Intel® Server Board S3200SH/S3210SH
Memory List Test Report Summary

Revision 12.0
February 2009

Revision History		
Date	**Rev**	**Modifications**
Dec/07	1.0	Initial Release
Jan/08	2.0	Additional memory parts added (in shaded area).
Mar/08	3.0	Additional memory parts added (in shaded area).
Apr/08	4.0	Additional memory parts added (in shaded area).
May/08	5.0	Additional memory parts added (in shaded area).
June/08	6.0	Additional memory parts added (in shaded area).
July/08	7.0	Additional memory parts added (in shaded area).
Sept/08	8.0	Additional memory parts added (in shaded area).
Oct/08	9.0	Additional memory parts added (in shaded area).
Nov/08	10.0	Additional memory parts added (in shaded area).
Dec/08	11.0	Additional memory parts added (in shaded area).
Feb/09	12.0	Additional memory parts added (in shaded area).

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The Intel® Server Board S3200SH/S3210SH 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.

* Other brands and names are the property of their respective owners.

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 bank on the memory module. Mixing of dissimilar memory manufacturer and similar speeds in each bank on the memory module is NOT recommended.*

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Overview of Memory Testing

The following procedure is used to test memory modules for use in the Intel® Server Board S3200SH/S3210SH. Memory is a vital subsystem in a platform. Intel Corporation requires strict guidelines to be met before a memory vendor and part is put onto the qualified memory list. Each Intel Server Board product has a separate qualified memory list.

Memory qualification for Intel's Server Board products is performed by Intel's Memory Validation Laboratory (MVL), and by an independent external test laboratory, Computer Memory Test Lab (CMTL)[1]. CMTL is a leading memory testing organization responsible for testing a broad range of memory products. Memory devices tested by Intel's MVL or CMTL must undergo rigorous tests to ensure that the product will perform the intended server functions.

Intel®'s Server and Workstation Board qualified memory lists categorize memory modules as Advanced Tested. The Advanced Testing process involves a paper qualification, a standard voltage and room temperature functional test, and a voltage and temperature margin functional test. A paper qualification is a review of critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements in order to see if the memory meets Intel's memory specifications. The standard voltage and room temperature test involves testing the memory module on the particular Intel board for which it is being qualified with test software operating under Microsoft Windows Server 2003* Enterprise Edition for no less than 24 hours. The voltage and temperature margin testing involves testing the memory module on the particular Intel board for which it is being qualified with various test software and operating systems for 48-72 hours under various voltage and temperature margin conditions. Memory modules that have completed Advanced Testing are known to be compatible with the product on which they were tested, and with the test software and operating system that was utilized during the test procedure.

For information regarding the testing procedure required to reach each phase, please contact your Intel Representative.

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[1] CMTL is an independent memory testing organization responsible for testing a broad range of memory products. Receiving a "PASS" after being tested by CMTL, means that a product functions correctly and consumers can use it 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 equipment and a procedure as defined by Intel's various functional testing levels.

CMTL contact:

Office: (949) 716-8690
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Computer Memory Test Lab (CMTL)
24 Hammond Suite F
Irvine, CA 92618
http://www.cmtlabs.com/

Qualified Memory for the Intel® Server Board S3200SH/S3210SH

The memory module on the Intel® Server Board S3200SH/S3210SH has 4 DIMM sockets, which can hold up to 8 GB of unbuffered ECC and non-ECC DDR2-667 or DDR2-800 memory using four 72-bit DIMM modules. The following memory features are supported:

- DDR2-667 and DDR2-800 unbuffered ECC and non-ECC compatible 1.8V modules (in compliance with the DDR JEDEC DIMM Specification).
- DIMMs with capacity of 512 MB, 1 GB, and 2 GB. Other DRAM sizes may function correctly but will not be validated.
- Minimum configuration is 512 MB using one 512 MB DIMM.
- Maximum configuration is 8 GB.

Below is a chart that lists the current supported memory types:

DDR2-667 Unbuffered SDRAM Module Matrix					
DIMM Capacity	**DIMM Organization**	**SDRAM Density**	**SDRAM Organization**	**# SDRAM Devices/rows/Banks**	**# Address bits rows/Banks/column**
512 MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
512 MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1 GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10
1 GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10
2 GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10
DDR2-800 Unbuffered SDRAM Module Matrix					
DIMM Capacity	**DIMM Organization**	**SDRAM Density**	**SDRAM Organization**	**# SDRAM Devices/rows/Banks**	**# Address bits rows/Banks/column**
512 MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
512 MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1 GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10
1 GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10
2 GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10

Memory features are detailed in *the Intel® Server Board S3200SH/S3210SH Technical Product Specification* available on-line at:
http://support.intel.com/support/motherboards/server/s3200SH/index.htm

The following table lists DIMM devices known to be compatible with the Intel® Server Board S3200SH/S3210SH. Intel recommends that Advanced Tested DIMMs be used to establish reliable system operation. DIMM devices not listed can be used; but, in the event of unreliable system operation, the DIMM devices should be replaced with functionally Advanced Tested DIMMs to determine whether the DIMM devices are causing the problem.

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.

Note: This list is not intended 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.

This list is subject to change without notice.

Intel® Server Board S3200SH/S3210SH

Unbuffered, ECC, DDR2-667 DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT9HTF6472AY-667D4	7FD22 D9GMH	Micron		5	(64Mx8)*9	11/07
Samsung	M391T6553EZ3-CE6	K4T51083QE-ZCE6	Samsung		5	(64Mx8)*9	11/07
Qimonda	HYS72T64000EU-3S-B2	HYB18T512800B2F3S	Qimonda		5	(64Mx8)*9	11/07
Hynix	HYMP564U72CP8-Y5 AB-C	HYP5PS12821C FP-Y5	Hynix		5	(64Mx8)*9	11/07
Crucial	CT6472AA667.9FD	MT47H64M8B6-3:D	Micron		5	(64Mx8)*9	3/08

Unbuffered, ECC, DDR2-800 DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT9HTF6472AY-80ED4		Micron		5	(64Mx8)*9	11/07
Samsung	M391T6553EZ3-CE7	K4T51083QE-ZCE7	Samsung		5	(64Mx8)*9	11/07
Qimonda	HYS72T64000EU-25F-B2	HYB18T512800B2F25F	Qimonda		5	(64Mx8)*9	11/07
Hynix	HYMP564U72CP8-S6	HY5PS12821C FP-S6	Hynix		6	(64Mx8)*9	11/07
Dataram	DTM63359B	HY5PS12821CFP-S5 rev C	Hynix	40083A rev A	5	(64Mx8)*9	12/07
Dataram	DTM63390A	HYB18T1G160C2F-25F rev C2	Qimonda	40104A rev A	5	64M x 16	01/12/09

(+) This vendor is part of the CMTL Certification program. This means this part has/will been 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.*

Intel® Server Board S3200SH/S3210SH

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT9HTF12872AY-667E1	7FEII D9HNL	Micron		5	(128Mx8)*9	11/07
Micron	MT18HTF12872AY-667D4	7FD22 D9GMH	Micron		5	(64Mx8)*18	11/07
Samsung	M391T2953EZ3-CE6	K4T51083QE-ZCE6	Samsung		5	(64Mx8)*18	11/07
Qimonda	HYS72T128020EU-3S-B2	HYB18T512800B2F3S	Qimonda		5	(64Mx8)*18	11/07
Hynix	HYMP512U72CP8-Y5 AB	HY5PS12821C FP-Y5	Hynix		5	(64Mx8)*18	11/07
Crucial	CT12872AA667.9FE	MT47H128M8HQ-3:E	Micron		5	(128Mx8)*9	3/08
Crucial	CT12872AA667.18FD	MT47H64M8B6-3:D	Micron		5	(64Mx8)*18	3/08
STEC	INT72Q8M128M8M-A03GYU	HYB18T512800BF3S rev B	Qimonda	D2U72G na	5	(64Mx8)*18	1/08
ATP Electronics	AJ28K72F8BJE6S	K4T1G084QD-ZCE6 rev D	Samsung	D2U72F na	5	(128Mx8)*9	1/08
Samsung	M391T2863QZ3-CE6	Kr4T1G084QQ-HCF7	Samsung		5	(128Mx8)*9	3/08
Swissbit	MEU12872D4BC1EP-30R	EDE1108ACBG-6E-E rev C	Elpida	8132d rev d	5	(128Mx8)*9	4/08
Kingston	KVR667D2E5/1GI	E5108AJBG-6E-E	Elpida		5	(64Mx8)*18	4/08
Hynix	HYMP112U72CP8-Y5	HY5PS1G831CFP-Y5	Hynix		5	(128Mx8)*9	6/08
TRS	TRS30416X	EDE1108ACBG-6E-E rev C	Elpida	M0544LA1 rev 1	5	128M x 8	06/08
TRS	TRS30420X	HY5PS12821CFP-Y5 rev C	Hynix	0815	5	64M x 8	06/08
TRS	TRS30418X	HYB18T512800B2F3S rev B2	Qimonda	240-7-1G (0743)	5	64M x 8	06/08
TRS	TRS30268X	K4T51083QG-HCE6 rev G	Samsung	M391T2953CZ1-P10	5	64M x 8	06/208
STEC	INT72Q8M128M8M-A03GYU	HYB18T512800B2F-3S rev B2	Qimonda	D2U72G	5	64M x 8	10/08
Centon Electronics	TOP-052	EDE5108AJBG-6E-E rev J	Elpida	D2U72G rev G	5	64M x 8	10/08

Unbuffered, ECC, DDR2-800 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT18HTF12872AY-80ED4		Micron		5	(64Mx8)*18	11/07
Micron	MT9HTF12872AY-80EE1	7JEII D9HNQ	Micron		5	(128Mx8)*9	11/07
Samsung	M391T2953EZ3-CE7	K4T51083QE-ZCE7	Samsung		5	(64Mx8)*18	11/07
Qimonda	HYS72T128020EU-25F-B2	HYB18T512800B2F25F	Qimonda		5	(64Mx8)*18	11/07
Qimonda	HYS72T128020HU-25F-B	HYB18T512800BF25F	Qimonda		5	(64Mx8)*18	11/07
Hynix	HYMP512U72CP8-S6 AB	HY5PS12821C FP-S6	Hynix		6	(64Mx8)*18	11/07
Hynix	HYMP112U72CP8-S6	HY5PS1G831CFP-S6	Hynix		6	(128Mx8)*9	2/08
ATP Electronics	AJ28K72G8BHE7S	K4T51083QE-ZCE7 rev E	Samsung	SJ240G08K1 na	5	(64Mx8)*18	2/08
Crucial	CT12872AA80E.9FE	MT47H128M8HQ-25E:E	Micron		5	(128Mx8)*9	3/08

Unbuffered, ECC, DDR2-800 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Kingston	KVR800D2E5/1GI	NT5TU64M8BE-25C rev B	Nanya	2025321-0F1.A00 na	5	(64Mx8)*18	1/11/08
Apacer	78.01GAE.42D	E1108ACBG-8E-E rev C	Elpida	48.16193.09D rev D	5	(128Mx8)*9	1/16/08
Apacer	78.01G9Q.423	E5108AJBG-8E-E rev J	Elpida	48.18193.093 rev 3	5	(64Mx8)*18	1/25/08
Samsung	M391T2863QZ3-CF7	K4T1G084QQ-HCE6	Samsung		6	(128Mx8)*9	3/18/08
Kingston	KVR800D2E5/1GI	E5108AJBG-8E-E	Elpida		5	(64Mx8)*18	4/4/08
Centon Electronics	TOP-053	CE64x8x8-25 rev E	Centon	D2U72G rev G	5	64M x 8	10/08
Kingston	KVR800D2E5/1GI	E1108ACBG-8E-E rev C	Elpida	2025320-0F1.A00 rev A	5	128M x 8	10/08
Dataram	DTM63393A	HYB18T1G800C2F-25F rev C2	Qimonda	40083A rev A	5	128M x 8	12/08

(+) This vendor is part of the CMTL Certification program. This means this part has/will been 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.*

Intel® Server Board S3200SH/S3210SH

Unbuffered, Non-ECC, DDR2-667 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Buffalo	D2U667C-1GEJJ	E5108AJBG-6E-E rev J	Elpida	2DUE28F-AA na	5	(64Mx8)*18	2/11/08

Unbuffered, Non-ECC, DDR2-800 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
ATP Electronics	AJ28K64E8BHE7S	K4T51083QE-ZCE7 rev E	Samsung	SJ240E08K1 na	5	(64Mx8)*18	1/14/08
Buffalo	D2U800CX-S1GECJ	E1108ACBG-8E-E rev C	Elpida	2D286NF3-AB	5	128M x 8	01/26/09

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Intel® Server Board S3200SH/S3210SH

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT18HTF25672AY-667E1	7EEII D9HNL	Micron		5	(128Mx8)*18	11/07
Samsung	M391T5663AZ3-CE6	K4T1G084QA-ZCE6	Samsung		5	(128Mx8)*18	11/07
Qimonda	HYS72T256020HU-3S-A	HYB18T1G800AF-3S	Qimonda		5	(128Mx8)*18	11/07
Qimonda	HYS72T256020EU-3S-B	HYB18T1G800BF-3S-B	Qimonda		5	(128Mx8)*18	1/24/08
ATP Electronics	AJ56K72G8BJE6M	MT47H128M8HQ-3 rev E	Micron	SJ240G08 K1 na	5	(128Mx8)*18	2/6/08
Crucial	CT25672AA667.18FE	MT47H128M8HQ-3:E	Micron		5	(128Mx8)*18	3/6/08
ATP Electronics	AJ56K72G8BJE6S	K4T1G084QD-ZCE6 rev D	Samsung	SJ240G08 K1 na	5	(128Mx8)*18	1/9/08
STEC	INT72Q8W256M8M-A03GYU	MT47H128M8HQ-3 rev E	Micron	D2U72G na	5	(128Mx8)*18	1/18/08
Viking	VR5EU567218FBWL1	HY5PS1G831CFP-Y5 rev C	Hynix	D2U72G na	5	(128Mx8)*18	1/30/08
TRS	TRS30321X	E1108AB-6E-E rev B	Elpida	M0540LA1 rev 1	5	(128Mx8)*18	3/14/08
Samsung	M391T5663QZ3-CE6	Kr4T1G084QQ-HCF7	Samsung		5	(128Mx8)*18	3/18/08
Swissbit	MEU25672D4BC2EP-30R	EDE1108ACBG-6E-E rev C	Elpida	8132d rev d	5	(128Mx8)*18	4/3/08
Kingston	KVR667D2E5/2GI	E1108ACSE-6E-E	Elpida		5	(128Mx8)*18	4/15/08
TRS	TRS30417X	EDE1108ACBG-6E-E rev C	Elpida	M0540LA1 rev 1	2	(128Mx8)*18	6/13/08
Hynix	HYMP125U72CP8-Y5	HY5PS1G831CFP-Y5	Hynix		5	(128Mx8)*18	6/18/08
TRS	TRS30421X	HY5PS1G831CFP-Y5 rev C	Hynix	0814	5	128M x 8	06/20/08
TRS	TRS30419X	HYB18T1G800C2F-3S rev C2	Qimonda	240-7-1G (0743)	5	128M x 8	06/24/08
TRS	TRS30269X	K4T1G084QQ-HCE6 rev Q	Samsung	M391T2953CZ1-P10 na	5	128M x 8	06/30/08
Centon Electronics	TOP-049	EDE1108ACBG-6E-E rev C	Elpida	D2U72G rev G	5	128M x 8	10/22/08

Unbuffered, ECC, DDR2-800 DIMM Modules
2 GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	CAS Latency	DRAM Organization	Date
Micron	MT18HTF25672AY-80EE1	7HEII D9HNQ	Micron		5	(128Mx8)*18	11/07
Samsung	M391T5663DZ3-CE7	K4T51083QE-ZCE6	Samsung		5	(128Mx8)*18	11/07
ATP Electronics	AJ56K72G8BJE7M	MT47H128M8HQ-25E rev E	Micron	SJ240G08 K1 na	5	(128Mx8)*18	12/21/07
Smart Modular Technologies	SG2567UDR212851ME	MT47H128M8HQ-25E rev E	Micron	PG58G240 NUBUB1R G rev A	5	(128Mx8)*18	1/4/08
Hynix	HYMP125U72CP8-S6	HY5PS1G831CFP-S6	Hynix		6	(128Mx8)*18	2/2/08

Unbuffered, ECC, DDR2-800 DIMM Modules *2 GB Sizes (256Mx72)*							
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**CAS Latency**	**DRAM Organization**	**Date**
Dataram	DTM63368A	HY5PS1G831CFP-S5 rev C	Hynix	40082A rev A	5	(128Mx8)*18	2/4/08
Apacer	78.A1GAE.423	E1108ACBG-8E-E rev C	Elpida	48.18193.093 rev 3	5	(128Mx8)*18	1/21/08
Samsung	M391T5663QZ3-CF7	K4T1G084QQ-HCE6	Samsung		6	(128Mx8)*18	3/18/08
Kingston	KVR800D2E5/2GI	HY5PS1G831CFP-S5	Hynix		5	(128Mx8)*18	4/8/08
Kingston	KVR800D2E5/2GI	E1108ACBG-8E-E	Ipida		5	(128Mx8)*18	5/5/08
Viking	VR5EU567218FBZL1	MT47H128M8HQ-25 rev E	Micron	D2U72G	6	128M x 8	09/23/08
Viking	VR5EU567218FBZL2	HY5PS1G831CFP-S6 rev C	Hynix	D2U72G	6	128M x 8	09/23/08
Centon Electronics	TOP-051	CE128x8x8-25 rev C	Centon	D2U72G rev G	5	128M x 8	10/27/08
Unigen	UG25T7200M8DU-8CQ	MT47H128M8HQ-25 rev G	Micron	Maple-18 (3206)	6	128M x 8	11/20/08

Intel® Server Board S3200SH/S3210SH

Unbuffered, non- ECC, DDR2-800 DIMM Modules *2 GB Sizes (256Mx72)*							
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**CAS Latency**	**DRAM Organization**	**Date**
Buffalo	D2U800CX-2GECJ	E1108ACBG-8E-E rev C	Elpida	2D286NF3-AB	5	128M x 8	01/20/09
Buffalo	D2U800CX-2GHCJ	HY5PS1G831CFP-S5 rev C	Hynix	2D286NF3-AB	5	128M x 8	01/22/09

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

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Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpusa.com/	Tel (1) 408-732-5000, ext 5858 Fax 408-732-5893 sales@atpusa.com
ATP Electronics -- Taiwan Inc.	http://www.atpusa.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 phenke@dataram.com Peter Jauss, +49-69-680-9070 in EMEA pjauss@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/	
Infineon	http://www.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: Keri Albers 888 466 3853 ext. 307 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	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 wpe@msc-ge.com
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com

Vendor Name	Web URL	Vendor Direct Sales Info
Peripheral Enhancements	http://www.peripheral.com/	
PNY	http://www.pny.com/internet_explorer/LPB.HTML	
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 F. Patino Tel: 949 439-6167 gene.patino@smartm.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

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 Validation 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 bank 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 boxed processors. 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 on the boxed processor baseboard. 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.