Intel® Server Platform SRMK2
Qualified Memory Test Report Summary

Revision 3.1
April 2002

Revision History		
Date	**Rev**	**Modifications**
April 12, ‘01	1.4	Initial post-launch release for review.
June 19, ‘01	1.5	Include updates from CMTL.
August 10, ‘01	1.6	Include updates from CMTL. (in shaded area).
August 17, ‘01	1.7	Include updates from CMTL. (in shaded area).
August 24, ‘01	1.8	Include updates from CMTL. (in shaded area).
August 31, 01	1.9	Include updates from CMTL. (in shaded area).
September 7, ‘01	2.0	Include updates from CMTL. (in shaded area).
September 17, ‘01	2.1	Include updates from CMTL. (in shaded area).
October 19,’01	2.2	Include updates from CMTL. (in shaded area).
October 26, ‘01	2.3	Include updates from CMTL. (in shaded area).
November 09, ‘01	2.4	Include updates from CMTL. (in shaded area).
November 27, ‘01	2.5	Include updates from CMTL. (in shaded area).
December 11, ‘01	2.6	Include updates from CMTL. (in shaded area).
January 08, ‘02	2.7	Include updates from CMTL. (in shaded area).
February 15, ‘02	2.8	Include updates from CMTL. (in shaded area).
March 01, ‘02	2.9	Include updates from CMTL. (in shaded area).
March 29, ‘02	3.0	Include updates from CMTL. (in shaded area). Updated Dataram part numbers (~ noted by this symbol)
April 15, “02	3.1	Include updates from CMTL. (in shaded area).

INTEL DISCLAIMS ALL LIABILITY FOR THESE DEVICES, INCLUDING LIABILITY FOR INFRINGEMENT OF ANY PROPRIETARY RIGHTS RELATING TO THESE DEVICES OR THE IMPLEMENTATION OF INFORMATION IN THIS DOCUMENT. INTEL DOES NOT WARRANT OR REPRESENT THAT SUCH DEVICES OR IMPLEMENTATION WILL NOT INFRINGE SUCH RIGHTS. INTEL IS NOT OBLIGATED TO PROVIDE ANY SUPPORT, INSTALLATION, OR OTHER ASSISTANCE WITH REGARD TO THESE DEVICES.

THE INTEL PRODUCT REFERRED TO IN THIS DOCUMENT IS INTENDED FOR STANDARD COMMERCIAL USE ONLY. CUSTOMERS ARE SOLELY RESPONSIBLE FOR ASSESSING THE SUITABILITY OF THE PRODUCT AND/OR DEVICES FOR USE IN PARTICULAR APPLICATIONS. THE REFERENCED INTEL PRODUCT IS NOT INTENDED FOR USE IN CRITICAL CONTROL OR SAFETY SYSTEMS OR IN NUCLEAR FACILITY APPLICATIONS.

Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by the sale of Intel products. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel retains the right to make changes to its test specifications and memory list at any time, without notice.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty. Only approved software drivers and accessories that are recommended for the revision number of the boards and system being operated should be used with Intel products. Please note that, as a result of warranty repairs or replacements, alternate software and firmware versions may be required for proper operation of the equipment.

The Intel® Server Platform SRMK2 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*

Table of Contents

Overview of Memory Testing

The following procedure is used to test memory modules for use in the Intel® Server Platform SRMK2. Intel Corporation requires strict guidelines be met before a memory vendor and part is put onto the qualified memory list. Each Intel® Internet Server product has a separate qualified memory list.

Memory qualification for Intel®'s Internet Server 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 Internet Server 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® system for which it is being qualified with test software operating under Microsoft* Windows*2000 Advanced Server 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 a leading 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:

John Deters	Computer Memory Test Lab (CMTL)
714-960-1243 (voice)	101 Main Street, Suite 2G
714-960-4695 (fax)	Huntington Beach, CA 92648
	http://www.cmtlabs.com

Qualified Memory for the Intel® Server Platform SRMK2

The SRMK2 has four DIMM sockets, which can hold up to 4 GB of Registered ECC, 72 bit, PC133 or PC100 memory. The following memory features are supported:

- 133MHz or 100MHz, Registered ECC PC-133 or PC100 compatible 3.3V SDRAM modules.
- DIMMs with a capacity of 64MB, 128MB, 256 MB, 512 MB and 1G. Other DRAM sizes may function correctly but will not be validated.
- Minimum configuration is 64MB using one 64MB DIMM.

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

PC-133 Registered SDRAM Module Configurations for Cas Latency 2 & 3				
DIMM Capacity	**DIMM Organization**	**SDRAM Density**	**SDRAM Depth**	**SDRAM Width**
64 MB	8 Mbit x 72	64Mb	4Mb	16 bit
64 MB	8 Mbit x 72	64Mb	8Mb	8 bit
128 MB	16 Mbit x 72	64Mb	8Mb	8 bit
128 MB	16 Mbit x 72	64Mb	16Mb	4 bit
64 MB	8 Mbit x 72	128Mb	8Mb	16 bit
128 MB	16 Mbit x 72	128Mb	8Mb	16 bit
128 MB	16 Mbit x 72	128Mb	16Mb	8 bit
256 MB	32 Mbit x 72	128Mb	16Mb	8 bit
256 MB	32 Mbit x 72	128Mb	32Mb	4 bit
64 MB	8 Mbit x 72	256Mb	8Mb	32 bit
128MB	16 Mbit x 72	256Mb	8Mb	32 bit
128 MB	16 Mbit x 72	256Mb	16Mb	16 bit
256MB	32 Mbit x 72	256Mb	16Mb	16 bit
256 MB	32 Mbit x 72	256Mb	32Mb	8 bit
512 MB	64 Mbit x 72	256Mb	32Mb	8 bit
512 MB	64 Mbit x 72	256Mb	64Mb	4 bit
1GB	128 Mbit x 72	256Mb	64Mb	4 bit

Note: Memory features are detailed in the *Intel® Server Platform SRMK2 Technical Product Specification* available on-line at http://support.intel.com/support/motherboards/server/SRMK2/

The following table lists DIMM devices known to be compatible with the Intel® Server Platform SRMK2. Intel recommends that qualified 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 qualified 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. 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 Platform SRMK2

Manufacturer	Part Number	DRAM Size	Speed	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Micron	MT9LSDT1672G-133-B1	128MB	133MHz		4/12/01	N/A$^{\phi}$	3		
Micron	MT18LSDT3272G-133-B1	256MB	133MHz		4/12/01	N/A$^{\phi}$	3		
Samsung	M390S1620ET1-C75	128MB	133MHz		4/12/01	N/A$^{\phi}$			
Samsung	M390S3320CT1-C75	256MB	133MHz		4/12/01	N/A$^{\phi}$			
Samsung	M390S0823ET1-C75	64MB	133MHz		4/12/01	N/A$^{\phi}$			
Micron	MT9LSDT872G-133C3	64MB	133MHz		4/12/01	N/A$^{\phi}$			
Samsung	M390S6450BT1-C75	512MB	133MHz		4/12/01	N/A$^{\phi}$			
Infineon	HYS72V64300GR-7.5	512MB	133MHz		4/12/01	N/A$^{\phi}$			
Hitachi	HB52RF1289E2-75B**	1GBMB	133MHz		4/12/01	N/A$^{\phi}$			
Micron	MT18LSDT1672G-10EC2	128MB	100MHz		4/12/01	N/A$^{\phi}$			
*Aved Memory Products	AMP377P1723AT2-C7B/MI	128MB	133mhz	105399 rev B	08/29/01	D354	3	Yes	
*Dane-Elec	DP133R072163AL	128MB	133mhz	DE082030	09/04/01	E259	3	Yes	
*PNY	7216ZHSTM4G13TWI-PH0	128MB	133mhz	40000494 rev A	09/04/01	D331	3	Yes	
*PNY	7216ZHSTM4G13TWI-PK0	128MB	133mhz	40000494 rev A	08/29/01	D327	3	Yes	
*ATP Electronics	AR16V72N4S4GAS	128MB	133mhz	SR168N04V rev 2	08/01/01	D318	3	Yes	
*Dataram	DTM60168(60168Z)(M)	128MB	133mhz	40506 rev A	06/21/01	D691	3	Yes	
*Dataram	DTM60158(60158Z)(M)	128MB	133mhz	40484 rev A	07/30/01	D699	3	No	
*ATP Electronics	AR16V72L8S4GAS	128MB	133mhz	SR168L08V rev 1	08/08/01	D305	3	Yes	
*PNY	72A0UHSTM8G24KWR-PH0	1GB	133mhz	40000475 rev B	08/29/01	D727	3	No	
*Dataram	DTM60126(60126Z)(S)	1GB	133mhz	40481 rev A	05/26/01	D325	3	No	
*PNY	72A0UHSTM8G24KWR-PK0	1GB	133mhz	40000475 rev B	08/22/01	D736	3	No	
Kingston	KVR133X72RC3/1024I	1GB	133mhz	2022254-001 rev A00	06/27/01	D873	3	No	
*Aved Memory Products	AMP377P3323AT2-C7B/MI	256MB	133mhz	105352 rev B	08/24/01	D350	2	No	
*ATP Electronics	AR32V72N4S4GAS	256MB	133mhz	SR168N04V rev 2	06/30/01	D316	3	Yes	
*Viking	INT25624	256MB	133mhz	9001742 rev A	06/07/01	D315	3	No	
*Dataram	~DTM60172D (Old Part# DTM60172)	256MB	133mhz	40506 rev A	07/19/01	D332	3	Yes	
*Dataram	DTM60125(M)	256MB	133mhz	40481 rev A	05/16/01	D308	3	No	
*Aved Memory Products	AMP377P3253BTE-C75/S	256MB	133mhz	105399 rev B	08/13/01	D336	3	Yes	
*PNY	7232ZHSTM4G24TWR-PH0	256MB	133mhz	40000476 rev B	08/22/01	D326	3	No	
*ATP Electronics	AR32V72N4S4GAS	256MB	133mhz	SR168N04V rev 2	08/24/01	D364	3	Yes	

Kingston	KVR133X72RC3L/256-IS	256MB	133mhz	2005086-001 rev B00	07/26/01	D901	3	Yes	
*Dataram	DTM60188(60188Z)(I)	256MB	133mhz	40506 rev A	07/17/01	D347	3	Yes	
*Dataram	DTM60125(60125Z)(M)	256MB	133mhz	40481 rev A	07/30/01	D649	3	No	
*Dataram	DTM60188(60188Z)(M)	256MB	133mhz	40506 rev A	07/10/01	D348	3	Yes	
*ATP Electronics	AR32V72N4S4GAS	256MB	133mhz	SR168N04V rev 2	08/08/01	D361	3	Yes	
Micro Memory Bank	M15M3272-060CCMAU	256MB	133mhz	128MX72R	08/20/01	E286	3	No	
*ATP Electronics	AR64V72N4S8GAS	512MB	133mhz	SR168N04V rev 2	08/08/01	D358	3	Yes	
*Dataram	DTM60176(60176Z)(Y)	512MB	133mhz	40511 rev A	05/21/01	D333	3	Yes	
*Dataram	DTM60176(60176Z)(I)	512MB	133mhz	40511 rev A	09/07/01	D334	3	Yes	
*Aved Memory Products	AMP377P6450BT3-C75/S	512MB	133mhz	105349 rev C	08/13/01	D335	3	No	
*Dataram	DTM60116(60116Z)(M)	512MB	133mhz	40481 rev A	06/25/01	D720	3	No	
*Dataram	DTM60133(60133Z)(Y)	512MB	133mhz	40481 rev A	05/30/01	D323	3	No	
*Dataram	DTM60133(60133Z)(I)	512MB	133mhz	40481 rev A	07/12/01	D899	3	No	
Kingston	KVR133X72RC3L/512-IS	512MB	133mhz	2005086-001 rev B00	07/28/01	D902	3	Yes	
Micro Memory Bank	M15M6472-060BCMAU	512MB	133mhz	128MX72R	08/20/01	E284	3	No	
*PNY	7264WHSTM8G24TWR-PH0	512MB	133mhz	40000476 rev B	08/24/01	D330	3	No	
*Aved Memory Products	AMP377P1723AT2-C7B/MI	128MB	133mhz	105399 rev B	08/29/01	D354	3	Yes	
*Dane-Elec	DP133R072323IL	256MB	133mhz	DE082030	09/10/01	E218	3	Yes	
*Dane-Elec	DP133R072323IL	256MB	133mhz	DE082030	09/8/01	E234	3	Yes	
*Dataram	DTM60125 (68014Z) (Y)	256MB	133mhz	651219-G1 rev 1	09/12/01	E457	3	No	
*Dane-Elec	DP133R072643IL	512MB	133mhz	DE082030	09/12/01	E226	3	Yes	
*Dataram	DTM60133 (68015Z) (Y)	512MB	133mhz	651219-G1 rev 1	09/12/01	E465	3	No	
*Aved Memory Products	AMP377P1723AT2-C75/H	128MB	133mhz	105399 rev B	10/06/01	D312	3	Yes	
*Aved Memory Products	AMP377P6453AT2-C75/MV	512MB	133mhz	105352 rev B	10/06/01	E656	3	No	
*ATP Electronics	AMR32V72J4S4GAS	256MB	133mhz	SR168J 04V rev 1	10/25/01	D590	3	No	
*ATP Electronics	AMR32V72F8S4GAS	256MB	133mhz	SR168F08V rev 1	10/25/01	D608	3	No	
Aved Memory Products	AMP377P1723DT2-C75/S	128MB	133mhz	105399 rev B	11/05/01	E913	3	Yes	
*ATP Electronics	AR128V72J4SGGAS	1GB	133mhz	SR168J 04V rev 1	11/08/01	D659	3	No	
Kingston	KVR133X72RC3/1024I	1GB	133mhz	2022254-001 rev A00	10/31/01	F014	3	No	
*ATP Electronics	AMR32V72J4S4GAS	256MB	133mhz	SR168J 04V rev 1	10/26/01	D590	3	No	
*ATP Electronics	AMR32V72F8S4GAS	256MB	133mhz	SR168F08V rev 1	10/26/01	D608	3	No	
*Aved Memory Products	AMP377P3253ATE-C75/MV	256MB	133mhz	105399 rev B	11/05/01	E664	3	Yes	
*ATP Electronics	AR16V72L8S4GAS	128MB	133mhz	SR168L08V rev 1	11/16/01	F202	3	Yes	

*Viking	INT102409	1GB	133mhz	9001690 rev B	11/27/01	F015	2	No	
*ATP Electronics	AR128V72N4SMGAS	1GB	133mhz	SR168N04V rev 2	11/21/01	F198	3	Yes	
*ATP Electronics	AR64V72N4S8GAS	512MB	133mhz	SR168N04V rev 2	11/10/01	F190	3	Yes	
*Legend	L6472QC3-59AHSC3A	512MB	133mhz	B5982 rev A	11/15/01	F565	3	No	
*Dataram	~DTM68015B (Old Part# DTM68015(M))	512MB	133mhz	651219-G rev 1	12/11/01	F764	3	No	
*Smart Modular	SM572324574E03R	256MB	133mhz	P51G168NEBSIB33 rev B	11/30/01	F617	3	No	
*Viking	INT102409	1GB	133mhz	9001690 rev B	11/28/01	F015	2	No	
*Dataram	~DTM68014B (Old Part# DTM68014(M))	256MB	133mhz	MT48LC32M4A2TG-75	12/16/01	G386	3	No	
*Dataram	DTM68015 (68015Z) (Y)	512MB	133mhz	HY57V56420T-HP	12/13/01	F757	3	No	
*Legend	L6472WC3-21ASSG3C	512MB	133mhz	K4S560432C-TC75 rev C	12/24/01	F863	3	Yes	
*Dataram	~DTM60194A (Old Part# DTM60194(M))	512MB	133mhz	MT48LC64M4A2TG-75	12/13/01	F742	3	Yes	
*SMART Modular Technologies	SM12872SR301-ICA	1GB	133mhz	P51G168NEBSIBP3	2/6/02	G566	3	No	
*Dataram	~DTM60193A (Old Part# DTM60193(M))	1GB	133mhz	40554 rev A	2/10/02	G462	3	Yes	
*SMART Modular Technologies	SM3272SR301-ICA	256MB	133mhz	P51G168NEBSIBP3	1/15/02	G542	3	No	
*Legend	L3272QC3-59AHSC3A	256MB	133mhz	B5982 rev A	2/2/02	F561	3	No	
*Dataram	~DTM60194C (Old Part# DTM60194(E))	512MB	133mhz	40551 rev A	2/12/02	G999	3	Yes	
*Dataram	DTM60194 (H)	512MB	133mhz	40551 rev A	1/29/02	G991	3	Yes	
*SMART Modular Technologies	SM6472SR301-ICA	512MB	133mhz	P51G168NEBSIBP3	1/22/02	G554	3	No	
*Dataram	~DTM60199A (Old Part# DTM60199(M))	256MB	133mhz	40551 rev A	2/21/02	H597	3	Yes	
*Dane-Elec	DP133R072323IL	256MB	133mhz	DE082030 rev B	3/28/02	H878	2	Yes	
*MSC Vertriebs GmbH	MSC512M00001	512MB	133mhz	M0507LA1	3/20/02	H855	3	Yes	
*Dane-Elec	DP133R072643IL	512MB	133mhz	DE082030 rev B	4/9/2002	H891	2	Yes	
*Dataram	DTM60172D	256MB	133mhz	40506 rev A	4/4/2002	I053	3	Yes	

* For further information contact CMTL at mailto:john@cmtlabs.com.

****** Hitachi 1GB parts with part number HB52RF1289E2-75B are only good for later date-coded parts. Parts with date codes of 0015 and 0016 do not function properly in the SRMK2 system. Parts with date codes later than these do function properly. (It appears the 0015 and 0016 numbers correspond to yearly work weeks. Parts dated 0032 and later do function properly).

ϕ Initial memory tested by Intel's Memory Validation Laboratory (MVL).

Distributor Information

ASIA

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
ATP Electronics, Inc	ATP Electronics, Inc. Taiwan	Suzan Chang	Tel 011-886-2-2718-8405-201 Mobil 0912201378	011-886-2-2718-8253 http://www.atpusa.com suzanc@atpusa.com
Corsair (USA)		Richard Hashim	01-510-657-8747 ext. 204	http://www.corsairmicro.com/sales.htm
Dataram	Avnet, Inc.		800-426-7999	
Dataram	Arrow ICP		888-427-2250	
Dataram	Pioneer Standard Electronics/Keylink Systems		800-539-5465	
Dataram	Wyle Systems		800-318-9953	
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo	49-7249-910-417	Fax: 49-7249-910-229 wpe@msc-ge.com
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm
Simple Tech				http://www.simpletech.com/about/buyprod.html
Silicon Tech				http://www.silicontech.com/contact/salescontacts.shtml
Smart Modular Technologies		Chuck Lantz	888-496-8135 ext. 125	http://www.smartm.com chuck.lantz@smartm.com
Viking Components				http://www.vikingcomponents.com/company/offices.cfm

Europe

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
ATP Electronics, Inc	Llanos & Asociados (Spain)	Jose Vasquez	34-902-40-39-38	34-94-480-41-89
Corsair (USA)		Richard Hashim	01-510-657-8747 ext. 204	http://www.corsairmicro.com/sales.htm
Dane-Elec			(353) 91 55 30 00	: sales@dane-elec.ie
Dataram	Avnet, Inc.		800-426-7999	
Dataram	Arrow ICP		888-427-2250	
Dataram	Pioneer Standard Electronics/Keylink Systems		800-539-5465	
Dataram	Wyle Systems		800-318-9953	
Hyundai		tkhan	+82-2-746-6639	T.K Han@hei.co.kr
Infineon				http://www.infineon.com/business/distribut/index.htm
Kingston				http://www.kingston.com/partners/default.asp
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo	49-7249-910-417	Fax: 49-7249-910-229 wpe@msc-ge.com
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm
Silicon Tech Inc.	Microtronica-Sweden	Jorgen Carlsson	00 46 86 807800	http://www.silicontech.com/contact/salescontacts.shtml
Silicon Tech Inc.	Microtronica-Denmark	Brigitte Kraglund	00 45 44 508100	http://www.silicontech.com/contact/salescontacts.shtml
Silicon Tech Inc.	Eurodis Bytech	Carol Boycott	00 44 1256 379312	http://www.silicontech.com/contact/salescontacts.shtml
Silicon Tech Inc.	Eurocomposant	Julie Fichot	00 33 130649515	http://www.silicontech.com/contact/salescontacts.shtml
Silicon Tech Inc.	NBN System Components	Adalbert Reidle	00 49 815292360	http://www.silicontech.com/contact/salescontacts.shtml
Smart Modular Technologies		Chuck Lantz	888-496-8135 ext. 125	Http://www.smartm.com chuck.lantz@smartm.com
Viking				http://www.vikingcomponents.com/company/offices.cfm

Japan

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
ATP Electronics, Inc	ATP Electronics, Inc. Taiwan	Suzan Chang	Tel 011-886-2-2718-8405-201 Mobil 0912201378	011-886-2-2718-8253 http://www.atpusa.com suzanc@atpusa.com
Corsair (USA)		Richard Hashim	01-510-657-8747 ext. 204	http://www.corsairmicro.com/sales.htm
Dataram	Avnet, Inc.		800-426-7999	
Dataram	Arrow ICP		888-427-2250	
Dataram	Pioneer Standard Electronics/Keylink Systems		800-539-5465	
Dataram	Wyle Systems		800-318-9953	
Infineon				http://www.infineon.com/business/distribut/index.htm
Kingston				http://www.kingston.com/partners/default.asp
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo	49-7249-910-417	Fax: 49-7249-910-229 wpe@msc-ge.com
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm
Silicon Tech Inc.				http://www.silicontech.com/contact/salescontacts.shtml
Simple Tech				http://www.simpletech.com/about/buyprod.html
Smart Modular Technologies		Chuck Lantz	888-496-8135 ext. 125	http://www.smartm.com chuck.lantz@smartm.com
Viking				http://www.vikingcomponents.com/company/offices.cfm

South America

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
ATP Electronics, Inc	ATP Electronics, Inc. - U.S.A.	Florence Hsieh	408-468-6013	408-732-5055 http://www.atpusa.com sales@atpusa.com
Corsair (USA)		Richard Hashim	01-510-657-8747 ext. 204	http://www.corsairmicro.com/sales.htm
Dataram	Avnet, Inc.		800-426-7999	
Dataram	Arrow ICP		888-427-2250	
Dataram	Pioneer Standard Electronics/Keylink Systems		800-539-5465	
Dataram	Wyle Systems		800-318-9953	
Infineon				http://www.infineon.com/business/distribut/index.htm
Kingston				http://www.kingston.com/partners/default.asp
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo	49-7249-910-417	Fax: 49-7249-910-229 wpe@msc-ge.com
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm
Silicon Tech Inc.				http://www.silicontech.com/contact/salescontacts.shtml
Simple Tech				http://www.simpletech.com/about/buyprod.html
Smart Modular Technologies		Chuck Lantz	888-496-8135 ext. 125	Http://www.smartm.com chuck.lantz@smartm.com
Viking				http://www.vikingcomponents.com/company/offices.cfm

North America

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
ATP Electronics, Inc	ATP Electronics, Inc. -U.S.A.	Florence Hsieh	408-468-6013	408-732-5055 http://www.atpusa.com sales@atpusa.com
Dataram	Avnet, Inc.		800-426-7999	
Dataram	Arrow ICP		888-427-2250	
Dataram	Pioneer Standard Electronics/Keylink Systems		800-539-5465	
Dataram	Wyle Systems		800-318-9953	
Infineon				http://www.infineon.com/business/distribut/index.htm
Kingston				http://www.kingston.com/partners/default.asp
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo	49-7249-910-417	Fax: 49-7249-910-229 wpe@msc-ge.com
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm
Silicon Tech Inc.				http://www.silicontech.com/contact/salescontacts.shtml
Simple Tech				http://www.simpletech.com/about/buyprod.html
Smart Modular Technologies		Chuck Lantz	888-496-8135 ext. 125	http://www.smartm.com chuck.lantz@smartm.com
Viking Components			800.338.2361 949.643.7255	http://www.vikingcomponents.com/company/offices.cfm

CMTL[sm] (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.

Intel® Product Dealers and Product Integrators

The Intel Product Dealer program was designed in North America to support system integrators building and selling a limited number of systems per year. More information on this program is available through the Intel web site at http://channel.intel.com. Similar programs exist in European, Middle Eastern, African, Asia-Pacific and South American regions.

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 Pentium® III Xeon™ 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.