EEPROM with Phoenix* 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) enables easy system setup of BIOS and utilities, Plug and Play
Jumpers and Front-Panel Connectors	
Front-Panel Connectors	Power LED, power on/off switch, reset, USB
Jumpers	CMOS clear, password clear, BIOS recovery, BMC forced update, FRB timer disable, chassis intrusion disable
Mechanical	
Server Board Style	SSI, fits in many ATX 2.x-compliant tower chassis
Server Board Size	12" x 13"
Server Board Power Requirements	
+5V	9.2A maximum continuous current
+5V Standby	1.2A minimum continuous current
+12V	12.7A maximum continuous current
+3.3V	18.25A maximum continuous current
-5V	0 maximum continuous current
-12V	.02A maximum continuous current

Environment	
Ambient Temperature[2]	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
Product Regulations	
Safety Compliance	U.S. & Canada UL/CUL 950-CSA 950 (UL Recognition Mark) Europe/Russia EN60 950, CE Mark-EU Directive 73/23/EEC/GOST-R Mark International IEC60 950
EMC Compatibility (configured in a compatible[3] Intel host system)	
U.S. & Canada	Verified to FCC/ICES-003, Class A
Europe/Russia	Verified to EN55022 (Class A) and EN55024 (CE Mark—EU Directive 89/336/EEC)/GOST R Mark
International/Japan	Verified to CISPR-22/VCCI, Class A
Australia/New Zealand	Verified to AS/NZS 3548, Class A (C-tick Mark)
Taiwan	Verified to BSMI CNS13438

Order Codes

Item	Product Order Code
Intel® Server Board SDS2	SDS2
Intel® Server Chassis SC5100 (pedestal base configuration)	KHD2BASE300
Intel® Server Chassis SC5100 (pedestal redundant power configuration)	KHD2HSRP350
Intel® Server Chassis SC5100 (5U rack-optimized, redundant power configuration, black)	KHD2HSRP350R
Intel® Server Chassis SC5100 Spares Kit	FHD2SPRS
Intel® RAID Controller SRCMR	SRCMR

1. Full utilization of some server management features is dependent on the use of an Intel® server chassis.
2. Environment ambient temperature measurements are system measurements with an Intel® Server Board SDS2 installed in an Intel Server Chassis SC5100.
3. Compatible host system denotes the system(s) in which Intel tested the board and found it to be compliant.

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

1201/SJ&SC/DMW/MD/PP/15K

Intel Literature Center: 1-800-548-4725
ORDER NUMBER 298527-001