

Intel[®] Workstation Board S975XBX2 Memory List Test Report Summary



*Revision 1.1
January, 2008*

Revision History		
Date	Rev	Modifications
Sept. '06	1.0	Release
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The Intel® Workstation Board S975XBX2 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® Workstation Board S975XBX2. 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.

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Qualified Memory for the Intel® Workstation Board S975XBX2

The memory module on the Workstation Board S975XBX2 has 4 DIMM sockets, which can hold up to 8 GB of Unbuffered ECC and non-ECC DDR2-533, DDR2-667 or DDR2-800 memory using four 72-bit DIMM modules. The following memory features are supported:

- DDR2-533, DDR-667 and DDR2-800 Unbuffered ECC and non-ECC compatible modules
- DIMMs with capacity of 256MB, 512MB, 1G and 2G. Other DRAM sizes may function correctly but will not be validated.
- Minimum configuration is 256MB using one 256MB DIMM.
- Maximum configuration is 8G.

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

DDR2-533 Unbuffered SDRAM Module Matrix					
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices/rows/Banks	# Address bits rows/Banks/column
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10
1GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10
2GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10
DDR2-667 Unbuffered SDRAM Module Matrix					
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices/rows/Banks	# Address bits rows/Banks/column
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10
1GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10
2GB	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
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10
1GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10
1GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10
2GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10

Memory features are detailed in the *Intel® Workstation Board S975XBX2 Technical Product Specification* available on-line at <http://support.intel.com/support/motherboards/server/S975XBX2>

The following table lists DIMM devices known to be compatible with the Intel Workstation Board S975XBX2. 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.

Workstation Board S975XBX2

**Unbuffered, ECC, DDR2-533 DIMM Modules
256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

**Unbuffered, ECC, DDR2-667 DIMM Modules
256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

**Unbuffered, ECC, DDR2-800 DIMM Modules
256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

Modules shaded in blue are Lead Free

~ Effective May 1st, 2006, Infineon memory products will be known as Qimonda

(+) 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.

Workstation Board S975XBX2

Unbuffered, Non-ECC, DDR2-533 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

Unbuffered, Non-ECC, DDR2-667 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Samsung	M378T3354CZ3-CE6		Samsung			5		SS x 16	
Micron	MT4HTF3264AY-667B1		Micron			5		SS x 16	

Unbuffered, Non-ECC, DDR2-800 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Micron	MT4HTF3264AY-80ED3		Micron			5		SS x 16	

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Workstation Board S975XB2
Unbuffered, ECC, DDR2-533 DIMM Modules
512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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Workstation Board S975XBX2

Unbuffered, Non-ECC, DDR2-533 DIMM Modules 512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Samsung	M378T6553CZ3-CE6		Samsung			5		SS x8	
Micron	MT8HTF6464AY-667B3		Micron			5		SS x 8	

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Samsung	M378T6553CZ3-CE7		Samsung			5		SS x 8	
Micron	MT8HTF6464AY-80ED4		Micron			5		SS x8	
Hynix	HYMP564U64AP8-S5 AA		Hynix			5		SS x8	

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Workstation Board S975XB2

**Unbuffered, ECC, DDR2-533 DIMM Modules
1GB Sizes (128Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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Workstation Board S975XBX2

Unbuffered, Non-ECC, DDR2-533 DIMM Modules 1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Samsung	M378T2953CZ3-CE6		Samsung			5		DS x 8	
Micron	MT16HTF12864AY-667B3		Micron					DS x 8	
Micron	MT16HTF12864AY-667A3		Micron			5		SS x 8	

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL
Samsung	M378T2953CZ3-CE7		Samsung			5		DS x 8	
Micron	MT16HTF12864AY-80ED4		Micron			5		DS x 8	
Hynix	HYMP512U64AP8-S5 AB		Hynix			5		DS x 8	

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Workstation Board S975XBX2

**Unbuffered, ECC, DDR2-533 DIMM Modules
2GB Sizes (256Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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Workstation Board S975XBX2

Unbuffered, Non-ECC, DDR2-533 DIMM Modules 2GB Sizes (256Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Lead Free	DRAM Organization	EOL

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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

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ATP Electronics -- Taiwan Inc.	http://www.atpusa.com/	Patty Kuo 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
Dane-Elec	http://www.dane-memory.com/	Michal Hassan @ (949)450-2941 or email @ Michal@Dane-memory.com
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Hitachi	http://semiconductor.hitachi.com/pointer/	
Hyundai/Hynix Semiconductor	http://www.heacom.com/	
Infineon	http://www.infineon.com/business/distribut/index.htm	
ITAUCOM	http://www.itaucocom.br	
JITCO CO LTD	http://www.jitco.net/	Seong Jeon Tel: 82-32-817-9740 s.jeon@jitco.net
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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://silicon.micron.com/mktg/http://silicon.micron.com/mktg/mbqual/qual_data.cfm	
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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/salescontactacts.shtml	
Simple Tech	http://www.simpletech.com	Ron Darwish @ (949) 260-8230 or email @ Rdarwish@Simpletech.com
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Ventura Technology Inc	http://www.venturatech.com	Don Hummel @ 805-581-0800 x 108 or email @ don@venturatech.com
Viking InterWorks	http://www.vikinginterworks.com	
Virtium Technology Inc	http://www.virtium.com	Tod Skelton @ (949) 460-0020 ext. 146 or email @ tod.skelton@virtium.com
Legend	http://www.legend.com.au	Tel: 800-338-2361 Fax: 949-459-8577 orderdesk@vikingcomponents.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 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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