Intel® SRPL8 Server System
Memory List Test Report Summary

Revision 4.0
July, 2002

Revision History		
Date	**Rev**	**Modifications**
June/01	0.5	Pre-release version for review.
Sept/01	1.0	Release version.
Oct/01	2.0	Added Dataram 256mb part. (Shaded modules in table)
April/02	3.0	Updated Dataram part numbers (~ noted with this symbol)
July/02	4.0	Added Kingston 512MB parts. (In shaded area)

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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 SRPL8 MP Server System 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.

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 memory modules for use in the Intel® SRPL8 Server System. Memory is a vital subsystem in a platform. Intel Corporation requires strict guidelines to be met before a memory vendor 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 NT* version 4.0 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 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 SRPL8 Server System

Each memory module on the SRPL8 server has 16 DIMM sockets, which can hold up to 16 GB of ECC memory using 16 72-bit dual inline memory modules, a total of 32GB using two memory modules. The following memory features are supported:

- 100 MHz, PC-100 or PC-133 compatible 3.3V registered SDRAM modules (in compliance with the PC-100 or PC-133 Registered DIMM Specification)
- DIMMs with capacity of 128MB, 256 MB, 512 MB and 1G. Other DRAM sizes may function correctly but will not be validated.
- Minimum configuration of 128 MB using one 128 MB DIMM.

This document lists DIMM devices known to be compatible with the Intel SRPL8 server platform.

Memory features are detailed in *the SRPL8 Server System Technical Product Specification.*

The following table lists DIMM devices known to be compatible with the Intel SRPL8 Server System. 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. The memory devices shown are categorized according to three levels of qualification:

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.

SRPL8 Server System

Registered, ECC, 100MHz SDRAM DIMM Modules
128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	EOL
+Samsung	(Old #) KMM377S1620CT3-GL (New #) M377S1620CT3-C1L00				5/21/99		
+Samsung	(Old #) KMM377S1620DT3-GL (New #) M377S1620DT3-C1L00				8/2/99		
Micron	MT18LSDT1672G-10EC2				8/26/99		
Micron	MT9LSDT1672G-10EB1				2/4/00		
~Dataram	DTM60089	MT48LC16M4A2TG-8E	Micron	40455 rev B	8/15/00	A934	
~Viking	INT12816 And PC10016X72RCL2-IA	UPD45128841G5-A80-9JF	NEC	9001742	12/5/00	B450	
~Dataram	DTM60089	HY57V654020BTC-10P rev B	Hyundai	40455 rev B	12/13/00	B580	
~Aved Memory Products	AMP377P1723AT2-C1H/H	HY57V28820AT-P rev A	Hyundai	105399 rev B	1/2/01	B735	
Micron	MT9LSDT1672G-10EE1				5/25/01		
~Dataram	DTM60089 (60089Z)	MT48LC16M4A2TG-8E rev C	Micron	40455 rev B	6/4/01	C748	
~Aved Memory Products	AMP377P1723AT2-C1H/MI	MT48LC16M8A2TG-7E rev A	Micron	105399 rev B	6/30/01	C993	

Registered, ECC, 133MHz SDRAM DIMM Modules
128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	EOL
~PNY	7216ZHSTM4G13TWI-PK0	TC59SM708AFT-75 rev A	Toshiba	40000494 rev A	7/24/01	D178	

+Samsung parts are available under both part numbers.

~ This vendor is part of the CMTL Gold or Advance 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.*

SRPL8 Server System

Registered, ECC, 100MHz SDRAM DIMM Modules
256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	EOL
~Dataram	DTM60087	MT48LC16M4A2TG-8E	Micron	40455	12/17/99	A434	
+Samsung	(Old #) KMM377S3323T-GL (New #) M377S3323MT0-C1L00				6/1/99		
~Viking	INT25603	KM44S32030T-GL / A	Samsung	9001690G	1/20/00	A574	
~Viking	INT25604	TC59SM704FT-80 / A	Toshiba	9001690G	1/13/00	A575	
Toshiba	THMY7232F0EG-80US				2/24/00		
Micron	MT18LSDT3272G-10EB1 **(Note**: Qualified parts were manufactured with a 9949 or later date code.)				5/10/00		
~Dataram	DTM60122	HY57V1294020TC-10P	Hyundai	40455 rev B	7/3/00	B199	
Viking	INT25601 And PC10032X72RCL3-IA	D45128441G5-A10-9JF	NEC	9001690	8/22/00	B423	
~Dataram	DTM60287 (60087Y)	MT48LC16M8A2TG-8E	Micron	40454 rev C	10/31/00	B644	
Aved Memory Products	AMP377P3323BT2-C1H/S	K4S280832B-TC1H rev B	Samsung	105352 rev B	1/30/01	B753	
Aved Memory Products	AMP377P3323AT2-C1H/H	HY57V28820AT-P rev A	Hyundai	105352 rev B	1/30/01	B755	
Samsung	M377S3320CT3-C1H				3/09/01		
~Dataram	~DTM60087Y (Old Part# DTM60287(60087Y)(M))	MT48LC16M8A2TG-75 rev E	Micron	40454 rev C	09/18/01	E628	

+Samsung parts are available under both part numbers.

~ This vendor is part of the CMTL Gold or Advance 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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SRPL8 Server System

Registered, ECC, 100MHz SDRAM DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	EOL
Infineon	HYS72V64200GR-8B (**Note:** Qualified parts were manufactured with 9923 or later date code.)				7/21/99		
+Samsung	(Old #) KMM377S6428T3-GL (New #) M377S6428MT3-C1L00				6/9/99		
~Dataram	DTM60091	UPD45128441G5-A10	NEC	40455	12/26/99	A553	
+Samsung	(Old) KMM377S6450AT3-GH (New) M377S6450AT3-C1H00				1/13/00		
~Viking	INT51204	UPD45128441G5A10	NEC	9923715.9923716 rev A	1/26/00	A636	
~Dataram	DTM60091	HY57V1294020TC-10S	Hyundai	40455 rev B	8/1/00	B094	
~Viking	INT51208	0312404CT3 rev A	IBM	9923715C rev. C/9923716A rev. A/9923717A rev.A	12/11/00	B456	
~Dataram	DTM60123	HYB39S256400CT-8 Rev C	Infineon	40455 rev B	12/26/00	B717	
Samsung	M377S6450BT3-C1H				4/08/01		
Kingston	KVR133X72RC3/512-IS	HYB39S256400CT-7.5	Infineon	2022254-001 A00	7/13/02	400	

~ Part number change/Correction
+Samsung parts are available under both part numbers.

~ This vendor is part of the CMTL Gold or Advance 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.

SRPL8 Server System

Registered, ECC, 100MHz SDRAM DIMM Modules
1G Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	EOL
Infineon	HYS72V128220GR-8A				11/22/99		
+Samsung	(Old) KMM377S2858AT3-GL (New) M377S2858AT3-C1L00 (**Note:**Qualified parts were manufactured with 9942 or later date code.)				1/13/00		
~Viking	4D128722R8SN3-DL01/ INT102401	HYB39S256400T-A8 die A	Infineon	9923715BG / 9923716-36 / 9923716A	5/26/00	A806	
Simple Tech	SINT72128218IRD2-10DVG	HYB39S256400T-8	Infineon	734 rev A	8/11/00	A777	
Silicon Tech	INT72R4L128M8H-A10DV	HYB39S256400T-8	Infineon	734 rev A	8/11/00	A778	
Hitachi	~HB52R1289E22-A6B				10/10/00		
Infineon	HYS72V128220GR-8-C2				3/23/01		
Samsung	M377S2858BT3-C1H				3/30/01		

~ Part number change/Correction
+Samsung parts are available under both part numbers.

~ This vendor is part of the CMTL Gold or Advance 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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Distributor Information

ASIA

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
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
Micron				http://www.micron.com/mti/msp/html/salesint.html
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm

Europe

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
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
Micron				http://www.micron.com/mti/msp/html/salesint.html
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm

Japan

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
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
Micron				http://www.micron.com/mti/msp/html/salesint.html
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm

South America

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
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
Micron				http://www.micron.com/mti/msp/html/salesint.html
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm

North America

Vendor Name	Distributor Name	Contact Name	PhoneNumber	Fax Number/E-Mail
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
Micron				http://www.micron.com/mti/msp/html/salesint.html
Samsung				http://www.korea.samsungsemi.com/top/contactus/contactus_index.htm

CMTL℠ (Computer Memory Test Labs)

CMTL~ is a privately owned and operated memory testing organization responsible for testing a broad range of memory products. Memory devices tested by CMTL must undergo a rigorous battery of tests to ensure that the product will perform the intended server functions. Memory capability is a major factor your customers consider. CMTL has the ability to test and certify memory on Intel-based server platforms. The list of memory modules, which have undergone testing through the CMTL facility, should be referenced when considering modules for integration into this Intel server product. Stringent standards with regard to manufacturing procedures and quality must be met to pass the exacting tests required for qualification through the independent testing facility. Testing is performed by CMTL with Intel server products and test procedures defined by Intel's Memory Qualification Lab. Intel routinely audits the CMTL facility to ensure all procedures, process handling, and testing methodologies are met.

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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® II 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 Pentium II 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 C440GX+ 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.