

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.

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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 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.

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:

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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 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.

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 | SJ240G08 K1 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.A00na | 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 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.

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 |

(+) 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.

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 | M391T295 3CZ1-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 D9HNL | 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 | lpida | | 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 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.

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.itaucum.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/LP_B.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.

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