

**Intel[®] Server Boards SE8500HW4 and
SE8501HW4
Memory List Test Report Summary**

Revision 32.0
August 2008

Revision History

Date	Rev	Modifications
Apr/05	1.0	Initial Release.
Jun/05	2.0	Added Samsung* parts. (In shaded area)
Sept/05	3.0	Added ATP Electronics* 512MB part. Added Dataram* 1GB part. Added Smart Modular Technologies* and Dataram 2GB parts. (In shaded area)
Oct/05	4.0	Added Netlist* and Samsung 1GB parts. Added Netlist and Samsung 2GB parts. Added Hynix* and Micron* 4GB parts. (In shaded area)
Nov/05	5.0	Added Samsung 256MB part. Added Ventura* and Samsung 512MB parts. Added Samsung, Micron, ATP, Kingston* and Smart 1GB parts. Added Samsung, Hynix, Micron and Smart 2GB parts. (In shaded area)
Dec/05	6.0	Added Smart and ATP 1GB parts. Added Kingston, ATP and Apacer 2GB parts. Added Kingston 512MB parts. (In shaded area)
Jan/06	7.0	Added Smart and Kingston 4GB parts. (In shaded area)
Jan/06	8.0	Added Nanya 512MB, 1GB and 2GB parts. Added Ventura 1GB part. (In shaded area)
Feb/06	9.0	Added Kingston 1GB part. (In shaded area)
Mar/06	10.0	Added Dataram and Smart 1GB parts. Added Legend 512MB and 1GB parts. (In shaded area)
Mar/06	11.0	Added Kingston 1GB and 2GB parts. Added ATP 1GB part. Added TRS 512MB part. (In shaded area)
May/06	12.0	Infineon name change to Qimonda effective May 1 st , 2006. Added Ventura 512MB part. Added TRS 1G & 2G parts. Added Kingston 2G parts. (In shaded area)
June/06	13.0	Added Apacer, Kingston and Wintec parts. (In shaded area)
July/06	14.0	Added Kingston 512MB, 1GB, and 2GB parts. Added Smart 1GB part. (In shaded area)
Aug/06	15.0	Added TRS 1GB part. Added Dataram 2GB part. (In shaded area)
Aug/06	16.0	Added TRS 512MB part. Added ATP Electronics and Dane-Elec 1GB parts. (In shaded area)
Oct/06	17.0	Added Apacer, TRS, and Kingston 512MB parts. Added Apacer, Smart, Kingston, and TRS 1GB parts. Added Apacer, Kingston, and TRS 2GB parts. (In shaded area)
Nov/06	18.0	Updating verbiage to include 800T product
Jan/07	19.0	Added Kingston 1GB part. Added Kingston and Smart 2GB parts. (In shaded area)
Feb/07	20.0	Added ATP Electronics 2GB parts. (In shaded area)
Mar/07	21.0	Added TRS 1GB part. Added Kingston 4GB part. (In shaded area)
Mar/07	22.0	Updated contact information. No new parts added.
May/07	23.0	Added Smart 4GB part. (In shaded area)
May/07	24.0	Updated SROMBSAS18E supported memory sizes. Additional memory parts added. (In shaded area)
Aug/07	25.0	Additional memory parts added. (In shaded area)
Oct/07	26.0	Updated some contact information. Additional memory parts added. (In shaded area)

Intel® Server Board SE8500HW4 and SE8501HW4

Nov/07	27.0	Additional memory parts added. (In shaded area)
Jan/08	28.0	Additional memory parts added. (In shaded area)
Mar/08	29.0	Additional memory parts added. (In shaded area)
June/08	29.0	Additional memory parts added. (In shaded area)
June/08	30.0	Additional memory parts added. (In shaded area)
July/08	31.0	Additional memory parts added. (In shaded area)
Aug/08	32.0	Additional memory parts added. (In shaded area)

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The Intel® Server Board SE8500HW4 and SE8501HW4 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.

Table of Contents

1. Overview of Memory Testing	2
1.1 Paper Qualification.....	2
1.2 Functional Testing.....	2
1.3 Advanced functional testing	2
1.4 Computer Memory Test Lab*	2
2. Memory Subsystem	3
2.1 Main Memory Population	3
2.2 RAID Memory Population.....	5
3. Intel® Server Boards SE8500HW4 AND SE8501HW4 Main Memory Tested	6
<i>Registered, ECC, DDR2-400 DIMM Modules 256MB Sizes (32Mx72).....</i>	<i>7</i>
<i>Registered, ECC, DDR2-400 DIMM Modules 512MB Sizes (64Mx72).....</i>	<i>8</i>
<i>Registered, ECC, DDR2-400 DIMM Modules 1 GB Sizes (128Mx72).....</i>	<i>10</i>
<i>Registered, ECC, DDR2-667 DIMM Modules 1 GB Sizes (128Mx72).....</i>	<i>12</i>
<i>Registered, ECC, DDR2-400 DIMM Modules 2 GB Sizes (256Mx72).....</i>	<i>13</i>
<i>Registered, ECC, DDR2-400 DIMM Modules 4 GB Sizes (256Mx72).....</i>	<i>16</i>
<i>Registered, ECC, DDR2-667 DIMM Modules 4 GB Sizes (256Mx72).....</i>	<i>16</i>
4. RAID On MotherBoard (ROMB) Memory Tested.....	17
5. Intel® Server RAID Adapter SROMBSAS18E Tested Memory.....	18
<i>Registered ECC DDR2 DIMM Modules 256 MB Sizes (32Mx72).....</i>	<i>19</i>
<i>Registered ECC DDR2 DIMM Modules 512 MB Sizes (64Mx72).....</i>	<i>19</i>
6. Sales Information	20
7. CMTL* (Computer Memory Test Labs)	21

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 Board SE8500HW4 and the Intel® Server Board SE8501HW4. 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 List. 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).

The Tested Memory Lists for Intel's server board, workstation board, 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. Memory Subsystem

The Intel® Server Boards SE8500HW4 and SE8501HW4 main memory subsystems were designed to support Double Data Rate2 (DDR2) 400-MHz, 533-MHz, and 667-MHz Registered ECC Synchronous Dynamic Random Access Memory (SDRAM). Other industry naming conventions for DDR2-400 include PC2-3200, DDR2-533 includes PC2-4200, and DDR2-667 includes 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 Boards SE8500HW4 and SE8501HW4 the maximum supported capacity is 64GB. The minimum supported capacity is 512MB with two 256MB DIMMs.

Supported DDR2-400/533/667 DIMM capacities for main memory include: 256MB, 512MB, 1GB, 2GB, and 4GB.

The Intel® Server Boards SE8500HW4 and SE8501HW4 RAID memory subsystems were designed to support Double Data Rate2 (DDR2) 400-MHz, 533-MHz, and 667-MHz Registered ECC Synchronous Dynamic Random Access Memory (SDRAM). The Intel® Server Boards SE8500HW4 and SE8501HW4 maximum supported RAID memory capacity is 1GB, the minimum supported capacity is 256MB.

Supported DDR2-400/533/667 DIMM capacities for RAID memory include: 256MB, 512MB, and 1GB.

2.1 Main Memory Population

The Intel® Server Board Set SE8500HW4 and SE8501HW4 Memory Board has four DIMM slots grouped into two DIMM banks for main memory. DIMMs within a 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.

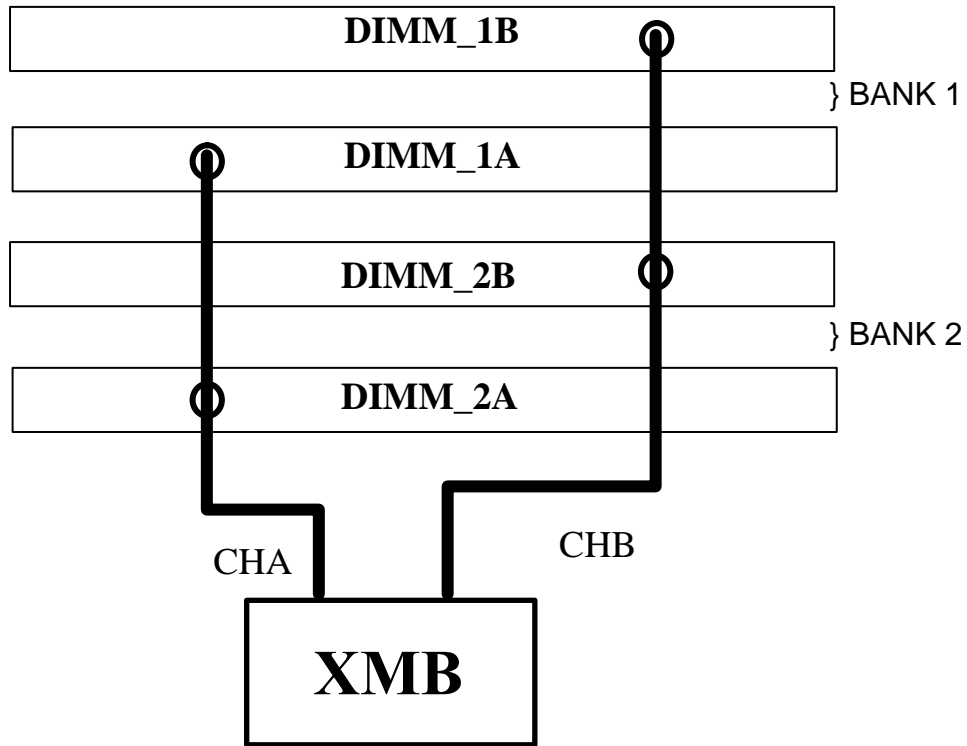


Figure 1. Identifying Banks of Memory

The memory controller is capable of supporting up to 4 loads per channel for DDR2-400, DDR2-533, or DDR2-667. Memory technologies are classified as being either single rank or dual rank depending on the number of DRAM devices that are used on any one DIMM. A single rank DIMM is a single load device, i.e.) Single Rank = 1 Load. Dual rank DIMMs are dual load devices, i.e.) Dual Rank = 2 loads. Refer to the memory module manufacturer specifications to determine if a DIMM is single or dual rank.

DDR2-400, DDR2-533, and DDR2-667 DIMM population rules are as follows:

- (1) DIMM banks must be populated in order, starting with the bank furthest from the XMB (Bank 1).
- (2) Dual rank DIMMs must be populated before single rank DIMMs.
- (3) All DIMMs can be dual rank.

The following tables show the supported memory configurations:

Table 1: Supported DIMM Populations

	Config 1	Config 2	Config 3	Config 4	Config 5
DIMM 1B	DR	DR	DR	SR	SR
DIMM 1A	DR	DR	DR	SR	SR
DIMM 2B	E	SR	DR	E	SR
DIMM 2A	E	SR	DR	E	SR

Note: SR = single rank, DR = dual rank, E = Empty

2.2 RAID Memory Population

The Intel® Server Boards SE8500HW4 and SE8501HW4 include one DDR2-400 DIMM slot, next to the PCI slots, not shared with main memory and for exclusive use as RAID cache of the RAID subsystem. Memory sizing and configuration is guaranteed only for qualified DIMMs approved by Intel. The ROMB subsystem supports RAID memory for higher performance operation (write back cache). In addition, for enhanced data protection, the ROMB functionality in the Intel® Server Boards SE8500HW4 and SE8501HW4 support the Intel® RAID Smart Battery accessory which provides battery back-up.

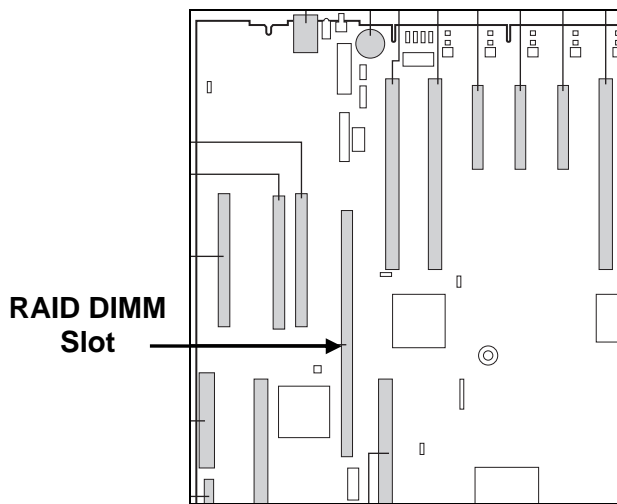


Figure 2. Identifying RAID Memory Slot

3. Intel® Server Boards SE8500HW4 AND SE8501HW4 Main Memory Tested

The following tables list DIMM devices tested to be compatible with the Intel® Server Boards SE8500HW4 and SE8501HW4. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the Intel® Server Boards SE8500HW4 and SE8501HW4 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.

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Intel® Server Boards SE8500HW4 AND SE8501HW4
Registered, ECC, DDR2-400 DIMM Modules
256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Qimonda	HYS72T32000HR-5-A	HYB18T256800AF-5	Qimonda		0431 (Module)	(32Mbx8)*9	SR	6/8/05
Micron*	MT9HTF3272Y-40EB2	MT47H32M8BT	Micron		0428 (Module)	(32Mbx8)*9	SR	6/8/05
Samsung*	M393T3253FG0-CCC	K4T56083QF	Samsung		0521 (Module)	(32Mbx8)*9	SR	6/8/05
Samsung	M393T3253FZ0-CCC	K4T56083QF	Samsung		0521 (Module)	(32Mbx8)*9	SR	6/8/05
Samsung	M393T3253FZ3-CCC		Samsung		0524 (Module)	(32Mbx8)*9	SR	8/5/05

(+) 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/>

Intel® Server Boards SE8500HW4 AND SE8501HW4
Registered, ECC, DDR2-400 DIMM Modules
512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Hynix*	HYMP564R72P8-E3		Hynix		0444 (Module) 0437A (Component)	(64Mbx8)*9	SR	6/8/05
Micron	MT9HTF6472Y-40EB2	MT47H64M8BT	Micron		0509 (Module)	(64Mbx8)*9	SR	6/8/05
Qimonda	HYS72T64000HR-5-A	HYB18T512800AF	Qimonda		0502 (Module)	(64Mbx8)*9	SR	6/8/05
Samsung	M393T6453FG0-CCC	K4T56083QF	Samsung		0521 (Module)	(32Mbx8)*18	DR	6/8/05
Samsung	M393T6453FZ0-CCC	K4T56083QF	Samsung		0521 (Module)	(32Mbx8)*18	DR	6/8/05
Samsung	M393T6450FG0-CCC	K4T56043QF	Samsung		0521 (Module)	(64Mbx4)*18	SR	6/8/05
Samsung	M393T6450FZ0-CCC	K4T56043QF	Samsung		0521 (Module)	(64Mbx4)*18	SR	6/8/05
+ATP Electronics	AH64K72N8BHC4S	K4T51083QC-ZCD5 rev C	Samsung			(64Mbx8)*9	SR	9/13/05
+Ventura Technology Group	D2-52KC53SV-333	K4T56043QF-ZCD5 rev F	Samsung	D2R472 na		(64Mbx4)*18	SR	9/28/05
Samsung	M393T6553BG0-CCC		Samsung		0521 (Module)	(64Mbx8)*9	SR	7/1/05
Samsung	M393T6553BZ0-CCC		Samsung		0521 (Module)	(64Mbx8)*9	SR	7/1/05
Samsung	M393T6553CZ0-CCC		Samsung		0523 (Module)	(64Mbx8)*9	SR	7/11/05
Samsung	M393T6553CZ3-CCC		Samsung		0523 (Module)	(64Mbx8)*9	SR	7/11/05
Samsung	M393T6453FZ3-CCC		Samsung		0524 (Module)	(32Mbx8)*18	DR	8/5/05
Samsung	M393T6450FZ3-CCC		Samsung		0524 (Module)	(64Mbx4)*18	SR	8/5/05
+Kingston	KVR400D2S8R3/5 12l	NT5TU64M8AE-37B rev A	Nanya	2025263-001.C00 na		(64Mbx8)*9	SR	10/05
+Kingston	KVR400D2S8R3/5 12l	HYB18T512800AF37 rev A	Qimonda	2025263-001.C00 na		(64Mbx8)*9	SR	11/05
Nanya Technology Corporation	NT512T72U89A0B V-5A	NT5TU64M8AE-5A rev A	Nanya	NTPCB0002 0P (0509) na		(64Mbx8)*9	SR	1/12/06
+Legend	L64723C7-R41H2H1F	HY5PS12821FP-E3 rev 1st Gen.	Hynix	104 (0530,0534)		(64Mbx8)*9	SR	2/15/06
+TRS	TRS31260	HYB18T512800AF5 rev A	~ Qimonda (Infineon)	M0551LA1 rev 1		(64Mbx8)*9	SR	3/20/06
Ventura Technology Group	D2-52KD65SV-333	K4T51083QC-ZCD5 rev C	Samsung	D2R18A na				04/17/06
Kingston	KVR400D2S8R3/5 12l	E5108AG-5C-E rev G	Elpida	2025263-001.C00 na		(64Mbx8)*9		7/6/06
TRS	TRS31260X	HYB18T512800AF5 rev A	Infineon	M0551LA1 rev 1		(64Mbx8)*9		7/31/06

**Registered, ECC, DDR2-400 DIMM Modules
512MB Sizes (64Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Apacer	75.963A1.G03	EDE5108AGSE-5C-E rev G	Elpida	48.16188.01 1 rev 1		(64Mbx8)*9		8/18/06
TRS	TRS31261X	HYB18T256400AF5 rev A	Qimonda	M0549LA1 rev 1		(64Mbx4)*18		9/8/06
Kingston	KVR400D2S8R3/5 12I	E5108AG-5C-E rev G	Elpida	2025263- 001.C00 na		(64Mbx8)*9		9/11/06
TRS	TRS31261X	HYB18T256400AF5 rev A	Qimonda	M0549LA1 rev 1		(64Mbx4)*18		9/28/06

(+) 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/>

Intel® Server Boards SE8500HW4 AND SE8501HW4
Registered, ECC, DDR2-400 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Hynix	HYMP512R72P4-E3		Hynix		0425A (Module)	(128Mbx4)*18	SR	6/8/05
Micron	MT18HTF12872Y-40EA2	MT47H64M8BT	Micron		0431 (Module)	(128Mbx4)*18	SR	6/8/05
Samsung	M393T2950BG0-CCC	K4T51043QB	Samsung		0521 (Module)	(128Mbx4)*18	SR	6/8/05
Samsung	M393T2950BZ0-CCC	K4T51043QB	Samsung		0521 (Module)	(128Mbx4)*18	SR	6/8/05
+Dataram	DTM63310A	HYB18T512400AF5 rev A	Qimonda			(128Mbx4)*18	SR	9/13/05
Netlist*, Incorporated	NLD127R21203F-D32KIA	HYB18T512400AF5 rev A	Qimonda	208-10 rev A		(128Mbx4)*18	SR	9/20/05
Samsung	M393T2950CZ0-CCC		Samsung		0523 (Module) 0522 (Comp.)	(128Mbx4)*18	SR	10/9/05
Samsung	M393T2950CZ3-CCC		Samsung		0523 (Module) 0522 (Comp.)	(128Mbx4)*18	SR	10/9/05
Samsung	M393T2953BG0-CCC		Samsung		0521 (Module)	(64Mbx8)*18	SR	7/1/05
Samsung	M393T2953BZ0-CCC		Samsung		0521 (Module)	(64Mbx8)*18	SR	7/1/05
Samsung	M393T2953CZ3-CCC		Samsung		0523 (Module)	(64Mbx8)*18	SR	7/11/05
Micron	MT18HTF12872Y-40EB3		Micron		0522 (Module)	(128Mbx4)*18	SR	8/5/05
+ATP Electronics	AH28K72M4BHC4 S	K4T51043QC-ZCCC rev C	Samsung	SH240M04K 1 na		(128Mbx4)*18	SR	10/10/05
+Kingston	KVR400D2S4R3/1 GI	HYB18T512400AF5 rev A	Qimonda	2025248-001.B00 na		(128Mbx4)*18	SR	10/12/05
+Smart Modular Technologies	SB1287RDR21243 -5-H	HY5PS12421FP-E3 A 1st Generation	Hynix	E72369 na		(128Mbx4)*18	SR	10/3/05
+Smart Modular Technologies	SG1287RDR26483 5IA	HYB18T512800AF37 rev A	Qimonda	PG58G240N EBUB2RB rev A		(64Mbx8)*18	SR	11/4/05
+ATP Electronics	AH28K72L8BHC4 S	K4T51083QC-ZCD5 rev C	Samsung	SH240L08K 2 na		(64Mbx8)*18	SR	11/8/05
+Ventura Technology Group	D2-54KF53SV-333	K4T51043QB-ZCCC rev B	Samsung	D2R472		(128Mbx4)*18	SR	1/6/06
Nanya Technology Corporation	NT1GT72U4PA0B V-5A	NT5TU128M4AE-5A rev A	Nanya	NTPCB0001 9 (0519, 0515) na		(128Mbx4)*18	SR	1/16/06
+Kingston	KVR400D2S4R3/1 GI	HYB18T512400AF37 rev A	Qimonda	2025248-001.B00 na		128M x 4	SR	1/26/06
+Legend	L12723C7-R41H2M1F	HY5PS12421F-E3 rev 1st Gen.	Hyundai	104		(128Mbx4)*18	SR	2/20/06
+Dataram	DTM63310J	NT5TU128M4AE-5A rev A	Nanya	40011A rev A		(128Mbx4)*18	SR	2/22/06

Registered, ECC, DDR2-400 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
+Smart Modular Technologies	SG1287RDR264835SC	K4T51083QC-ZCD5 rev C	Samsung	PG58G240N EBUB2RB rev A		(64Mbx8)*18	SR	2/27/06
+Kingston	KVR400D2S8R3/1GI	E1108AA-5C-E rev A	Elpida	2025263-001.C00 na		(128Mx8)*9	SR	3/3/06
+ATP Electronics	AH28K72M4BHC4S	K4T51043QC-ZCCC rev C	Samsung	SH240M04K2 na		(128Mbx4)*18	SR	3/15/06
TRS	TRS31265	HYB18T512400AF5 rev A	Qimonda	M0549LA1 rev 1				04/06/06
Wintec Industries	39S931341A-L	HYB18T512400AF5 rev A	Qimonda	D2R472		(128Mbx4)*18	SR	04/28/06
Kingston	KVR400D2S8R3/1GI	HYB18T1G800AF-5 rev A	Qimonda	2025263-001.C00		(128Mx8)*9	SR	05/03/06
Apacer	75.063A1.G00	K4T51083QC-ZCD5 rev C	Samsung	48.16188.090 na		(64Mbx8)*18	SR	05/26/06
Kingston	KVR400D2S4R3/1GI	NT5U128M4AE-5A rev A	Nanya	2025248-001.B00 na		(128Mbx4)*18		6/13/06
Smart Modular Technologies	SG1287RDR212435NA	NT5TU128M4AE-5A rev A	Nanya	NTPCB00019P		(128Mbx4)*18		6/30/06
TRS	TRS31267	K4T51043QC-ZCCC rev C	Samsung	M0549LA1 rev 1		(128Mbx4)*18		7/19/06
ATP Electronics	AH28K72M4BHC4S	K4T51043QC-ZCCC rev C	Samsung	SH240M04K2 na		(128Mx8)*9	SR	8/9/06
Dane-Elec	DMD400R072283NG	EDE5108AESK-5C-E rev E	Elpida	D2R872 rev 1		(64Mbx8)*18	SR	8/3/06
Apacer	75.063A1.G03	EDE5108AGSE-5C-E rev G	Elpida	48.16188.010 na		(64Mbx8)*18	SR	8/16/06
Smart Modular Technologies	SG1287RDR212435NA	NT5TU128M4AE-5A rev A	Nanya	NTPCB00019P		(128Mbx4)*18	SR	8/23/06
Kingston	KVR400D2S4R3/1GI	HYB18T512400AF37 rev A	Qimonda	2025248-001.B00 na		(128Mbx4)*18	SR	9/22/06
Kingston	KVR400D2S4R3/1GI	HYB18T512400AF5 rev A	Qimonda	2025248-001.B00 na		(128Mbx4)*18	SR	9/25/06
TRS	TRS31265X	HYB18T512400AF5 rev A	Qimonda	M0549LA1 rev 1		(128Mbx4)*18	SR	9/15/06
Kingston	KVR400D2S8R3/1GI	E1108AB-6E-E rev B	Elpida	2025263-001.C00 na		(128Mx8)*9	SR	12/7/06
TRS	TRS31277X	E5104AG-5C-E rev G	Elpida	M0549LA1 rev 1		(128Mbx4)*18	SR	3/2/07
Kingston	KVR400D2S8R3/1GI	MT47H128M8HQ-3 rev E	Micron	2025263-001.C00 na		(128Mx8)*9	SR	4/25/07
Kingston	KVR400D2S4R3/1GI	E5104AHSE-6E-E rev H	Elpida	2025248-001.B00 na		(128Mbx4)*18	SR	5/10/07
Ventura Technology Group	D2-54KD50SV-333	K4T51083QE-ZCE6 rev E	Samsung	D2R28G na		(64Mbx8)*18	SR	8/2/07
Hynix	HYMP512R72CP4-E3	HY5PS12421CFP-E3	Hynix			(128Mx4)*18	SR	9/17/07
Kingston	KVR400D2S4R3/1GI	HYB18T512400B2F25F rev B2	Qimonda	2025248-001.B00		128M x 4	SR	06/09/08
Kingston	KVR400D2S8R3/1GI	E1108ACBG-8E-E rev C	Elpida	2025263-001.C00		128M x 8	SR	06/12/08

**Registered, ECC, DDR2-667 DIMM Modules
1 GB Sizes (128Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Samsung	M393T2950EZA-CE6	K4T51043QE-ZCE6	Samsung			(64Mx8)* 18	SR	9/17/07
Qimonda	HYS72T128001EP-3S-C2	HYB18T1G800C2F-3S rev C2	Qimonda	240-11-5G		128M x 8	1	07/29/08

(+) 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/>

Intel® Server Boards SE8500HW4 AND SE8501HW4
Registered, ECC, DDR2-400 DIMM Modules
2 GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Hynix	HYMP125R72MP4-E3-AA		Hynix		0444 (Module)	(128Mbx4)*36	DR	6/8/05
Qimonda	HYS72T256000HR-5-A	HYB18T1G400AF-5	Qimonda		0452 (Module)	(256Mbx4)*18	SR	6/8/05
Micron	MT18HTF25672Y-40EA2	MT47H128M8BT	Micron		0431 (Module)	(256Mbx4)*18	SR	6/8/05
Samsung	M393T5750BS0-CCC	K4T51043QB	Samsung		0521 (Module)	(128Mbx4)*36	SR	6/8/05
Samsung	M393T5750BY0-CCC	K4T51043QB	Samsung		0521 (Module)	(128Mbx4)*36	DR	6/8/05
+Smart Modular Technologies	SB2567RDR212835IA	HYB18T512400AF5 rev A	Qimonda			(128Mbx4)*36	DR	9/13/05
+Smart Modular Technologies	SM2567RDR22543-5-I	HYB18T1G400AF-5 rev A	Qimonda			(256Mbx4)*18	SR	9/13/05
+Dataram	DTM63309A	HYB18T512400AF5 rev A	Qimonda			(128Mbx4)*36	DR	9/13/05
Netlist, Incorporated	NLD257R212038-D32KIA	HYB18T512400AF5 rev A	Qimonda	0203-10 rev A		(128Mbx4)*36	DR	9/16/05
Samsung	M393T5660MZ0-CCC		Samsung		0523 (Module)	(256Mbx4)*18	SR	7/11/05
Samsung	M393T5660MZ3-CCC		Samsung		0523 (Module)	(256Mbx4)*18	SR	7/11/05
Hynix	HYMP125R72P4-E3		Hynix		0521 (Module)	(256Mbx4)*18	SR	8/5/05
Micron	MT36HTF25672Y-40EB1		Micron		0523 (Module)	(128Mbx4)*36	DR	8/5/05
Samsung	M393T5750CZ0-CCC		Samsung		0523 (Module)	(128Mbx4)*36	DR	10/9/05
Samsung	M393T5750CZ3-CCC		Samsung		0523 (Module)	(128Mbx4)*36	DR	10/9/05
+Smart Modular Technologies	SG2567RDR21283-5-H	HY5PS1G421MP-E3 rev A	Hynix	0518-1,-2,-3,-4,-6		(128Mbx4)*36	DR	10/17/05
+ATP Electronics	AH56K72J4BHC4C	HYB18T512400AF5 rev A	Qimonda	SH240J04K1		(128Mbx4)*36	DR	10/20/05
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF5 rev A	Qimonda	2025292-001.B00 na		(128Mbx4)*36	DR	10/27/05
+Apacer	76.A222G.B15	K4T51043QC-ZCCC rev C	Samsung	48.1A189.012 rev 2		(128Mbx4)*36	DR	11/18/05
Nanya Technology Corporation	NT2GT72U4NA1B V-5A	NT5TU128M4AE-5A rev A	Nanya	NTPCB00037P (0514) na		(128Mbx4)*36	DR	1/10/06
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF37 rev A	Qimonda	2025292-001.B00 na		(128Mbx4)*36	DR	3/9/06
Kingston	KVR400D2D8R3/2GI	HYB18T1G800AF-5 rev A	Infineon	2025302-001.A00 na				04/03/06
TRS	TRS31270	HYB18T1G400AF-5 rev A	Infineon	M0549LA1 rev 1				04/12/06
Kingston	KVR400D2D8R3/2GI	E1108AA-5C-E rev A	Elpida	2025302-001.A00 na				04/21/06

**Registered, ECC, DDR2-400 DIMM Modules
2 GB Sizes (256Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Kingston	KVR400D2D4R3/2 GI	NT5TU128M4AE-5A rev A	Nanya	2025292-001.B00 na		(128Mbx4)*36		6/21/06
Dataram	DTM63309F	NT5TU128M4AE-5A rev A	Nanya	40040A rev A		(128Mbx4)*36		7/13/06
Apacer	75.A72A1.G00	K4T51043QC-ZCD5 rev C	Samsung	48.1A189.01 2 rev 2		(128Mbx4)*36	DR	8/31/06
Kingston	KVR400D2D4R3/2 GI	NT5TU128M4AE-5A rev A	Nanya	2025292-001.B00 na		(128Mbx4)*36	DR	9/13/06
Kingston	KVR400D2D4R3/2 GI	HYB18T512400AF37 rev A	Qimonda	2025292-001.B00 na		(128Mbx4)*36	DR	9/26/06
TRS	TRS31270X	HYB18T1G400AF-5 rev A	Qimonda	M0549LA1 rev 1		(256Mbx4)*18	SR	8/14/06
Smart Modular Technologies	SG2567RDR21243 5NB	NT5TU128M4BE-3C rev B	Nanya	PG52G240N ESUB3RJ rev A		(128Mbx4)*36	DR	12/11/06
Kingston	KVR400D2D8R3/2 GI	E1108AB-6E-E rev B	Elpida	2025302-001.A00 na		(128Mbx8)*18		12/13/06
ATP Electronics	AH56K72J4BHC4 S	K4T51043QC-ZCCC rev C	Samsung	SH240J04K 2 na		(128Mbx4)*36	DR	1/23/07
ATP Electronics	AH56K72J4BHC4 S	K4T51043QC-ZCCC rev C	Samsung	SH240J04K 2 na		(128Mbx4)*36	DR	1/26/07
Qimonda	HYS72T256220HR -5-A		Qimonda		0614 (Device)	(128Mbx4)*36	DR	8/14/06
Kingston	KVR400D2D8R3/2 GI	MT47H128M8HQ-3 rev E	Micron	2025302-001.A00 na		(128Mbx8)*18		4/24/07
Kingston	KVR400D2D8R3/2 GI	E1108AB-6E-E rev B	Elpida	2025302-001.A00 na		(128Mbx8)*18		4/26/07
Kingston	KVR400D2D8R3/2 GI	MT47H128M8HQ-3 rev E	Micron	2025302-001.A00 na		(128Mbx8)*18		4/23/07
Kingston	KVR400D2D4R3/2 GI	E5104AHSE-6E-E rev H	Elpida	2025292-001.C00 na		(128Mbx4)*36	DR	5/14/07
Samsung	M393T5750EZ3-CCC	K4T51043QE-ZCCC	Samsung			(128Mx4)* 36	DR	9/17/07
Qimonda	HYS72T256220HR -5-B	HYB18T512400BF-5-B	Qimonda			(128Mx4)* 36	DR	9/17/07
Smart Modular Technologies	SG2567RDR21243 5IB	HYB18T512400BF3S rev B	Qimonda	PG52G240N ESUB3RJ rev A		(128Mx4)* 36	DR	10/4/07
Smart Modular Technologies	SG2567RDR21243 5IB	HYB18T512400BF3S rev B	Qimonda	PG52G240N ESUB3RJ rev A		(128Mx4)* 36	DR	10/5/07
Kingston	KVR400D2D8R3/2 GI	HY5PS1G831CFP-Y5 rev C	Hynix	2025302001.A00 na		(128Mbx8)*18		2/29/08
Kingston	KVR400D2D4R3/2 GI	HYB18T512400B2F25F rev B2	Qimonda	2025292-001.C00		(128Mx4)* 36	DR	06/05/08
Kingston	KVR400D2D8R3/2 GI	E1108ACBG-8E-E rev C	Elpida	2025302-001.A00		(128Mbx8)*18	DR	6/23/08
Qimonda	HYS72T256000 EP-3S-C2	HYB18T1G400C2F-3S rev C2	Qimonda			256M x 4	1	07/21/08

**Registered, ECC, DDR2-667 DIMM Modules
2 GB Sizes (256Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Qimonda	HYS72T256000EP-3S-C2	HYB18T1G400C2F-3S rev C2	Qimonda	204-13-5G		256M x 4	1	07/21/08

(+) 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/>

Intel® Server Boards SE8500HW4 AND SE8501HW4
Registered, ECC, DDR2-400 DIMM Modules
4 GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Hynix	HYMP351R72MP4-E3 AA		Hynix		0524 (Module)	(256Mbx4)*36	DR	10/9/05
Micron	MT36HTJ51272Y-40EA2		Micron		0517 (Module)	(256Mbx4)*36	DR	10/9/05
+Smart Modular Technologies	SG5127RDR225635IA	HYB18T1G400AF-5 rev A	Qimonda	PG516G240 NESUC1RK rev A		(256Mbx4)*36	DR	12/2/05
+Kingston	KVR400D2D4R3/4 GI	E1104AA-4A-E rev A	Elpida	2025343-001.A00 na		(256Mbx4)*36	DR	12/7/05
Kingston	KVR400D2D4R3/4 GI	E1108ABSH-E rev B	Elpida	Z10077 na		(256Mbx4)*36	DR	2/27/07
Smart Modular Technologies	SG5127RDR225635ART	HYB18T1G400AF-5 rev A	Qimonda	XG58G240N ESUB1TK rev A		(256Mbx4)*36	DR	4/12/07
Samsung	M393T5168AZ0-CCC		Samsung		0613 (Module)	(256Mbx4)*36	DR	9/23/06
Legacy Electronics Inc.	M547RAE20LA-50R	MT47H256M4HQ-3 rev E	Micron	D2R24L rev E		(256Mbx4)*36	DR	5/7/07
Apacer	75.B92AJ.G00	K4T2G264QA-ZCD5 rev A	Samsung	M393T1G68MZ0 rev 0		(256Mbx4)*36	DR	5/15/07
Qimonda	HYS72T512022ER-5-B	HYB18T2G402BF-5-B	Qimonda			(256Mbx4)*36	DR	9/17/07
Kingston	KVR400D2D4R3/4 GI	E1104ACSE-6E-E rev C	Elpida	2025406-001.A00 na		(256Mbx4)*36	DR	12/19/07

Registered, ECC, DDR2-667 DIMM Modules
4 GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date Code	DRAM Organization	Rank	Date
Samsung	M393T5160CZA-CE6	K4T1G044QC-ZCE6	Samsung			(256Mx4)* 36	DR	9/17/07
Qimonda	HYS72T512220EP-3S-C2	HYB18T1G400C2F-3S rev C2	Qimonda	240-41-1G		256M x 4	2	07/24/08

(+) 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/>

4. RAID On MotherBoard (ROMB) Memory Tested

The following tables list DIMM devices tested to be compatible with the RAID subsystem of the Intel® Server Boards SE8500HW4 and SE8501HW4. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

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 Boards SE8500HW4 and SE8501HW4 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.

<i>Intel® Server Boards SE8500HW4 and SE8501HW4 RAID On MotherBoard (ROMB)</i>				
Manufacturer	Manufacturer Part Number	Size	Device Organization *(#devices)	Date Codes
Micron	MT9HTF3272Y-40EB2	256MB	(32Mbx8)*9	0431 (Module)
Qimonda	HYS72T32000HR-5-A	256MB	(32Mbx8)*9	0428 (Module)
Samsung	M393T3253FG0-CCC	256MB	(32Mbx8)*9	0521 (Module)
Samsung	M393T3253FZ0-CCC	256MB	(32Mbx8)*9	0521 (Module)
Samsung	M393T3253FZ3-CCC	256MB	(32Mbx8)*9	0524 (Module)
Hynix	HYMP564R72P8-E3	512MB	(64Mbx8)*9	0444 (Module) 0437A (Component)
Qimonda	HYS72T64000HR-5-A	512MB	(64Mbx8)*9	0502 (Module)
Samsung	M393T6553BZ0-CCC	512MB	(64Mbx8)*9	0521 (Module)
Samsung	M393T6553CZ0-CCC	512MB	(64Mbx8)*9	0523 (Module)
Samsung	M393T6553CZ3-CCC	512MB	(64Mbx8)*9	0523 (Module)
Micron	MT9HTF6472Y-40EB2	512MB	(64Mbx8)*9	0509 (Module)

The Intel® RAID On MotherBoard (ROMB) DIMM should be either a 256MB or 512MB single rank device (with at maximum nine x8 devices) due to the Intel® RAID Smart Battery (RSB) retention time requirements.

5. Intel® Server RAID Adapter SROMBSAS18E Tested Memory

The following table's list DIMM devices tested to be compatible with the RAID subsystem of the Intel® Server RAID Adapter SROMBSAS18E that is used with the Intel® Server Boards SE8500HW4 and SE8501HW4. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

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 RAID Adapter SROMBSAS18E 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 RAID Adapter SROMBSAS18E**Registered ECC DDR2 DIMM Modules
256 MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Speed
Micron	MT9HTF3272Y-40EB2		Micron		8/22/06	Yes	(32Mbx8)*9	400
Qimonda (Infineon)	HYS72T32000HR-5-A		Qimonda (Infineon)		8/22/06	Yes	(32Mbx8)*9	400
Samsung	M393T3253FG0-CCC		Samsung		8/22/06	Yes	(32Mbx8)*9	400
Samsung	M393T3253FZ0-CCC		Samsung		8/22/06	Yes	(32Mbx8)*9	400
Samsung	M393T3253FZ3-CCC		Samsung		8/22/06	Yes	(32Mbx8)*9	400

**Registered ECC DDR2 DIMM Modules
512 MB Sizes (64Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Speed
Hynix	HYMP564R72P8-E3		Hynix		8/22/06	Yes	(64Mbx8)*9	400
Qimonda (Infineon)	HYS72T64000HR-5-A		Qimonda (Infineon)		8/22/06	Yes	(64Mbx8)*9	400
Samsung	M393T6553BZ0-CCC		Samsung		8/22/06	Yes	(64Mbx8)*9	400
Samsung	M393T6553CZ0-CCC		Samsung		8/22/06	Yes	(64Mbx8)*9	400
Samsung	M393T6553CZ3-CCC		Samsung		8/22/06	Yes	(64Mbx8)*9	400
Micron	MT9HTF6472Y-40EB2		Micron		8/22/06	Yes	(64Mbx8)*9	400

(+) 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.

6. 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
Buffalo Technology	http://www.buffalotech.com/	(800) 967-0959 memory@buffalotech.com
Dataram	http://www.dataram.com/	Paul Henke, 800-328-2726 x2239 in USA 609-799-0071 phenke@dataram.com
Hyundai/Hynix Semiconductor	http://www.hea.com/	http://www.hynix.com/datasheet/eng/module/module_sub.jsp?RK=08&SK=RD&RAM_NAME=DDR2%20SDRAM&SUB_RAM=512MB&SUB_RAM1=1GB&SUB_RAM2=2GB&SUB_RAM3=4GB
~ Qimonda (Infineon)	http://www.infineon.com/business/distribut/index.htm	http://www.infineon.com/cgi-bin/ifx/portal/ep/programView.do?channelId=-64258&programId=32841&programPage=%2Fep%2Fprogram%2Ftypelist.jsp&pageTypeld=17099&BV_SessionID=@ @ @ @0484552071.1127159115 @ @ @ @ &BV_EngineID=ccceaddfjliikgclqceqndfifdfoh.0
Micron	http://silicon.micron.com/mktg/ http://silicon.micron.com/mktg/mbqual/qual_data.cfm	http://www.micron.com/products/modules/dr2sdram/partlist.aspx?pincount=240-pin&version=Registered&package=DIMM
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com
Samsung	http://www.korea.samsungsemi.com/locate/buy/list_na.html	For US customers go to: http://www.mymemorystore.com/ Or http://www.samsung.com/Products/Semiconductor/common/product_list.aspx?family_cd=DRM070201
SMART Modular Technologies	http://www.smartm.com/channel	Gene Patino (949) 439-6167 Gene.Patino@Smartm.com

7. 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 an 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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