

**Intel[®] Server Boards S5000PSL, S5000XSL,
and S5000XVN,
Intel[®] Server Board S5000PSLROMB RAID
Controller,
Intel[®] Storage System SSR212MC2
Tested Memory Report**

Notice: This document will be discontinued in March 2009.

*Please refer to the Sever Configuration tool for a complete list of tested hard drives at:
<http://serverconfigurator.intel.com/default.aspx>*



Revision 47.0
February 2009

Revision History

Date	Rev	Modifications
June 2006	1.0	Release version
June 2006	2.0	Removed Micron* 512MB part. Added Micron 1GB and 4GB part. Added Samsung* 512MB part. Added Hynix* 512MB and 1GB parts. (In shaded areas)
June 2006	3.0	Added A-Data Technology*, ATP Electronics*, and Kingston* 1GB parts. Added ATP Electronics 2GB part. (In shaded areas)
July 2006	4.0	Added Crucial Technology*, Kingston, and Hynix 512MB parts. Added Crucial Technology, Kingston, ATP Electronics, A-Data Technology, Hynix, and Samsung 1GB parts. Added ATP Electronics and Qimonda (Infineon)* 2GB parts. (In shaded areas)
Aug2006	5.0	Added Dataram* 512MB part. Added Smart*, Dataram, and Kingston 1GB parts. (In shaded areas)
Aug 2006	6.0	Added Ramaxel Technology* and Smart 512MB parts. Added Smart 1GB parts. Added ATP Electronics and Smart 2GB parts. (In shaded areas) Added section for the Intel® RAID Adapter S5000PSLROMB card supported memory.
Aug 2006	7.0	Added Samsung and Qimonda 512MB parts. Added Kingston, Samsung, and Nanya* 1GB parts. (In shaded areas)
Oct 2006	8.0	Added Legacy*, Kingston, Smart, and ATP Electronics 512MB parts. Added Kingston, Smart, Qimonda, and ATP Electronics 1GB parts. Added Smart and ATP Electronics 2GB parts. Updated server board and RAID adapter names. (In shaded areas)
Oct 2006	9.0	Added Hynix 1GB part. (In shaded areas)
Nov 2006	10.0	Added Wintec Industries* and Apacer* 512MB parts. Added Wintec Industries, Apacer, Ventura* and Kingston 1GB parts. Added Dataram, Kingston, Wintec Industries, and Apacer 2GB parts. Added Kingston 4GB part. (In shaded areas)
Jan 2007	11.0	Added Kingston 512MB part. Added Smart, Super Talent Electronics, Kingston, A-Data Technology, Simple Tech, and Viking 1GB parts. Added Kingston, Smart, Super Talent Electronics, Ventura, and Viking 2GB parts. Added ATP Electronics 4GB part. (In shaded area)
Jan 2007	12.0	Added Legacy and Hynix 1GB parts. Added Kingston, Qimonda, and Samsung 2GB parts. (In shaded area)
Jan 2007	13.0	Added Kingston, Hynix, Qimonda, and Micron 512MB parts. Added Micron 1GB part. Added Samsung 4GB part. (In shaded area)
Feb 2007	14.0	Added Samsung, Hynix, Qimonda, Legacy, ATP Electronics, Dataram, and Viking 512MB parts. Added Micron, Dataram, and Legacy 1GB parts. Added Qimonda and Buffalo 2GB parts. (In shaded area)
Feb 2007	15.0	Added Dataram, Kingston, Viking, Micron, Qimonda, and Samsung 512MB parts. Added Kingston, S3+, Qimonda, Samsung, and Micron 1GB parts. Added Kingston, Legacy, Qimonda, Samsung, Hynix, and Micron 2GB parts. Added Kingston, Qimonda, and Micron 4GB parts. (In shaded area)
Feb 2007	16.0	Added Qimonda 512MB part. Added Micron 1GB part. Added Viking, Micron, and Wintec 2GB parts. Added Legacy, Micron, Qimonda, and Samsung 4GB parts. Updated vendor contact information. (In shaded area)
Mar 2007	17.0	Added AMB Vendor, AMB Rev, and Heat Sink Type information to some of the parts. Added Qimonda and Viking 1GB parts. Added Qimonda 2GB part. Added Samsung 4GB part. (In shaded area)

Date	Rev	Modifications
Mar 2007	18.0	Updated contact information. Added Netlist, Inc. and Smart 1GB parts. (In shaded area)
April 2007	19.0	Added Kingston, ATP Electronics, Micron, and STEC Inc.* 1GB parts. Added ATP Electronics, Micron, and Hynix 2GB parts. Added Micron 4GB part. (In shaded area)
May 2007	20.0	Added Smart, Micron, and Dataram 1GB parts. Added Kingston, STEC Inc., Dataram, and Micron 2GB parts. (In shaded area)
May 2007	21.0	Added section 2.2: clarification for acoustics versus performance mode. Corrected product name from SROMBSAS18E to S5000PSLROMB and added supported memory sizes. Additional memory parts added. (In shaded area)
June 2007	22.0	Additional memory parts added. (In shaded area)
July 2007	23.0	Additional memory parts added. (In shaded area)
Aug 2007	24.0	Intel® Storage System SSR212MC2 added to list. Additional memory parts added. (In shaded area)
Oct 2007	25.0	Updated some contact information. Additional memory parts added. (In shaded area)
Oct 2007	26.0	Corrected 4 GB part number (in shaded area).
Nov 2007	27.0	Added a note on product codes covered by this list. Added an AMB revision notes. Added additional memory parts (in shaded area).
Jan2008	28.0	Added additional memory parts (in shaded area).
Feb 2008	29.0	Added additional memory parts (in shaded area).
Mar 2008	30.0	Added additional memory parts (in shaded area).
April 2008	31.0	Added additional memory parts (in shaded area).
May 2008	32.0	Added additional memory parts (in shaded area).
May 2008	33.0	Added additional memory parts (in shaded area).
June 2008	34.0	Added additional memory parts (in shaded area).
June 2008	35.0	Added additional memory parts (in shaded area).
July 2008	36.0	Correction to Qimonda 2GB part number. Added additional memory parts (in shaded area).
July 2008	37.0	Added additional memory parts (in shaded area). Update contact information for MSC Vertriebs GmbH
Aug 2008	38.0	Added additional memory parts (in shaded area).
Aug 2008	38.0	Added additional memory parts (in shaded area).
Sept 2008	40.0	Added additional memory parts (in shaded area).
Oct 2008	41.0	Added additional memory parts (in shaded area).
Nov 2008	42.0	Added additional memory parts (in shaded area).
Nov 2008	43.0	Added additional memory parts (in shaded area).
Dec 2008	44.0	Added additional memory parts (in shaded area).
Jan 2009	45.0	Added support for 8G modules. Added additional memory parts (in shaded area).
Feb 2009	46.0	Added additional memory parts (in shaded area).

Revision History

Date	Rev	Modifications
Feb 2009	47.0	Added additional memory parts (in shaded area). Note: Supported adapters, peripherals, hard drives and memory have been added for each Intel® Server product in the Server Configurator Tool. This document will be discontinued in March 2009. Please refer to the Sever Configuration tool for a complete list of tested memory at: http://serverconfigurator.intel.com/default.aspx

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The Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, the Intel® Server Board S5000PSLROMB RAID Controller, and the Intel® Storage System SSR212MC2 may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

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Please Note: DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts or vice-versa. Mixing dissimilar metal contact types has been shown to result in unreliable memory operation. Intel recommends similar manufacturer and similar speeds in each Rank on the memory module. Mixing of dissimilar memory is NOT recommended.

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1. Overview of Memory Testing

The following test processes are used to qualify Dual In-Line Memory Modules (DIMMs) for use with the Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, the Intel® Server Board S5000PSLROMB RAID Controller, and the Intel® Storage System SSR212MC2. Memory is a vital subsystem in a server. Intel requires that strict guidelines be met before a DIMM vendor is added to the Tested Memory Report. To be included on the list as a fully supported DIMM, the memory must undergo rigorous tests to ensure that the product will perform the intended server product functions. Memory qualification for Intel server, workstation and RAID controller products is performed both by Intel's Memory Validation Lab (MVL) and by an independent external test lab, Computer Memory Test Lab* (CMTL).

Note: This tested memory list applies to all product codes in the Intel® Server Board S5000PSL/S5000XSL/S5000XVN family.

The Tested Memory Lists for Intel's server boards, workstation boards, and RAID controller products categorize memory modules as Advanced Tested. The Advanced Testing process includes a standard paper qualification and then is followed by two levels of functional testing. DIMMs that have completed and passed Advanced Testing are considered to be compatible with the product on which they were tested, and with the test software and operating systems that was used during the test process.

Note: Memory qualification for main memory is done by testing identical memory modules in all DIMM slots. Memory qualification does not include testing of mixed DIMM type and/or vendors. Mixing of DIMM type and/or vendors is not recommended.

1.1 Paper Qualification

A paper qualification is performed to verify that the specifications of a given DIMM meet Intel's memory specifications for a given product. Specification criteria reviewed include: critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements.

1.2 Functional Testing

After a given DIMM passes the standard paper qualification, functionality of the DIMM is then tested with the intended Intel product. Two levels of functional testing are performed; standard and advanced.

Standard functional testing requires that the given DIMM and Intel product combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed using a Microsoft Windows* operating system and a custom test package. The test systems operate with standard voltage and at room temperature.

1.3 Advanced Functional Testing

Advanced functional testing requires that the given DIMM and Intel product combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed with multiple operating systems and various custom test packages. Each test configuration is tested with various voltage and temperature margin conditions.

1.4 Computer Memory Test Lab*

Computer Memory Test Lab, also known as "CMTL*" is a leading memory test organization responsible for testing a broad range of memory products. A memory product, which receives a "PASS" after being tested by CMTL, means it functions correctly and consumers can use the product to perform the intended server functions. In order to pass these stringent standards, memory products must maintain the highest manufacturing procedures and pass an exacting battery of tests. Testing is performed with Intel supplied equipment and procedures defined by Intel's various functional testing levels.

CMTL* Contact Information:

Office: (949) 716-8690

Main Fax: (949) 716-8691

Computer Memory Test Lab (CMTL)

24 Hammond Suite F

Irvine, CA 92618

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

2. Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, Intel® Server Board S5000PSLROMB RAID Controller, and Intel® Storage System SSR212MC2 Memory Sub-system

The Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, the Intel® Server Board S5000PSLROMB RAID Controller, and the Intel® Storage System SSR212MC2 main memory subsystem was designed to support Fully Buffered Dual In-line (FBDIMM) Registered DDR2-533 and DDR2-667 FBDIMM memory ECC Synchronous Dynamic Random Access Memory (SDRAM). Other industry naming conventions for DDR2-533 include PC2-4200 and DDR2-667 include PC2-5300.

The maximum main memory capacity supported is based on the number of DIMM slots provided and maximum supported memory loads by the chipset. On the Intel® Server Board S5000PSL the maximum supported capacity is 32GB, the minimum supported capacity is 512MB with one single 512MB DIMM.

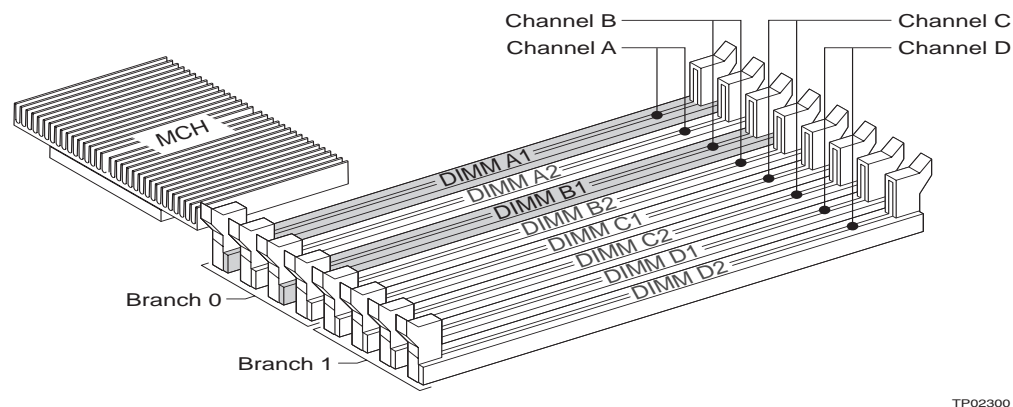
Supported FBDIMM capacities for main memory include: 256MB, 512MB, 1GB, 2GB, and 4GB.

2.1 Main Memory Population

The Intel® Server Board S5000PSL has eight DIMM slots grouped into four DIMM channels for main memory. DIMMs within each bank should be identical (same manufacturer, CAS latency, number of rows, columns and devices, timing parameters etc.). Although DIMMs within a bank must be identical, the BIOS supports various DIMM sizes and configurations allowing memory between banks to be different. Memory sizing and configuration is guaranteed only for qualified DIMMs approved by Intel.

DIMM population rules depend on the operating mode of the memory controller, which is determined by the number of DIMMs installed. DIMMs must be populated in pairs. DIMM pairs are populated in the following DIMM slot order: A1 & B1, C1 & D1, A2 & B2, C2 & D2. DIMMs within a given pair must be identical with respect to size, speed, and organization. However, DIMM capacities can be different between different DIMM pairs.

For example, a valid mixed DIMM configuration may have 512MB DIMMs installed in DIMM Slots A1 & B1, and 1GB DIMMs installed in DIMM slots C1 & D1.



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Figure 1. Identifying Banks of Memory

2.1.1 Memory Sub-system

The MCH masters four fully buffered DIMM (FBD) memory channels. FBD memory utilizes a narrow high speed frame oriented interface referred to as a channel. The four FBD channels are organized into two branches of two channels per branch. Each branch is supported by a separate memory controller. The two channels on each branch operate in lock step to increase FBD bandwidth. On the server board, the four channels are routed to eight DIMM slots and are capable of supporting registered DDR2-533 and DDR2-667 FBDIMM memory (stacked or unstacked). Peak theoretical memory data bandwidth is 6.4GB/s with DDR2-533 and 8.0GB/s with DDR2-667.

On the Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, the Intel® Server Board S5000PSLROMB RAID Controller, and the Intel® Storage System SSR212MC2, a pair of channels becomes a branch where Branch 0 consists of channels A and B, and Branch 1 consists of channels C and D. FBD memory channels are organized into two branches for support of RAID 1(mirroring).

The server board supports up to eight DDR2-533 or DDR2-667 Fully Buffered DIMMs (FBD memory). The following tables show the maximum memory configurations supported using the specified memory technology.

Maximum 8 DIMM System Memory Configuration – x8 Single Rank

DRAM Technology x8 Single Rank	Maximum Capacity Mirrored Mode	Maximum Capacity Non-Mirrored Mode
256 Mb	1 GB	2 GB
512 Mb	2 GB	4 GB
1024 Mb	4 GB	8 GB
2048 Mb	8 GB	16 GB

Maximum 8 DIMM System Memory Configuration – x4 Dual Rank

DRAM Technology x4 Dual Rank	Maximum Capacity Mirrored Mode	Maximum Capacity Non-Mirrored Mode
256 Mb	4 GB	8 GB
512 Mb	8 GB	16 GB
1024 Mb	16 GB	32 GB
2048 Mb	16 GB	32 GB

Note: DDR2 DIMMs that are not fully buffered are NOT supported on this server board.

The following table lists the current supported memory types:

FBDIMM-533 CL4 & FBDIMM-667 CL5 Memory Matrix						
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices	# Address bits Row/Bank/Column	# of Ranks
512MB	64M x72	512Mbit	64M x 8	9	14/10/2	1
1GB	128M x 72	512Mbit	64M x 8	18	14/10/2	2
1GB	128M x 72	512Mbit	128M x 4	18	14/11/2	1
1GB	128M x 72	512Mbit	128M x 8	9	14/10/3	1
2GB	256M x72	512Mbit	128M x 4	36	14/11/2	2
2GB	256M x72	1Gbit	256M x 4	18	14/11/3	1
2GB	256M x72	1Gbit	128M x 8	18	14/10/3	2
4GB	512M x72	1Gbit	256M x 4	36	14/11/3	2
4GB	512M x 72	2Gbit	512M x 4	18	13/11/2	2
8GB	1Gx72	2Gbit	512M x 4	36	15/3/11	2
8GB	1Gx72	2Gbit	Stacked 1G x 4	18	15/3/11	2

2.2 Acoustic versus Performance Mode for System Fan Control

2.2.1 Memory Sizing and Configuration

The BIOS supports various memory module sizes and configurations. These combinations of sizes and configurations are valid only for FBDIMMs approved by Intel. The BIOS reads the Serial Presence Detect (SPD) EEPROMs on each installed memory module to determine the size and timing characteristics of the installed memory modules (FBDIMMs). The memory-sizing algorithm then determines the cumulative size of each row of FBDIMMs. The BIOS programs the memory controller in the chipset accordingly, such that the range of memory accessible from the processor is mapped into the correct FBDIMM, or set of FBDIMMs.

2.2.2 Performance Configuration in BIOS Setup (Default)

In performance mode, the system will utilize fan control over memory throttling to provide primary system cooling. This mode results in a moderately louder system than acoustic mode due to more aggressive fan speed control settings. Independent of the system's temperature level, the fan speed in performance mode will be slightly higher than the fan speed in acoustic mode. Additionally, at a given temperature, the increased airflow from this cooling option diminishes the occurrence of memory throttling. This enables high-power DIMMs (typically DRx4) to operate at their maximum capacity since these DIMMs produce a higher thermal output from their higher bandwidth.

Note: this is the recommended mode when using DRx4 memory modules.

2.2.3 Acoustic Configuration in BIOS Setup

In acoustic mode, the system temperature is maintained primarily by memory throttling, so the utilization of high fan speeds is reduced. As a result, this mode produces a quieter system because the fans will run at a lower speed if the system does not require additional cooling. However, the memory throttling

Memory Sub-system

utilized in this mode could lower memory performance for high-power DIMMs (typically DRx4 or better) because these DIMMs cause a higher thermal output when reaching optimal memory bandwidth.

Note: this is the recommended mode when using DRx8 memory modules.

3. Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, and Intel® Storage System SSR212MC2 Main Memory Tested

The following tables list DIMM devices tested to be compatible with the Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, and the Intel® Storage System SSR212MC2. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Only Registered ECC Fully Buffered (FBDIMM) memory is support in the main memory of all these server products.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the Intel® Server Boards S5000PSL, S5000XSL, and S5000XVN, and the Intel® Storage System SSR212MC2, may result in unpredictable operation and data loss.

Caution: Third party memory vendors may use the same module part number with different DRAM vendors and die revisions. To insure proper system operation, verify that each DRAM vendor and die revision has been separately tested and qualified. Please notify CMTL if there is a discrepancy. This list is subject to change without notice.

Note: This list is not intended to be all-inclusive. It is provided as a convenience to Intel's general customer base, but Intel does not make any representations or warranties whatsoever regarding the quality, reliability, functionality, or compatibility of these memory modules.

Intel® Server Boards S5000PSL, S5000XSL, S5000XVN, and Intel® Storage System SSR212MC2
Fully Buffered ECC, DDR2-533 DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Samsung	M395T6553CZ4-CD51	K4T51083QC-ZCD5	Samsung		IDT 1.5	AMB0480 A5RJ A1.5		1	6/1/06
Hynix	HYMP564F72BP-8D2-C4	HY5PS12821BFP-C4	Hynix		IDT 1.5	AMB0480 A5RJ		1	6/15/06
Crucial Technology	CT9HTF6472FY-53EB4E3.01	MT47H64M8CB-37E rev B	Micron	0499 rev B	Intel	D1	Foxconn	1	7/5/06
Kingston	KVR533D2S8F4/512I	E5108AE-5C-E rev E	Elpida	2025285-002.A00 na	Intel	C0	Foxconn	1	6/30/06
Ramaxel Technology	00124025	EDE5108AGSE-5C-E rev G	Elpida	11113004(RPP10910 812J61) rev B	Intel	D1	AVC	1	7/27/06
Smart Modular Technologies	SG647FBD6484-3-IAI	HYB18T512800AF3-7 rev A	Qimonda (Infineon)	240-21-4 na	Intel	D1	Logitex	1	8/8/06
Legacy Electronics Inc.	B557K4C90AE-37R	K4T51083QC-ZCD5 rev C	Samsung	D2F18A na	NEC	B5 ²	AVC	1	8/15/06
Kingston	KVR533D2S8F4/512I	E5108AGBG-5C-E rev G	Elpida	2025285-002.A00 na	Intel	D1	Foxconn	1	9/7/06
Smart Modular Technologies	TD647FBD6484-3SCI	K4T51083QC-ZCD5 rev C	Samsung	PG54G240 NFBUB3R A rev A	Intel	C0	Foxconn	1	9/11/06
Smart Modular Technologies	TD647FBD6484-3IAI	HYB18T512800AF3-7 rev A	Qimonda (Infineon)	PG54G240 NFBUB3R A rev A	Intel	C0	Foxconn	1	9/12/06
Apacer	78.9DG96.404	K4T51083QC-ZCD5 rev C	Samsung	48.16203.014 rev 4	Intel	D1	Foxconn	1	11/9/06
Kingston	KVR533D2S8F4/512I (INT/INF)	HYB18T512800AF-3.7-A	Kingston		Intel	GB C0 ¹	FDHS	1	6/13/06
Hynix	HYMP564F72BP-8N2-C4	HY5PS12821BFP-C4	Hynix		Intel	GB C0 ¹	FDHS	1	12/13/06
Qimonda	HYS72T64400H-FN-3.7-A	HYB18T512800AF	Qimonda		Intel	GB C0 ¹	FDHS	1	12/13/06
Qimonda	HYS72T64400H-FN-3.7-B	HYB18T512800AF	Qimonda		Intel	D1	FDHS	1	12/13/06
Hynix	HYMP564F72BP-8D2-C4	HY5PS12821BFP-C4	Hynix		IDT	1.5	FDHS	1	1/24/07
Qimonda	HYS72T64400H-FD-3.7-B	HYB18T512800AF	Qimonda		IDT	1.5	FDHS	1	1/29/07
Viking	VR5EF647218E-BSL1	HYB18T512800BF3-7 rev B	Qimonda	D2F18A	IDT	A1.5	Foxconn	1	1/28/07

¹ The GB C0 AMB revision does not support closed-loop throttling.

² This part may show voltage errors in the System Event Log (SEL) during boot. These errors will not affect system operation and can be ignored.

Fully Buffered ECC, DDR2-533 DIMM Modules 512 MB Sizes (64Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Kingston	KVR533D2S8F4 /512I	E5108AGBG-6E-E rev G	Elpida	2025285-002.A00 na	Intel	D1	Foxconn	1	2/3/07
Qimonda	HYS72T64400H FD-3.7-A	HYB18T512800AF-3.7-A	Qimonda		IDT	1.5	FDHS	1	2/13/07
Samsung	M395T6553CZ4-CD50		Samsung		Intel	GB C0 ¹	FDHS	2	2/13/07
Qimonda	HYS72T64400H FA-3.7-B	HYB18T512800BF-3.7-B	Qimonda		Qimonda	C1	FDHS	1	2/26/07
Fully Buffered ECC, DDR2-667 DIMM Modules 512 MB Sizes (64Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Hynix	HYMP564F72BP 8N2-Y5	HY5PS12821BFP-Y5	Hynix		Intel			1	7/13/06
Dataram	DTM65506A	NT5TU64M8AE-3C rev A	Nanya	40053A rev B	Intel	D1	Foxconn	1	7/18/06
Qimonda	HYS72T64400H FN-3S-A	HYB18T512800AF	Qimonda (Infineon)		Intel			1	8/2/06
Samsung	M395T6553CZ4-CE61	K4T51083QC	Samsung		IDT			1	8/2/06
Samsung	M395T6553CZ4-CE60	K4T51083QC	Samsung		Intel			1	8/15/06
Smart Modular Technologies	SG647FBD6485 2IAD5	HYB18T512800AF3 S rev A	Qimonda (Infineon)	PG54G240 NFBUB3RA rev A	IDT	A1.5	Foxconn	1	8/12/06
ATP Electronics	AP64K72A8BHE 6S	K4T51083QC-ZCE6 rev C	Samsung	SP240A08K 1 na	IDT	A1.5	Foxconn	1	8/15/06
ATP Electronics	AP64K72A8BHE 6S	K4T51083QC-ZCE6 rev C	Samsung	SP240A08K 1 na	NEC	B5 ²	Foxconn	1	8/25/06
Kingston	KVR667D2S8F5 /512I	E5108AGBG-6E-E rev G	Elpida	2025285-002.A00 na	Intel	D1	Foxconn	1	9/14/06
Wintec Industries	39C925284C	K4T51083QC-ZCE6 rev C	Samsung	D2F18A rev A	IDT	A1.5	Foxconn	1	10/12/06
Apacer	78.9DG99.404	K4T51083QC-ZCE6 rev C	Samsung	48.16203.01 4 rev 4	Intel	D1	Foxconn	1	10/25/06
Kingston	KVR667D2S8F5 /512I	E5108AGBG-6E-E rev G	Elpida	2025285-002.A00 na	Intel	D1	Foxconn	1	12/11/06
Micron	MT9HTF6472FY -667B4E3	MT47H64M8CB-3	Micron		Intel	GB C0 ¹	FDHS	1	8/24/06
Hynix	HYMP564F72BP 8D2-Y5	HY5PS12821BFP-Y5	Hynix		IDT	1.5	FDHS	1	11/10/06
Qimonda	HYS72T64400H FA-3S-B	HYB18T512800AF	Qimonda		Qimonda	C1	FDHS	1	12/13/06
Samsung	M395T6553EZ4-CE65	K4T51083QE	Samsung		Intel	GB D1	FDHS	1	1/29/07
ATP Electronics	AP64K72A8BHE 6S	K4T51083QE-ZCE6 rev E	Samsung	D2F18A na	NEC	B5 ²	Foxconn	1	1/24/07
Dataram	DTM65506C	HY5PS12821CFP-Y5 rev C	Hynix	40053A rev B	Intel	D1	Foxconn	1	1/26/07
Legacy Electronics Inc.	N557K4C90AN-30R	EDE5108AHBG-6E-E rev H	Elpida	D2F18A	NEC	B5 ²	AVC	1	1/18/07

Fully Buffered ECC, DDR2-667 DIMM Modules 512 MB Sizes (64Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Legacy Electronics Inc.	B557K4C90AN-30R	K4T51083QC-ZCE6 rev C	Samsung	D2F18A rev A	NEC	B5 ²	AVC	1	1/17/07
Legacy Electronics Inc.	N557K4C90AE-30R	E5108AHBG-6E-E rev H	Elpida	D2F18A rev A	IDT	A1.5	AVC	1	1/21/07
Legacy Electronics Inc.	B557K4C90AE-30R	K4T51083QC-ZCE6 rev C	Samsung	D2F18A rev A	IDT	A1.5	AVC	1	1/24/07
Viking	VR5EF647218E BWL1	HYB18T512800BF3 S rev B	Qimonda	D2F18A	IDT	A1.5	Foxconn	1	1/15/07
Dataram	DTM65506C	HY5PS12821CFP-Y5 rev C	Hynix	40053A rev B	INTEL	D1	Foxconn	1	1/26/07
Micron	MT9HTF6472FY-667D5E4	MT47H64M8-3	Micron		Intel	GB D1	FDHS	1	2/5/07
Qimonda	HYS72T64400H FN-3S-B	HYB18T512800AF-3S-B	Qimonda		Intel	D1	FDHS	1	2/9/07
Qimonda	HYS72T64400H FD-3S-B	HYB18T512800AF-3S-B	Qimonda		IDT	C1	FDHS	1	2/13/07
Kingston	KVR667D2S8F5 /512I	NT5TU64M8BE-3C rev B	Nanya	2025285-002.A00 na	Intel	D1	Foxconn	1	5/18/07
Apacer	75.963AI.G00	K4T51083QE-ZCE6 rev E	Samsung	48.16203.094 rev 4		D1	AVC		5/28/07
Micron	MT9HTF6472FY-667D5D4	MT47H64M8B6-3:D	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT6472AF667.9 FD5D4	MT47H64M8B6-3:D	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT6472AF667.9 FD5E4	MT47H64M8B6-3:D	Micron		Intel	GB D1	FDHS	1	6/18/07
Samsung	M395T6553EZ4-CE66	K4T51083QE	Samsung		IDT	C1	FDHS	1	6/18/07
Hynix	HYMP564F72C P8N3-Y5	HY5PS12821CFP-Y5	Hynix		Intel	GB D1	FDHS	1	6/18/07
Hynix	HYMP564F72C P8D3-Y5	HY5PS12821CFP-Y5	Hynix		IDT	C1	FDHS	1	6/18/07
Qimonda	HYS72T64400H FE-3S-B	HYB18T512800AF	Qimonda		NEC	B5+	FDHS	1	6/18/07
STEC	INT72W8M64M8 M-A03GZU	K4T51083QE-ZCE6 rev E	Samsung	D2F18A na	IDT	C1	AVC	1	7/26/07
Smart Modular Technologies	SG647FBD6485 2IBD5	HYB18T512800BF-3S rev B	Qimonda	PG54G240 NFBUB4RA S rev A	IDT	A1.5	Foxconn	1	8/06/07
Dataram	DTM65506E	HYB18T512800BF3 S rev B	Qimonda	40053A rev B	INTEL	D1	Foxconn	1	9/13/07
Qimonda	HYS72T64520H FD-3S-B	HYB18T512800BF-3S-B	Qimonda		IDT	C1	FDHS	1	11/19/07
Dataram	DTM65506F	HYB18T512800B2F-3S rev B2	Qimonda	40053A rev B	IDT	C1	Foxconn	1	2/28/08
Dataram	DTM65506F	HYB18T512800B2F-3S rev B2	Qimonda	40053A rev B	IDT	C1	Foxconn	1	02/28/08

¹ The GB C0 AMB revision does not support closed-loop throttling.

² This part may show voltage errors in the System Event Log (SEL) during boot. These errors will not affect system operation and can be ignored.

Main Memory Tested

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

Note: Some memory modules may have thermal issues when used in a non-Intel 1U rack solution. It is advised that you verify any thermal limitations with your chassis supplier before purchasing a chassis.

Note: The use of x4 FBDIMMs will only be supported with the server system operating in "Performance" mode (default). The use of x4 FBDIMMs while the server system is configured to operate in "Acoustics" mode is not supported.

Intel® Server Boards S5000PSL, S5000XSL, S5000XVN, and Intel® Storage System SSR212MC2
Fully Buffered ECC, DDR2-533 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Samsung*	M395T2953CZ4-CD51	K4T51083QC-ZCD5	Samsung		IDT	AMB0480 A5RJ A1.5		2	5/18/06
Kingston*	KVR533D2D8F4/1 GI	HYB18T512800 AF-3.7	Qimonda (Infineon)		IDT	AMB0480 A5RJ A1.5		2	5/26/06
Kingston	KVR533D2D8F4/1 GI	HYB18T512800 AF-3.7	Qimonda (Infineon)		Intel	QG6400C 0		2	5/26/06
Hynix*	HYMP512F72BP8 D2-C4	HY5PS12821BF P-C4	Hynix		IDT	AMB0480 A5RJ A1.5		2	6/1/06
Micron	MT18HTF12872F DY-53EB5E3	MT47H64M8CB-37E	Micron		Intel	QG6400 C0		2	6/1/06
Hynix	HYMP512F72BP8 N2-C4	HY5PS12821BF P-C4	Hynix		Intel	QG6400 C0		2	6/15/06
A-Data Technology	EDE5108AGSE-5C-E rev G	M2OEL2G3IBC4 211B5Z	Elpida		Intel QG6400	SL96G	Foxconn	2	6/22/06
ATP Electronics	K4T51083QC-ZCD5 rev C	AP28K72S8BHD 5S	Samsung		IDT 0480A5R J	Y0604D	Foxconn	2	6/22/06
Kingston	KVR533D2D8F4/1 GI	E5108AE-5C-E rev EI	Elpida		Intel QG6400	SL96G	Foxconn	2	6/22/06
A-Data Technology	M2OEL2G3IBC421 1B5Z	EDE5108AGSE-5C-E rev G	Elpida	B62FRCB na				2	6/21/06
ATP Electronics	AP28K72S8BHD5 S	K4T51083QC-ZCD5 rev C	Samsung	SP240S08K 1 na	IDT	A1.5	Foxconn	2	6/20/06
Crucial Technology	CT18HTF12872F DY53EB5E3.01	MT47H64M8CB-37E rev B	Micron	500 rev C	Intel	D1	Foxconn	2	7/10/06
Kingston	KVR533D2D8F4/1 GI	E5108AE-5C-E rev E	Elpida	2025286- 002.A00 na	Intel	C0	Foxconn	2	6/15/06
Smart Modular Technologies	SG1287FBD64843 SCI	K4T51083QC-ZCD5 rev C	Samsung	PG58G240 NFBUB3RB rev B	Intel	D1	Foxconn	2	7/12/06
Smart Modular Technologies	TD1287FBD64843 SCI	K4T51083QC-ZCD5 rev C	Samsung	PG58G240 NFBUB3RB S rev B	Intel	C0	Foxconn	2	7/17/06
Smart Modular Technologies	TD1287FBD64843 IAI	HYB18T512800 AF37 rev A	Qimonda (Infineon)	PG58G240 NFBUB3RB S rev B	Intel	C0	Foxconn	2	7/18/06
Kingston	KVR533D2D8F4/1 GI	E5108AG-5C-E rev G	Elpida	2025286- 002.A00 na	Intel	C0	Foxconn	2	7/20/06
Kingston	KVR533D2D8F4/1 GI (INT/INF)	HYB18T512800 AF-3.7-A	Kingston		Intel			2	8/2/06
Smart Modular Technologies	SG1287FBD64843 NAI	NT5TU64M8AE-3C rev A	Nanya	PG58G240 NFBUB3RB rev C	Intel	D1	Foxconn	2	7/23/06
Smart Modular Technologies	SG1287FBD64843 -IAI	HYB18T512800 AF37 rev A	Qimonda (Infineon)	240-22-5 na	Intel	C0	Logitex	2	8/8/06
Kingston	KVR533D2D8F4/1 GI	E5108AGBG-5C-E rev G	Elpida	2025286- 002.A00 na	Intel	C0	Foxconn	2	8/14/06

Fully Buffered ECC, DDR2-533 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Apacer	78.0DG96.405	K4T51083QC-ZCD5 rev C	Samsung	48.16203.015 rev 5	Intel	D1	Foxconn	2	11/9/06
Kingston	KVR533D2D8F4/1 GI	E5108AGBG-6E-E rev G	Elpida	2025286-002.A00 na	Intel	C0	Foxconn	2	11/13/06
Micron	MT18HTF12872FDY-53EB5D3	MT47H64M8B6-37E	Micron		IDT	1.5	FDHS	2	11/10/06
Kingston	KVR533D2D8F4/1 GI	E5108AGBG-6E-E rev G	Elpida	2025286-002.A00 na	Intel	D1	Foxconn	2	2/3/07
Qimonda	HYS72T128420HFD-3.7-B	HYB18T512800AF	Qimonda		IDT	1.5	FDHS	2	2/13/07
Qimonda	HYS72T128420HFN-3.7-B	HYB18T512800AF-3.7-B	Qimonda		Intel	D1	FDHS	2	2/13/07
Samsung	M395T2953CZ4-CD50				Intel	GB C0 ¹	FDHS	2	2/13/07
Qimonda	HYS72T128420HFN-3.7-A	HYB18T512800AF-3.7-A	Qimonda		Intel	GB C0 ¹	FDHS	2	3/12/07
Qimonda	HYS72T128420HFA-3.7-B	HYB18T512800AF-3.7-B	Qimonda		Qimonda	C1	FDHS	2	3/12/07
Kingston	KVR533D2D8F4/1 GI (INT/INF)	HYB18T512800AF-3.7-A	Kingston		Intel	GB C0 ¹	FDHS	2	3/28/07
Fully Buffered ECC, DDR2-677 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Samsung	M395T2953CZ4-CE60	K4T51083QC	Samsung		Intel			2	7/13/06
Hynix	HYMP512F72BP8N2-Y5	HY5PS12821BFP-Y5	Hynix		Intel			2	7/13/06
Dataram	DTM65507A	NT5TU64M8AE-3C rev A	Nanya	40053A rev B	Intel	D1	Foxconn	2	7/20/06
Smart Modular Technologies	SG1287FBD64852SCD5	K4T51083QC-ZCE6 rev C	Samsung	PG58G240NFBUB3RBS rev B	IDT	A1.5	Foxconn	2	7/27/06
Smart Modular Technologies	SG1287FBD64852NAD5	NT5TU64M8AE-3C rev A	Nanya	PG58G240NFBUB3RBS rev B	IDT	A1.5	Foxconn	2	8/1/06
Smart Modular Technologies	SG1287FBD64852-IAI	HYB18T512800AF3S rev A	Qimonda (Infineon)	K0545 na	Intel	D1	Logitex	2	8/8/06
Nanya	NT1GT72U8PA5BD-3C	NT5U64M8AE-3C	Nanya		IDT			2	8/14/06
Samsung	M395T2953CZ4-CE61	K4T51083QC	Samsung		IDT			2	8/15/06
Smart Modular Technologies	SG1287FBD64852IAD5	HYB18T512800AF3S rev A	Qimonda (Infineon)	PG58G240NFBUB3RBS rev B	IDT	A1.5	Foxconn	2	8/14/06
ATP Electronics	AP28K72S8BHE6S	K4T51083QC-ZCE6 rev C	Samsung		IDT	A1.5	Foxconn	2	8/23/06
ATP Electronics	AP28K72S8BHE6S	K4T51083QC-ZCE6 rev C	Samsung	SP240S08K1na	NEC	B52	Foxconn	2	8/25/06
Kingston	KVR667D2D8F5/1 GI	E5108AG-6E-E rev G	Elpida	2025286-001.F00 na	Intel	D1	Foxconn	2	8/29/06
Kingston	KVR667D2D8F5/1 GI	E5108AGBG-6E-E rev G	Elpida	2025286-002.A00 na	Intel	D1	Foxconn	2	9/14/06

Fully Buffered ECC, DDR2-677 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Qimonda (Infineon)	HYS72T128420HF N-3S-A	HYB18T512800AF 5	Qimonda (Infineon)		Intel	GB C0 ¹		2	9/13/06
Hynix	HYMP512F72BP8D 2-Y5	HY5PS12821BFP-Y5	Hynix		IDT	1.5		2	10/24/06
Wintec Industries	39C935284C	K4T51083QC-ZCE6 rev C	Samsung	D2F28B rev B	IDT	A1.5	Foxconn	2	10/12/06
Apacer	78.0DG99.405	K4T51083QC-ZCE6 rev C	Samsung	48.16203.01 5 rev 5	Intel	D1	Foxconn	2	10/16/06
Ventura Technology Group	D2-54VD80LIV-555	EDE-5108AGBG-6E-E rev G	Elpida	D2F28B na	IDT	A1.5	Foxconn	2	11/11/06
Smart Modular Technologies	SG1287FBD64852-HBD	HY5PS12821BFP-Y5 rev B	Hynix	KS-11 (0634-5)	Intel	D1	Hynix	2	11/27/06
Smart Modular Technologies	SG1287FBD64852-ECD	E5108AG-6E-E rev G	Elpida	BFA1=AM-1 na	IDT	A1.5	Elpida	2	11/30/06
Smart Modular Technologies	SG1287FBD64852-SCI	K4T51083QC-ZCE6 rev C	Samsung	M395T2953 CZ0 na	Intel	D1	Samsung	2	12/3/06
Super Talent Electronics	T667FB1G(Channel I)/S1GTF8AMS(OEM)	K4T51083QC-ZCE6 rev C	Samsung	B62FRCB na	IDT	A1.5	Foxconn	2	12/6/06
Kingston	KVR667D2D8F5/1 GI	E5108AGBG-6E-E rev G	Elpida	2025286-002.A00 na	Intel	D1	Foxconn	2	12/8/06
A-Data Technology	M2OSS5G31BB61L 1C5Z	K4T51083QE-ZCE6 rev E	Samsung	B62FRCB na	NEC	B5 ²	Foxconn	2	12/14/06
SimpleTech	ST72F8T128L-A30GU	K4T51083QC-ZCE6 rev C	Samsung	D2F28B	IDT	A1.5	Foxconn	2	12/16/06
Viking	VR5EF287218EBW L1	HYB18T512800BF 3S rev B	Qimonda (Infineon)	D2F28B	IDT	A1.5	Foxconn	2	12/23/06
Legacy Electronics Inc.	B517K4C90BE-30R	K4T51083QC-ZCE6 rev C	Samsung	D2F28B na	IDT	A1.5	Foxconn	2	1/6/07
Hynix	HYMP512F72CP8 N3-Y5	HY5PS12821CFP-Y5	Hynix		Intel	GB D1	FDHS	2	1/16/07
Micron	MT18HTF12872FD Y-667D6E4	MT47H64M8-3	Micron		Intel	GB-D1	FDHS	2	1/29/07
Dataram	DTM65507C	HY5PS12821CFP-Y5 rev C	Hynix	40053A rev B	Intel	D1	Foxconn	2	1/19/07
Legacy Electronics Inc.	B517K4C90BN-30R	K4T51083QC-ZCE6 rev C	Samsung	D2F28B	NEC	B5 ²	AVC	2	1/18/07
Legacy Electronics Inc.	B517K4C90BE-30R	K4T51083QC-ZCE6 rev C	Samsung	D2F28B na	IDT	A1.5	AVC	2	1/21/07
Legacy Electronics Inc.	N517K4C90BE-30R	E5108AE-6E-E rev E	Elpida	D2F28B na	IDT	A1.5	AVC	2	1/19/07
S3+	SG26671GBEI	K4T51083QC-ZCE6 rev C	Samsung	B62FRCB na	IDT	A1.5	AVC	2	2/1/07
Qimonda	HYS72T128420HF A-3S-B	HYB18T512800AF -3S-B	Qimonda		Qimonda	C1	FDHS	2	2/5/07
Qimonda	HYS72T128420HF N-3S-B	HYB18T512800AF -3S-B	Qimonda		Intel	GB D1	FDHS	2	2/5/07
Samsung	M395T2953EZ4-CE65	K4T51083QE	Samsung		Intel	GB D1	FDHS	2	2/5/07

Fully Buffered ECC, DDR2-677 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Micron	MT18HTF12872FDY-667D5E3	MT47H64M8B6-3	Micron		Intel	GB C0 ¹	FDHS	2	2/13/07
Micron	MT18HTF12872FDY-667B5E3	MT47H64M8CB-3	Micron		Intel	GB C0 ¹	FDHS	2	2/13/07
Micron	MT9HTF12872FY-667E1N6	MT47H129M8HQ-3:E	Micron		NEC	B5+	FDHS	1	2/26/07
Viking	VR5EF287218EBWL2	HYB18T512800BF3S rev B	Qimonda	D2F28B	NEC	B5+	Foxconn	2	2/27/07
Netlist, Inc.	NLC127A26407FD531SC1	K4T51083QC-ZCE6 rev C	Samsung	0296-10A rev A	IDT	C1	Foxconn	2	3/14/07
Smart Modular Technologies	SG1287FBD64852-HB	HY5PS12821CFP-Y5 rev C	Hynix	KS-11 (0646-3F)	IDT	A1.5	Hynix	2	3/14/07
ATP Electronics	AP28K72S8BHE6S	K4T51083QE-ZCE6 rev E	Samsung	SP240S08K1 na	NEC	B5 ²	Foxconn	2	4/3/07
STEC Inc	INT72W8M128M8M-A03GZU	K4T51083QE-ZCE6 rev E	Samsung	D2F28B	Intel	D1	AVC	2	4/5/07
Micron	MT9HTF12872FY-667E1E4	MT47H128M8HQ-3:E	Micron		Intel	GB D1	FDHS	1	4/9/07
Micron	MT9HTF12872FY-667E1D4	MT47H128M8HQ-3:E	Micron		IDT	C1	FDHS	1	4/9/07
Smart Modular Technologies	SG1287FBD64852IBD5	HYB18T512800BF3S rev B	Qimonda	PG58G240NFBUB4RBS rev A	IDT	A1.5	Foxconn	2	4/07/07
Dataram	DTM65507D	HYB18T512800BF3S rev B	Qimonda	40053A rev B	Intel	D1	Foxconn	2	4/12/07
Micron	MT18HTF12872FY-667D6E4	MT47H128M4	Micron		Intel	GB D1	FDHS	1	5/1/07
Apacer	75.063AI.G00	K4T51083QE-ZCE6 rev E	Samsung	48.16203.095 rev 5	Intel	D1	AVC	2	5/16/07
Kingston	KVR667D2D8F5/1GI	NT5TU64M8BE-3C rev B	Nanya	2025286-002.A00 na		D1	Foxconn		5/21/07
Wintec Industries	39C935284E-IL	K4T51083QE-ZCE6 rev E	Samsung	D2F28B rev B		D1	Foxconn		5/25/07
Micron	MT18HTF12872FDY-667D6D4	MT47H64M8B6-3:D	Micron		IDT	C1	FDHS	2	6/18/07
Micron	MT18HTF12872FY-667D6D4	MT47H128M4B6-3:D	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT12872AF667.18FD6D4	MT47H64M8B6-3:D	Micron		IDT	C1	FDHS	2	6/18/07
Crucial Technology	CT12872AF667.18F4D6D4	MT47H128M4B6-3:D	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT12872AF667.9FE1E4	MT47H128M8HQ-3:E	Micron		Intel	GB D1	FDHS	1	6/18/07
Crucial Technology	CT12872AF667.18FD6E4	MT47H64M8B6-3:D	Micron		Intel	GB D1	FDHS	2	6/18/07
Crucial Technology	CT12872AF667.18F4D6E4	MT47H128M4B6-3:D	Micron		Intel	GB D1	FDHS	1	6/18/07
Crucial Technology	CT12872AF667.9FE1D4	MT47H128M8HQ-3:E	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT12872AF667.9FE1N6	MT47H128M8HQ-3:E	Micron		IDT	C1	FDHS	1	6/18/07
Samsung	M395T2953EZ4-CE66	K4T51083QE	Samsung		IDT	C1	FDHS	2	6/18/07

Fully Buffered ECC, DDR2-677 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Hynix	HYMP512F72CP8 D3-Y5	HY5PS12821CFP-Y5	Hynix		IDT	C1	FDHS	2	6/18/07
Qimonda	HYS72T128420HF E-3S-B	HYB18T512800B F	Qimonda		NEC	B5+	FDHS	2	6/18/07
Qimonda	HYS72T128520HF D-3S-B	HYB18T512800B F	Qimonda		IDT	C1	FDHS	2	6/18/07
Ventura Technology Group	D2-54VD80SIV-555	K4T51083QE-ZCE6 rev E	Samsung	D2F28B na	IDT	A1.5	AVC	2	7/15/07
Smart Modular Technologies	SG1287FBD64852-SEI	K4T51083QE-ZCE6 rev E	Samsung	M395T2953E Z0 na	IDT	C1	Foxconn	2	9/10/07
Avant Technology	AVF7228B52E566 7F0-ELHP	EDE5108AHSE-6E-E rev H	Elpida	50-1451-01-A rev A	Qimonda	C1	Foxconn	2	10/01/07
Kingston	KVR667D2D8F5/1 GI	HYB18T512800B F-3S rev B	Qimonda	2025286-002.A00 na	Intel	D1	Foxconn	2	10/04/07
Smart Modular Technologies	SG1287FBD64852-SEC1	K4T51083QE-ZCE6 rev E	Samsung	PG58G240N FBUB4RBS rev A	IDT	C1	Foxconn	2	10/10/07
Smart Modular Technologies	SG1287FBD64852-IBDC	HYB18T512800B F3S rev B	Qimonda	PG58G240N FBUB4RBS rev A	IDT	C1	Foxconn	2	10/21/07
Smart Modular Technologies	SG1287FBD64852-IBQ	HYB18T512805B F3S rev B	Qimonda	240-22-5 na	Qimonda	C1	Logitex	2	10/26/07
Apacer	78.0EG99.335	HYB18T512800B F3S rev B	Qimonda	48.16203.09 5 rev 5	Intel	D1	AVC	2	11/01/07
Hynix	HYMP112F72CP8 D3-Y5	HY5PS1G831CF P-Y5	Hynix		IDT	C1	FDHS	1	12/28/07
Hynix	HYMP112F72CP8 N3-Y5	HY5PS1G831CF P-Y5	Hynix		Intel	GB D1	FDHS	1	1/15/08
Samsung	M395T2863QZ4-CE66	K4T1G084QQ-HCE66	Samsung		IDT	C1	FDHS	1	2/23/08
ATP Electronics	AP28K72S8BHE6 S	K4T51083QE-ZCE6 rev E	Samsung	D2F28B na	NEC	D1	Foxconn	2	1/11/08
Dataram	DTM65507G	HYB18T512800B 2F3S rev B2	Qimonda	40053A rev B	IDT	C1	Foxconn	2	3/3/08
Aeneon	AET761FB00-30DB19X	HYB18T512800A F-3S-B	Qimonda		Qimonda	C1	FDHS	2	3/18/08
STEC	INT72W8W128M8 M-A03GZU	MT47H128M8HQ -3 rev E	Micron	D2F18A rev A	IDT	C1	AVC	1	4/5/08
Avant Technology	AVF7228B52E566 7F1NYBP-IS	NT5TU64M8BE-25C rev B	Nanya	D2F28B rev B	IDT	C1	Foxconn	2	5/25/08
Avant Technology	AVF7228B52E566 7F1ELJP-IS	EDE5108AJBG-8E-E rev J	Elpida	D2F28B rev B	IDT	C1	Foxconn	2	5/26/08
Viking	VR5EF287218FB WL1	HY5PS1G831CF P-Y5 rev C	Hynix	D2F18A rev A	IDT	L4	Foxconn	1	06/16/08
Micron	MT9HTF12872FY-667E2D6	MT47H128M8HQ -3:E	Micron		IDT	L4	FDHS	1	6/13/08
Crucial	CT12872AF667.9 E2D6	MT47H128M8HQ -3:E	Micron		IDT	L4	FDHS	1	6/13/08
TRS	TRS32403X	K4T1G084QQ-HCE6 rev Q	Samsung	M395T6553E Z0-P150 rev 4	IDT	C1	Samsung	1	07/03/08
TRS	TRS32405X	HYB18T512805B 2F3S rev B2	Qimonda	240-22-5G (W0815-7)	Qimonda	C1	Logitex	2	07/09/08
Qimonda	HYS72T128920EF A-3S-B2	HYB18T512800B 2F-3S	Qimonda		Qimonda	C1	FDHS	2	6/20/08

Fully Buffered ECC, DDR2-677 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Micron	MT18HTF12872F-DY-667F1D4	MT47H64M8CF-3:F	Micron		IDT	C1	FDHS	2	6/26/08
Crucial	CT12872AF667.18FF1D4	MT47H64M8CF-3:F	Micron		IDT	C1	FDHS	2	6/26/08
Qimonda	HYS72T128420EF-D-3S-B2	HYB18T512805B2F-3S	Qimonda		IDT	C1	FDHS	2	7/13/08
TRS	TRS32400X	HY5PS1G831CF-P-Y5 rev C	Hynix	0806-2DC	IDT	C1	Hynix	1	07/22/08
Qimonda	HYS72T128420EF-A-3S-B2	HYB18T512800B2F-3S	Qimonda		Qimonda	C1	FDHS	2	6/20/08
Memphis Electronic AG	DIMDD128M7264-8G-F01EL	EDE5108AJBG-6E-E rev J	Elpida	001404	Qimonda	C1	Logitex	2	10/01/08
Qimonda	HYS72T128501EF-D-3S-C2	HYB18T1G800C2F-3S-C2	Qimonda		IDT	AMB+	FDHS	1	8/24/08
Qimonda	HYS72T128901EF-A-3S-C2	HYB18T1G800C2F-3S-C2	Qimonda		Qimonda	C1	FDHS	1	9/22/08
Qimonda	HYS72T128401EF-A-3S-C2	HYB18T1G800C2F-3S-C2	Qimonda		Qimonda	C1	FDHS	1	9/22/08
Hynix	HYMP112F72CP8-D5-Y5	HY5PS1G831CF-P-Y5	Hynix		IDT	L4	FDHS	1	11/5/08
Dataram	DTM65526B	HYB18T1G800C2F-3S rev C2	Qimonda	40053A rev B	IDT	C1	Foxconn	1	12/08/08
Smart Modular Technologies	SG1287FB212852-HEDC	H5PS1G83EFR-Y5C rev E	Hynix	PG54G240NFBUB4RAS rev A	IDT	C1	Foxconn	1	01/20/09
ATP Electronics	AP28K72A8BJE6-S1	K4T1G084QQ-HCE6 rev Q	Samsung	SP240A08K1na	NEC	D1	Foxconn	1	02/11/09

¹ The GB C0 AMB revision does not support closed-loop throttling.

² This part may show voltage errors in the System Event Log (SEL) during boot. These errors will not affect system operation and can be ignored.

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

Note: Some memory modules may have thermal issues when used in a non-Intel 1U rack solution. It is advised that you verify any thermal limitations with your chassis supplier before purchasing a chassis.

Note: The use of x4 FBDIMMs will only be supported with the server system operating in "Performance" mode (default). The use of x4 FBDIMMs while the server system is configured to operate in "Acoustics" mode is not supported.

**Intel® Server Boards S5000PSL, S5000XSL, S5000XVN,
and Intel® Storage System SSR212MC2**
Fully Buffered ECC, DDR2-533 DIMM Modules
2 GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Kingston	KVR533D2D4F4 /2GI (INT/INF)	HYB18T512400A F-3.7	Qimonda (Infineon)		Intel	QG6400 C0	FDHS	x4	6/13/06
Samsung	M395T5750CZ4-CD51	K4T51043QC-ZCD5	Samsung		IDT	AMB048 0A5RJ A1.5		x4	6/1/06
ATP Electronics	K4T51043QC-ZCD5 rev C	AP56K72G4BHD 5S	Samsung		IDT 0480A5 RJ	Y0607D	Foxconn	x4	6/22/06
ATP Electronics	AP56K72G4BH D5S	K4T51043QC-ZCD5 rev C	Samsung	SP240G04 K1 na	IDT	A1.5	Foxconn	2	6/18/06
Smart Modular Technologies	TD2567FBD284 43IAI	HYB18T512400A F37 rev A	Qimonda (Infineon)	PG54G240 NFSUB1R ES rev B	Intel	C0	Foxconn	2	8/17/06
Smart Modular Technologies	SG2567FBD284 43IAI	HYB18T512400A F37 rev A	Qimonda (Infineon)	PG54G240 NFSUB1R ES rev B	Intel	C0	Foxconn	2	8/18/06
Smart Modular Technologies	SG2567FBD284 43IAD5	HYB18T512400A F37 rev A	Qimonda (Infineon)	PG54G240 NFSUB1R ES rev B	IDT	A1.5	Foxconn	2	9/18/06
Smart Modular Technologies	SG2567FBD284 43SCD5	K4T51043QC-ZCD5 rev C	Samsung	PG54G240 NFSUB1R ES rev B	IDT	A1.5	AVC	2	9/19/06
Dataram	DTM65504B	HYB18T512400A F37 rev A	Qimonda (Infineon)	40060A rev A	Intel	D1	Foxconn	2	10/2/06
Apacer	78.ADG9G.401	K4T51043QC-ZCD5 rev C	Samsung	48.1A205.0 11 rev 1	Intel	D1	Foxconn	2	11/11/06
Ventura Technology Group	D2-56TF82SIV-444	K4T51043QC-ZCD5 rev C	Samsung	D2F24E na	IDT	A1.5	AVC	2	12/16/06
Qimonda	HYS72T256420 HFN-3.7-A	HYB18T2G402A F-3.7	Qimonda		Intel	GB C0 ¹	FDHS	2	1/16/07
Qimonda	HYS72T256420 HFN-3.7-B	HYB18T512800B F-3.7-B	Qimonda		Intel	GB D1	FDHS	2	1/16/07
Hynix	HYMP525F72C P4N3-C4	HY5PS12421CF P-C4	Hynix		Intel	GB D1	FDHS	2	2/13/07
Kingston	KVR533D2D4F4 /2GI (INT/ELP)	EDE5104AESK-5C-E	Elpida		Intel	GB C0 ¹	FDHS	2	2/13/07
Qimonda	HYS72T256420 HFD-3.7-A	HYB18T512400A F-3.7-A	Infineon		IDT	1.5	FDHS	2	2/13/07
Qimonda	HYS72T256420 HFD-3.7-B	HYB18T512400A F	Qimonda		IDT	1.5	FDHS	2	2/13/07
Samsung	M395T5750CZ4-CD50	K4T51043QC-CZD5	Samsung		Intel	GB C0 ¹	FDHS	2	2/13/07
Qimonda	HYS72T256420 HFA-3.7-B	HYB18T512400B F-3.7-B	Qimonda		Qimonda	C1	FDHS	2	3/12/07
Kingston	KVR533D2D4F4 /2GI	E5104AHSE-6E-E rev H	Elpida	2025378-001.A00 na	Intel	D1	Foxconn	2	04/15/07
Kingston	KVR533D2D4F4 /2GI	NT5TU128M4BE-3C rev B	Nanya	2025378-001.A00 na	Intel	D1	Foxconn	2	10/22/07

Fully Buffered ECC, DDR2-533 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Ventura Technology Group	D2-56TF82SIV-444	K4T51043QE-ZCE6 rev E	Samsung	D2F24E	IDT	A1.5	AVC	2	12/04/08
Fully Buffered ECC, DDR2-667 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Dataram	DTM65522A	HYB18T1G800BF-3.7 rev B	Qimonda	40053A rev B	IDT	C1	Foxconn	2	06/17/08
Qimonda (Infineon)	HYS72T256420H FN-3S-A	HYB18T512400AF-3.7	Qimonda (Infineon)		Intel			2	7/13/06
ATP Electronics	AP56K72G4BHE6S	K4T51043QC-ZCE6 rev C	Samsung	SP240G04K1 na	IDT	A1.5	Foxconn	2	8/3/06
Smart Modular Technologies	SG2567FBD28452IAD5	HYB18T512400AF3S rev A	Qimonda (Infineon)	PG54G240NFSUB1RE S rev B	IDT	A1.5	Foxconn	2	8/3/06
ATP Electronics	AP56K72G4BHE6S	K4T51043QC-ZCE6 rev C	Samsung	SP240G04K1 na	NEC	B5 ²	Foxconn	2	9/1/06
Smart Modular Technologies	SG2567FBD28452IBD5	HYB18T512400BF-3S rev B	Qimonda (Infineon)	PG54G240NFSUB1RE S rev B	IDT	A1.5	Foxconn	2	9/18/06
Kingston	KVR667D2D4F5/2GI	HYB18T512400AF3S rev A	Qimonda (Infineon)	2025372-002.A00 na	Intel	D1	Foxconn	2	10/23/06
Wintec Industries	39945344C	K4T51043QC-ZCE6 rev C	Samsung	D2F24E rev E	IDT	A1.5	Foxconn	2	10/25/06
Dataram	DTM65508A	NT5TU128M4AE-3C rev A	Nanya	40060A rev A	Intel	D1	Foxconn	2	10/27/06
Apacer	78.ADG9H.401	K4T51043QC-ZCE6 rev C	Samsung	48.1A205.011 rev 1	Intel	D1	Foxconn	2	11/7/06
Kingston	KVR667D2D4F5/2GI	E5104AG-6E-E rev G	Elpida	2025378-001.A00 na	IDT	A1.5	Foxconn	2	11/22/06
Smart Modular Technologies	SG2567FBD28452-IAI	HYB18T512400AF3S rev A	Qimonda	240-25-4 na	IDT	A1.5	Foxconn	2	11/22/06
Super Talent Electronics	T667FB2G4(Channel)/S2GTF4EM S(OEM)	K4T51043QC-ZCE6 rev C	Samsung	BA2FRCE na	IDT	A1.5	Foxconn	2	12/4/06
Smart Modular Technologies	SG2567FBD28452-SCD	K4T51043QC-ZCE6 rev C	Samsung	M395T5750-CZ0 na	IDT	A1.5	Samsung	2	12/8/06
Ventura Technology Group	D2-56VF82SIV-555	K4T51043QC-ZCE6 rev C	Samsung	D2F24E na	IDT	A1.5	AVC	2	12/18/06
Viking	VR5EF567214EBWL1	HYB18T512400BF3S rev B	Qimonda	D2F24E	IDT	A1.5	Foxconn	2	12/18/06
Kingston	KVR667D2D4F5/2GI	NT5TU128M4AE-3C rev A	Nanya	2025372-002.A00 na	Intel	D1	Foxconn	2	1/11/07
Qimonda	HYS72T256420H FD-3S-A	HYB18T512400AF-3S-A	Qimonda		IDT	1.5	HS	2	1/16/07
Kingston	KVR667D2D4F5/2GI (INT/ELP)	E5104AG-6E-E	Elpida		Intel	D1	FDHS	2	1/16/07
Qimonda	HYS72T256420H FN-3S-B	HYB18T512400AF-3S-B	Qimonda		Intel	GB D1	FDHS	2	1/16/07
Samsung	M395T5750CZ4-CE61	K4T51043QC	Samsung		IDT	1.5	FDHS	2	1/16/07

Fully Buffered ECC, DDR2-667 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Qimonda	HYS72T256420H FA-3S-B	HYB18T512400BF -3S-B	Qimonda		Qimonda	C1	FDHS	2	1/29/07
Buffalo	D2F667CW- W2GMBJ	MT47H128M4B6-3 rev D	Micron	2DFE24F- AA na	NEC	B52	Foxconn	2	1/14/07
Kingston	KVR667D2D4F5/ 2GI	HYB18T512400BF 3S rev B	Qimonda	2025372- 002.A00 na	Intel	D1	Foxconn	2	1/28/07
Legacy Electronics Inc.	N527MYG90EN- 30R	EDE5104AG-6E-E rev G	Elpida	D2F24E rev E	NEC	B52	AVC	2	2/3/07
Legacy Electronics Inc.	B527M4C90EN- 30R	K4T51043QC- ZCE6 rev C	Samsung	D2F24E rev E	NEC	B52	AVC	2	2/6/07
Qimonda	HYS72T256420H FD-3S-B	HYB18T512400AF	Qimonda		IDT	1.5	FDHS	2	2/5/07
Samsung	M395T5750EZA- CE65	K4T51043QE	Samsung		Intel	GB D1	FDHS	2	2/5/07
Micron	MT36HTF25672F Y-667D1E3	MT47H128M4B6-3	Micron		Intel	GB C0 ¹	FDHS	2	2/13/07
Qimonda	HYS72T256420H FE-3S-B	HYB18T512400AF -3S-A	Qimonda		NEC	B5+	FDHS	2	2/13/07
Wintec Industries	WD2FE02GX818- 667G-HE	MT47H128M8HQ- 3:E rev E	Micron	D2F28B na	Intel	D1	Foxconn		2/16/07
Viking	VR5EF567214EB WL2	HYB18T512400BF 3S rev B	Qimonda (Infineon)	D2F24E	NEC	B5+	Foxconn	2	2/23/07
Micron	MT18HTF25672F DY-667E1D4	MT47H128M8HQ- 3:E	Micron		IDT	C1	FDHS	2	2/26/07
Micron	MT18HTF25672F DY-667E1E4	MT47H128M8HQ- 3:E	Micron		Intel	GB D1	FDHS	2	2/26/07
ATP Electronics	AP56K72G4BHE 6S	K4T51043QE- ZCE6 rev E	Samsung	SP240G04K 1 na	NEC	B5 ²	Foxconn	2	4/5/07
Hynix	HYMP525F72BP 4D2-Y5	HY5PS12421BFP- Y5	Hynix		IDT	1.5	FDHS	2	4/9/07
Hynix	HYMP525F72CP 4D3-Y5	HY5PS12421BFP- Y5	Hynix		IDT	C1	FDHS	2	4/9/07
Micron	MT18HTF25672F DY-667E1N6	MT47H128M8HQ- 3:E	Micron		NEC	B5+	FDHS	2	4/9/07
Kingston	KVR667D2D8F5/ 2GI	MT47H128M8HQ- 3 rev E	Micron	2025286- 002.A00 na	Intel	D1	Foxconn	2	4/09/07
STEC Inc	INT72W4M256M 8M-A03GZU	HYB18T512400BF 3S rev B	Qimonda	D2F24E na	IDT	A1.5	AVC	2	4/11/07
Dataram	DTM65508D	HYB18T512400BF 3S rev B	Qimonda	40060A rev A	Intel	D1	Foxconn	2	4/20/07
Dataram	DTM65508E	HY5PS12421CFP- Y5 rev C	Hynix	40060A rev A	INTEL	D1	Foxconn	2	4/20/07
Kingston	KVR667D2D4F5/ 2GI	HY5PS12421BFP- Y5 rev B	Hynix	0708-6A	IDT	A1.5	AVC	2	4/20/07
Micron	MT18HTF25672F Y-667E1E4	MT47H256M4	Micron		Intel	GB D1	FDHS	1	5/1/07
Micron	MT36HTF25672F Y-667D1E4	MT47H128M4	Micron		Intel	GB D1	FDHS	2	5/1/07
Smart Modular Technologies	SG2567FBD2845 2IBD5	HYB18T512400BF 3S rev B	Qimonda	PG54G240 NFSUB1RE S rev C	IDT	A1.5	Foxconn	2	5/14/07
Apacer	75.A72AI.G00	K4T51043QE- ZCE6 rev E	Samsung	48.1A205.0 11 rev 1		D1	AVC		5/23/07
Legacy Electronics Inc.	M527NAE90BE- 30R	MT47H128M8HQ- 3 rev E	Micron	D2F28B rev B		A1.5	AVC		6/09/07

Fully Buffered ECC, DDR2-667 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Micron	MT18HTF25672FY-667E1D4	MT47H256M4HQ-3:E	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT25672AF667.18F4E1D4	MT47H256M4HQ-3:E	Micron		IDT	C1	FDHS	1	6/18/07
Crucial Technology	CT25672AF667.18FE1E4	MT47H128M8HQ-3:E	Micron		Intel	GB D1	FDHS	2	6/18/07
Crucial Technology	CT25672AF667.18F4E1E4	MT47H256M4HQ-3:E	Micron		Intel	GB D1	FDHS	1	6/18/07
Crucial Technology	CT25672AF667.36FD1E4	MT47H128M4B6-3:D	Micron		Intel	GB D1	FDHS	2	6/18/07
Crucial Technology	CT25672AF667.18FE1D4	MT47H128M8HQ-3:E	Micron		IDT	C1	FDHS	2	6/18/07
Crucial Technology	CT25672AF667.18FE1N6	MT47H128M8HQ-3:E	Micron		IDT	C1	FDHS	2	6/18/07
Samsung	M395T5750EZ4-CE66	K4T51043QE	Samsung		IDT	C1	FDHS	2	6/18/07
Micron	MT36HTF25672FY-667D1D4	MT47H128M4B6-3	Micron		IDT	C1	FDHS	2	7/16/07
Qimonda	HYS72T256920HFA-3S-B	HYB18T512400AF	Qimonda		Qimonda	C1	FDHS	2	6/13/07
Buffalo	D2F667CW-2GMEJ	MT47H128M8HQ-3 rev E	Micron	2DFB28F-AC	IDT	C1	Foxconn	2	8/22/07
Smart Modular Technologies	SG2567FBD28452IBDC	HYB18T512400BF3S rev B	Qimonda	PG54G240NFSUB1RES rev C	IDT	C1	Foxconn	2	9/27/07
Kingston	KVR667D2D4F5/2GI	NT5TU128M4BE-3C rev B	Nanya	2025378-001.A00 na	Intel	D1	Foxconn	2	10/03/07
Smart Modular Technologies	SG2567FBD28452-IBQ	HYB18T512405BF3S rev B	Qimonda	0712 (240-25-4)	Qimonda	C1	Logitex	2	10/19/07
Qimonda	HYS72T256520HFD-3S-B	HYB18T512400BF-3S-B	Qimonda		IDT	C1	FDHS	2	11/19/07
Hynix	HYMP125F72CP8N3-Y5	HY5PS1G831CFP-Y5	Hynix		Intel	GB D1	FDHS	2	12/28/07
Hynix	HYMP125F72CP8D3-Y5	HY5PS1G831CFP-Y5	Hynix		IDT	C1	FDHS	2	12/28/07
Kingston	KVR667D2D8F5/2GI	E1108ACBG-6E-E rev C	Elpida	2025286-002.A00 na	Intel	D1	Foxconn	2	2/13/08
Smart Modular Technologies	SG2567FBD28452-HCD	HY5PS12421C-FP-Y5 rev C	Hynix	0746-ICC (104B)	IDT	C1	Hynix	2	2/15/08
Samsung	M395T5663QZ4-CE66	K4T1G084QQ-HCE66	Samsung		IDT	C1	FDHS	2	2/26/08
ATP Electronics	AP56K72G4BHE6S	K4T51043QE-ZCE6 rev E	Samsung	D2F24E na	NEC	D1	Foxconn	2	1/18/08
Dataram	DTM65508F	HYB18T512400B2F3S rev B2	Qimonda	40084A rev A	IDT	C1	Foxconn	2	3/1/08
Aeneon	AET861FB00-30DB19X	HYB18T512400AF-3S-B	Qimonda		Qimonda	C1	FDHS	2	3/18/08
Smart Modular Technologies	SG2567FB212852HCDL	HY5PS1G831CFP-Y5 rev C	Hynix	PG58G240NFBUB4RBS rev A	IDT	L4	Foxconn	2	4/4/08
STEC	INT72W4M256M8M-C03GZU	HYB18T512400B2F3S rev B2	Qimonda	D2F24E rev E	IDT	A1.5	AVC	2	4/6/08
ATP Electronics	AP56K72S8BJE6S	K4T1G084QQ-HCE6 rev Q	Samsung	D2F28B rev B	NEC	D1	Foxconn	2	04/14/08

Fully Buffered ECC, DDR2-667 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Smart Modular Technologies	SG2567FBD12852HCDC	HY5PS1G831CFP-Y5 rev C	Hynix	PG58G240NFBUB4RBS rev A	IDT	C1	Foxconn	2	04/28/08
Micron	MT18HTF25672FDY-667E1N8	MT47H128M8HQ-3:E	Micron		NEC	D1	FDHS	2	4/26/08
Micron	MT18HTF25672FDY-667E2D6	MT47H128M8HQ-3:E	Micron		IDT	L4	FDHS	2	4/29/08
Crucial	CT25672AF667.18FE1N8	MT47H128M8HQ-3:E	Micron		NEC	D1	FDHS	2	5/21/08
Crucial	CT25672AF667.18FE2D6	MT47H128M8HQ-3:E	Micron		IDT	L4	FDHS	2	5/21/08
Crucial	CT25672AF667.36FD1D4	MT47H128M4B6-3:D	Micron		IDT	C1	FDHS	2	5/21/08
Avant Technology	AVF7256B61E5667F0ELCP-IS	EDE1108ACBG-8E-E rev C	Elpida	50-1451-01A rev A	IDT	C1	Foxconn	2	5/31/08
Qimonda	HYS72T256421EFA-3S-C2	HYB18T1G800C2F-3S	Qimonda		Qimonda	C1	FDHS	2	6/11/08
Micron	MT36HTF25672FY-667F1N6	MT47H128M4CF-3:F	Micron		NEC	B5+	FDHS	2	6/7/08
Crucial	CT25672AF667.36FF1N6	MT47H128M4CF-3:F	Micron		NEC	B5+	FDHS	2	6/7/08
STEC	INT72W8W256M8M-A03GZU	K4T1G084QQ-HCE6 rev Q	Samsung	D2F28B rev B	IDT	A1.5	AVC	2	07/13/08
TRS	TRS32406X	K4T1G084QQ-HCE6 rev Q	Samsung	M395T2953EZ0-P110 rev 4	IDT	C1	Samsung	2	07/02/08
TRS	TRS32408X	HYB18T1G800C2F-3S rev C2	Qimonda	240-22-5G(W0815-7)	Qimonda	C1	Logitex	2	07/11/08
Qimonda	HYS72T256920EFA-3S-B2	HYB18T512405B2F-3S	Qimonda		Qimonda	C1	FDHS	2	7/4/2008
Dataram	DTM65521A	HY5PS1G831CFP-Y5 rev C	Hynix	40053A rev B	IDT	C1	Foxconn	2	08/01/08
TRS	TRS32401X	HY5PS1G831CFP-Y5 rev C	Hynix	0821-1DC	IDT	C1	Hynix	2	07/23/08
Qimonda	HYS72T256521EFD-3S-C2	HYB18T1G800C2F-3S	Qimonda		IDT	AMB+	FDHS	2	7/18/08
Qimonda	HYS72T256921EFA-3S-C2	HYB18T1G800C2F-3S-C2	Qimonda		Qimonda	C1	FDHS	2	9/18/08
Qimonda	HYS72T256420EFA-3S-B2	HYB18T512405B2F-3S	Qimonda		Qimonda	C1	FDHS	2	2/10/2008
Kingston	KVR667D2D4F5/2GI	HYB15T512400CF25 rev C	Qimonda	240-35-1	IDT	C1	Logitex	2	10/28/08
Hynix	HYMP125F72CP8D5-Y5	HY5PS1G831CFP-Y5	Hynix		IDT	L4	FDHS	2	11/5/08
Dataram	DTM65521B	HYB18T1G800C2F-3S rev C2	Qimonda	40053A rev B	IDT	C1	Foxconn	2	11/25/08
Ventura Technology Group	D2-56VF82SIV-555	K4T51043QE-ZCE6 rev E	Samsung	D2F24E	IDT	A1.5	AVC	2	11/12/08

Fully Buffered ECC, DDR2-667 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Ventura Technology Group	D2-56VF82SIV-555	K4T51043QG-HCE6 rev G	Samsung	M395T5750E Z0 P081 (0842)	IDT	C1	Samsung	2	11/21/08
ATP Electronics	AP56K72S8BJE6S7	K4T1G084QQ-HCE6 rev Q	Samsung	SP240S08K1	Montage Technology	B2	Foxconn	2	01/26/09
Smart Modular Technologies	SG2567FB212852HEDC	H5PS1G83EFR-S5C rev E	Hynix	PG58G240N FBUB4RBS rev A	IDT	C1	Foxconn	2	01/21/09
ATP Electronics	AP56K72S8BJE6S	K4T1G084QE-HCE6 rev E	Samsung	SP240S08K1	NEC	D1	Foxconn	2	02/04/09
Dataram	DTM65527B	HY5PS1G431CFP-Y5 rev C	Hynix	40052A rev B	IDT	C1	Foxconn	1	02/12/09
Ventura Technology Group	D2-56VF82SIV-555	K4T51043QE-ZCE6 rev E	Samsung	M395T5750E Z0 P081	IDT	C1	Samsung	2	02/16/09

¹ The GB C0 AMB revision does not support closed-loop throttling.

² This part may show voltage errors in the System Event Log (SEL) during boot. These errors will not affect system operation and can be ignored.

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel® Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

Note: Some memory modules may have thermal issues when used in a non-Intel 1U rack solution. It is advised that you verify any thermal limitations with your chassis supplier before purchasing a chassis.

Note: The use of x4 FBDIMMs will only be supported with the server system operating in "Performance" mode (default). The use of x4 FBDIMMs while the server system is configured to operate in "Acoustics" mode is not supported.

Intel® Server Boards S5000PSL, S5000XSL, S5000XVN, and Intel® Storage System SSR212MC2
Fully Buffered ECC, DDR2-533 DIMM Modules
4 GB Sizes (512Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Micron	MT36HTS51272FY-53EA2D3	MT47H512M4THJ-3E	Micron		IDT 1.5	AMB0480A5RJ A1.5			6/15/06
Qimonda	HYS72T512422HFD-3.7-A	HYB18T2G402AF-3.7	Qimonda		IDT	1.5	FDHS	2	2/13/07
Viking	VR5EF127214FBSL1	MT47H256M4HQ-37E rev E	Micron		IDT	A5	Foxconn	2	2/16/07
Qimonda	HYS72T512422HFN-3.7-A	HYMB18T2G402AF-3.7	Qimonda		Intel	GB C0 ¹	FDHS	2	2/26/07
Samsung	M395T5166AZ4-CD50	K4T2G264QA	Samsung		Intel	GB C0 ¹	FDHS	2	2/26/07
Samsung	M395T5166AZ4-CD51	K4T2G264QA-ZCD5	Samsung		IDT	1.5	FDHS	2	3/12/07

Fully Buffered ECC, DDR2-667 DIMM Modules
4 GB Sizes (512Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Crucial Technology	CT51272AF667.36FE1E4	MT47H256M4HQ-3:E	Micron		Intel	GB D1	FDHS	2	6/18/07
Crucial Technology	CT51272AF667.36FE1D4	MT47H256M4HQ-3:E	Micron		IDT	C1	FDHS	2	6/18/07
Crucial Technology	CT51272AF667.36FE1N6	MT47H256M4HQ-3:E	Micron		IDT	C1	FDHS	2	6/18/07
Samsung	M395T5160CZ4-CE66	K4T1G044QC-ZCE6	Samsung		IDT	C1	FDHS	2	6/18/07
Smart Modular Technologies	SG5127FBD225652MEC	MT47H256M4HQ-3 rev E	Micron	PG54G240NFSUB2RES rev A	IDT	C1	Foxconn	2	07/23/07
Smart Modular Technologies	SG5127FBD225652-SC	K4T1G044QC-ZCE6 rev C	Samsung	M395T5750EZ0 na	IDT	A1.5	Samsung	2	8/27/07
Smart Modular Technologies	SG5127FBD225652SCD	K4T1G044QC-ZCE6 rev C	Samsung	M395T5750EZ0 na	IDT	C1	Samsung	2	8/30/07
ATP Electronics	AP12K72G4BJE6S	K4T1G044QC-ZCE6 rev C	Samsung	D2F24E na	NEC	D1	Foxconn	2	12/19/07
Dataram	DTM65510C	HY5PS1G431CFP-Y5 rev C	Hynix	40084A rev A	IDT	C1	Foxconn	2	1/4/08
Hynix	HYMP151F72CP4N3-Y5	HY5PS1G831CFP-Y5	Hynix		Intel	GB D1	FDHS	2	1/7/08
Hynix	HYMP151F72CP4D3-Y5	HY5PS1G831CFP-Y5	Hynix		IDT	C1	FDHS	2	1/7/08
Samsung	M395T5160QZ4-CE66	K4T1G044QQ-HCE66	Samsung		IDT	C1	FDHS	2	2/20/08
Smart Modular Technologies	SG5127FBD225652HCD	HY5PS1G431CFP-Y5 rev C	Hynix	0746-4CC rev C	Intel	D1	Hynix	2	1/14/08
ATP Electronics	AP12K72G4BJE6S	K4T1G044QQ-HCE6 rev Q	Samsung	D2F24E rev E	NEC	D1	Foxconn	2	3/14/08

**Fully Buffered ECC, DDR2-667 DIMM Modules
4 GB Sizes (512Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Kingston	KVR667D2D4F5/4Gi	E1104ACSE-6E-E rev C	Elpida	2025378-001.A00	Intel	D1	Foxconn	2	4/2/08
Wintec Industries	39955444Q	K4T1G044QQ-HCE6 rev Q	Samsung	D2F24E rev E	IDT	C1	Foxconn	2	04/13/08
Micron	MT36HTF51272FY-667E2D6	MT47H256M4HQ-3:E	Micron		IDT	L4	FDHS	2	4/26/08
Micron	MT36HTF51272FY-667E1N8	MT47H256M4HQ-3:E	Micron		NEC	D1	FDHS	2	4/30/08
Crucial	CT51272AF667.36FE2D6	MT47H256M4HQ-3:E	Micron		NEC	B5+	FDHS	2	5/21/08
Crucial	CT51272AF667.36FE1N8	MT47H256M4HQ-3:E	Micron		NEC	D1	FDHS	2	5/21/08
Avant Technology	AVF7251B62E5667F4ELCP-IS	EDE1104ACSE-8E-E rev C	Elpida	BA2FRUCU 3.10 rev 3.10	IDT	C1	Foxconn	2	5/30/08
Smart Modular Technologies	SG5127FBD12852HCDL	HY5PS1G831CFP-Y5 rev C	Hynix	PG54G240 NFBUBGA1 rev A	IDT	L4	Foxconn	4	07/10/08
TRS	TRS32402X	HYB18T1G405C2 F-3S rev C2	Qimonda	240-36-1G (S0750)	Qimonda	C1	Logitex	2	07/08/08
Viking	VR5EF127218FBWL1	HY5PS1G831CFP-Y5 rev C	Hynix	D2F48W	IDT	L4	Foxconn	4	07/12/08
Qimonda	HYS72T512920EFA-3S-C2	HYB18T1G400C2 F-3S	Qimonda		Qimonda	C1	FDHS	2	6/18/08
TRS	TRS32404X	HY5PS1G431CFP-Y5 rev C	Hynix	0815-3ECna	IDT	C1	Hynix	2	07/24/08
Netlist, Inc.	NMD517A21207FD53I5HC	HY5PS1G831CFP-Y5 rev C	Hynix	0367-10 rev A	IDT	L4	Netlist	4	6/20/08
Smart Modular Technologies	SG5127FB212852HCDM	HY5PS1G831CFP-Y5 rev C	Hynix	D2F48W	IDT	L4	Foxconn	4	8/14/08
ATP Electronics	AP12K72F8BJE6S1	K4T1G084QQ-HCE6 rev Q	Samsung	BA2FRCG	NEC	D1	Foxconn	4	09/23/08
Dataram	DTM65526A	HY5PS1G831CFP-Y5 rev C	Hynix	40053A rev B	IDT	C1	Foxconn	1	09/23/08
Qimonda	HYS72T512420EFA-3S-C2	HYB18T1G800C2 F-3S-C2	Qimonda		Qimonda	C1	FDHS	2	10/2/08
Dataram	DTM65523A	HY5PS1G831CFP-Y5 rev C	Hynix	40099A rev A	IDT	L4	Foxconn	2	10/03/08
Smart Modular Technologies	SG647FB264852QB2L	B2	Qimonda	PG54G240 NFBUB4RAS rev A	IDT	L4	Foxconn	1	10/15/08
Hynix	HYMP151F72CP4D5-Y5	HY5PS1G431CFP-Y5	Hynix		IDT	L4	FDHS	2	11/5/08
Dataram	DTM65523B	HYB18T1G800C2 F-3S rev C2	Qimonda	40099A rev A	IDT	L4	Foxconn	4	11/26/08
Wintec Industries	39955383C	HY5PS1G831CFP-Y5 rev C	Hynix	D2F48W	IDT	L4	Foxconn	4	12/10/08

**Fully Buffered ECC, DDR2-667 DIMM Modules
4 GB Sizes (512Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Qimonda	HYS72T512520E FD-3S-C2	HYB18T1G400C2 F-3S-C2	Qimonda	IDT	L4	FDHS	Qimonda	2	10/02/08
ATP Electronics	AP12K72G4BJE6 S7	K4T1G044QQ- HCE6 rev Q	Samsung	D2F24E	Montage Technology	B2	Foxconn	2	01/27/09
Legacy Electronics Inc.	B547RYC9BEP- 30R	K4T1G044QQ- HCE6 rev Q	Samsung	LE36D2FG 34FRE rev B (5107 Raw Card E)	IDT	C1	AVC	2	01/12/09
ATP Electronics	AP12N72G4BJE6 S0	K4T1G044QQ- HYE6 rev Q	Samsung	M395T5750 EZ0	IDT	C1	Samsung	2	02/02/09

¹ The GB C0 AMB revision does not support closed-loop throttling.

² This part may show voltage errors in the System Event Log (SEL) during boot. These errors will not affect system operation and can be ignored.

**Intel® Server Board S5000PAL
Fully Buffered ECC, DDR2-667 DIMM Modules
8 GB Sizes (1G x72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	AMB Vendor	AMB Revision	Heat-sink Vendor	Rank	Date
Smart Modular Technologies	SG1027FB251252 -SA	K4T4G264QA- HCE6 rev A	Samsung	M395T5166 AZ0-PO8	IDT	C1	Samsung	2	10/28/08

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

Note: Some memory modules may have thermal issues when used in a non-Intel 1U rack solution. It is advised that you verify any thermal limitations with your chassis supplier before purchasing a chassis.

Note: The use of x4 FBDIMMs will only be supported with the server system operating in "Performance" mode (default). The use of x4 FBDIMMs while the server system is configured to operate in "Acoustics" mode is not supported.

4. Intel® Server Board S5000PSLROMB RAID Controller Tested Memory

The following table's list DIMM devices tested to be compatible with the RAID subsystem of the Intel® Server Board S5000PSLROMB. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel requires the use of ECC Registered DDR2 memory in the Intel® Server Board S5000PSLROMB RAID Controller and Intel® RAID Controller SROMBSAS18E.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the RAID subsystem of the Intel® Server Board S5000PSLROMB may result in unpredictable operation and data loss.

Supported memory sizes: 256MB and 512MB sizes only

Caution: Third party memory vendors may use the same module part number with different DRAM vendors and die revisions. To insure proper system operation, verify that each DRAM vendor and die revision has been separately tested and qualified. Please notify CMTL if there is a discrepancy. This list is subject to change without notice.

Note: This list is not intended to be all-inclusive. It is provided as a convenience to Intel's general customer base, but Intel does not make any representations or warranties whatsoever regarding the quality, reliability, functionality, or compatibility of these memory modules.

Intel® Server Board S5000PSLROMB RAID Controller Registered ECC DDR2 DIMM Modules 256 MB Sizes (32Mx72)						
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Speed
Micron	MT9HTF3272Y-40EB2		Micron		8/22/06	400
Qimonda	HYS72T32000HR-5-A		Qimonda)		8/22/06	400
Samsung	M393T3253FG0-CCC		Samsung		8/22/06	400
Samsung	M393T3253FZ0-CCC		Samsung		8/22/06	400
Samsung	M393T3253FZ3-CCC		Samsung		8/22/06	400
Micron	MT9HTF3272Y-53EB2				6/21/07	533
Registered ECC DDR2 DIMM Modules 512 MB Sizes (64Mx72)						
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Speed
Hynix	HYMP564R72P8-E3		Hynix		8/22/06	400
Qimonda	HYS72T64000HR-5-A		Qimonda		8/22/06	400
Samsung	M393T6553BZ0-CCC		Samsung		8/22/06	400
Samsung	M393T6553CZ0-CCC		Samsung		8/22/06	400
Samsung	M393T6553CZ3-CCC		Samsung		8/22/06	400
Micron	MT9HTF6472Y-40EB2		Micron		8/22/06	400
Micron	MT9HTF6472Y-53ED4				6/21/07	533
Qimonda	HYS72T64000HR-3.7-B				6/21/07	533
Qimonda	HYS72T64000HR-5-B		Qimonda		12/10/07	400
Micron	MT9HTF6472PY-667D2		Micron		12/10/07	667

(+) This vendor is part of the CMTL Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

Caution: Some modules on this list may contain “stacked” DRAM parts. These parts may have thermal & physical limitations in some chassis configurations. It is advised to verify that your chassis configuration will support “stacked” parts before purchase.

Verify that the DRAM part number matches the DRAM on this list before purchasing.

5. Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpinc.com/	Tel (1) 408-732-5000, ext 5858 Fax 408-732-5893 sales@atpusa.com
ATP Electronics -- Taiwan Inc.	http://www.atpinc.com/	Tel 011-886-2-2659-6368 Fax 886-2-2659-4982
Avant Technology	http://www.avanttechnology.com	Brad Scoggins Phone: (512)491-7411 Fax: (512)491-7412 brads@avanttechnology.com
Aved Memory Products	http://www.avedmemory.com/	
Buffalo Technology	http://www.buffalotech.com/	(800) 967-0959 memory@buffalotech.com
Centon Electronics	http://www.centon.com	Tel: 949-855-9111 Fax: 949-855-6035
Corsair	http://www.corsairmicro.com/	Tel: 510-657-8747 Fax: 510-657-8748
Crucial	http://www.crucial.com/intel	Toll-free: 888-363-4167 (US & Canada only) Tel: 208-363-5790 Fax: 208-363-5560 crucial.sales@micron.com
Dane-Elec	http://www.dane-memory.com/	Michal Hassan @ (949)450-2941 or email @ Michal@Dane-memory.com
Dataram	http://www.dataram.com/	Paul Henke, 800-328-2726 x2239 in USA 609-799-0071 phenke@dataram.com
GoldenRAM	http://www.goldenram.com	Jason M. Barrette @ 800-222-861 x7546 jasonb@goldenram.com or Michael E. Meyer @800-222-8861 x7512 michaelm@goldenram.com
Hitachi	http://semiconductor.hitachi.com/pointer/	
Hyundai/Hynix Semiconductor	http://www.hea.com/	
Qimonda (Infineon)	http://www.Qimonda(Infineon).com/business/distribut/index.htm	
ITAUCOM	http://www.itaucom.com.br	
JITCO CO LTD	http://www.jitco.net/	Seong Jeon Tel: 82-32-817-9740 s.jeon@jitco.net
Kingston	http://www.kingston.com	US.- Call (877) 435-8726 Asia – Call 886-3-564-1539 Europe – Call +44-1932-755205
Legacy Electronics Inc.	http://www.legacyelectronics.com	U.S. Contact: Gary Ridenour, 949-498-9600, Ext 350 European Contact: 49 89 370 664 11
Legend	http://www.legend.com.au	
Micron	http://www.micron.com	
MSC Vertriebs GmbH	http://www.msc-ge.com	Andreas Gruendl Tel: +49-89-945532-34 Fax: +44-89-945532-41 agru@msc-ge.com
Nanya Technology	http://www.ntc.com.tw	Winson Shao 886-3-328-1688, Ext 6018 winsonshao@ntc.com.tw

Vendor Name	Web URL	Vendor Direct Sales Info
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com
Peripheral Enhancements	http://www.peripheral.com/	
Samsung	http://www.korea.samsungsemi.com/locate/buy/list_na.html	For US customers go to: http://www.mymemorystore.com/
Silicon Tech	http://www.silicontech.com/contact/salescontacts.shtml	
Simple Tech	http://www.simpletech.com	Ron Darwish @ (949) 260-8230 or email @ Rdarwish@Simpletech.com
SMART Modular Technologies	www.smartm.com/channel/hpc/	Gene Patino (949) 439-6167 Gene.Patino@Smartm.com
Super Talent Electronics	http://www.supertalentmemory.com	David Crume (408) 957-8181 support@supertalentmemory.com
Swissbit	http://www.swissbit.com	Tony Cerreta Tel: 914-935-1400 x240 Fax: 914-935-9865 tony.cerreta@swissbitna.com
TechnoLinc Corporation	http://www.technolinc.com	David Curtis 510-445-7400 davidc@technolinc.com
TRS* Tele-Radio-Space GmbH	http://www.certified-memory.com http://www.certified-memory.de	Vender Direct Sales Info: Andreas Gruendl Tel: +49.89.945532-34 Fax: +49.89.945532-41 Andreas.gruendl@trs-eu.com
Unigen	http://www.unigen.com	
Ventura Technology Inc	http://www.venturatech.com	Sam Lewis 760 724-8700 ext. 103
Viking InterWorks	http://www.vikinginterworks.com	Adrian Proctor Tel: 949-643-7255 adrian.proctor@sanmina-sci.com
Virtium Technology Inc	http://www.virtium.com	Tod Skelton @ (949) 460-0020 ext. 146 or email @ tod.skelton@virtium.com
Wintec Industries	http://www.wintecindustries.com	Tel 510-360-6300 Fax 510-770-9338

6. CMTL* (Computer Memory Test Labs)

CMTL is a privately owned and operated memory testing organization responsible for testing a broad range of memory products. Memory devices tested by CMTL must undergo a rigorous battery of tests to ensure that the product will perform the intended server functions. Memory capability is a major factor your customers consider. CMTL has the ability to test and certify memory on Intel-based server platforms. The list of memory modules, which have undergone testing through the CMTL facility, should be referenced when considering modules for integration into this Intel server product. Stringent standards with regard to manufacturing procedures and quality must be met to pass the exacting tests required for qualification through the independent testing facility. Testing is performed by CMTL with Intel server products and test procedures defined by Intel's Memory Qualification Lab. Intel routinely audits the CMTL facility to ensure all procedures, process handling, and testing methodologies are met.

IMPORTANT NOTE

DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts or vice-versa. Mixing dissimilar metal contact types has been shown to result in unreliable memory operation. Intel recommends similar manufacturer and similar speeds in each Rank on the memory module. Mixing of dissimilar memory manufacturer devices or dissimilar memory device speeds is not recommended. This document contains information which is the proprietary property of Intel Corporation. Nothing in this document constitutes a guaranty, warranty, or license, express or implied. Intel has tested the following DIMMs for minimum electrical and functional compatibility with the Intel® Server Board. This listing is not intended to be all inclusive; it only represents the DIMMs Intel or CMTL has tested. Users of this list are reminded to check with the DIMM manufacturer or Distributor to ensure that a particular DIMM model is adequate for the intended purpose of the Intel® Server Board. Intel provides no indemnities for and expressly disclaims all liabilities for any and all such guaranties, representations, and warranties (oral or written) whether express or implied, related to DIMMs in a Intel® Server Board product, including without limitation to: fitness for a particular purpose; merchantability; noninfringement of intellectual property or other rights of any third party or of Intel. The reader is advised that third parties may have intellectual property rights which may be relevant to this document and the technologies discussed herein, and is advised to seek the advice of competent legal counsel, without obligation of Intel. Intel retains the right to make changes to this document at any time, without notice. Intel makes no warranty or representation with respect to the use of this document or reliance by the reader upon its contents, and assumes no responsibility for any errors which may appear in the document nor does it make a commitment to update the information contained herein.

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