

# **Intel<sup>®</sup> STL2 Server Board Memory List Test Report Summary**



*Revision 59.0  
April, 2003*

Revision History		
Date	Rev	Modifications
Sept/00	0.5	Initial post-launch release for review.
Sept/00	1.0	Release
Oct/00	2.0	Added Dataram 128MB part. Added Silicon Tech & Simple Tech 256MB parts. Added Viking & ATP Electronics 512MB parts. (In shaded area).
Oct/00	3.0	Added Hyundai, Micron & Samsung 128MB parts. Added ATP Electronics, Kentron & Samsung 256MB parts. (In shaded area).
Nov/00	4.0	Added Dataram 256MB & 512MB parts. Added Viking, Corsair and Kingston 256MB parts. Added Dan-Elec, ATP, Silicon Tech, Simple Tech & Infineon 128MB parts. Added Legacy Elec. 1GB part. Made correction on Hyundai 128MB part. Added Distributor information. (In shaded area).
Nov/00	5.0	Added Kingston 128MB part. (In shaded area).
Dec/00	6.0	Part number correction for Legacy Elec. Removed Infineon 1G part. Added Corsair 256MB part. Added Dataram 128MB part. (In shaded area).
Dec/00	7.0	Added Micron & Dane-Elec 64MB parts. Added Samsung & ATP Electronics 128MB parts. Added Dataram, ATP Electronics & Legacy Electronics 256MB parts. Added Dane-Elec, ATP Electronics & Corsair 512MB parts. Added Samsung 1G part. (In shaded area).
Jan/01	8.0	Added Samsung, ATP Electronics & Viking 256MB parts. Added ATP Electronics & Aved Memory Products 128MB parts. Added ATP Electronics 512 & 1G parts. (In shaded area).
Jan/01	9.0	Added Viking 128MB part. Added Silicon Tech & Simple Tech 256MB parts. Added Virtium Technology Inc., Kingston GolenRAM, Simple Tech, Silicon Tech, Unigen, Aved Memory Products, Dataram & Corsair 512MB parts. Added 2 <sup>nd</sup> part number for Viking 256MB part. (In shaded area).
Feb/01	10.0	Added Dane-Elec, Micron & Samsung 128MB part. Added Aved Memory Products, & Infineon 256MB part. Added Dataram 512MB part. (In shaded area).
Mar/01	11.0	Added Corsair 256MB & 1G parts. Added Viking 256MB part. Added Legend 512MB part. Added Aved Memory Products 256MB part. Added Dane-Elec 256MB parts. Added Samsung 64MB, 128MB, 256MB & 512MB parts. Made correction for Samsung 1G part. (In shaded area).
April/01	12.0	Added Dane-Elec 1G & 128MB part. Added Aved Memory Products 256MB part. Added Itaucom 128MB parts. Added Avant Technology 256MB part. Added GoldemRAM 64MB & 128MB part. Added Dataram 512MB part. (In shaded area).
May/01	13.0	Correction on vendor name from Legend to Legacy Electronics Inc. for 512MB part. Correction made for ATP 1G part, this part is low profile. Wrong listing for Aved Memory Products 256MB part, moved from 128MB part section. Correction on vendor name from Aved Memory Products to GolenRAM 256MB part. Added Aved Memory Products, Aved Memory Products & Virtium Technology Inc, & PYN 256MB parts. Added Dane-Elec & Samsung 128MB part. (In shaded area).
June/01	14.0	Added Datram 512MB & 1G parts. Added Dane-Elec 256MB part. Added Legend 512MB part. Added Kingston 1G part. Added Legacy Electronics Inc. 1G part. Added Avant Technology 512MB part. Added Itaucon 256MB part. Added ATP Elec. 512MB part. Added Ramaxel Technology Limited 128MB part. Added Infineon 256MB part. (In shaded area).
June/01	15.0	Added ATP Electronics 256, 512 and 1GB parts, Centon's 512MB part, Dataram 256MB and 1GB parts, Ituacom 256MB part, Kingston 1GB part, PNY 256 and 512MB parts, Simple Tech 512MB part, Viking 256 and 512MB parts. Added Infineon 256MB, 512MB & 1G parts. Added Samsung 256MB & 512MB parts. (In shaded area).
June/01	16.0	Added Dataram 256MB, Ramax 256 & 512MB, Micron 256MB, PNY 1GB parts. (In shaded area)
June/01	17.0	Added Dataram 256MB, PNY 128 & 256MB, Avant Technology 512MB, ATP 1GB parts. Correction made on Infineon 256MB part & added new part. (In shaded area)
June/01	18.0	Added PNY 128MB, Micron 128MB, ATP Electronics 1GB, Ventura Technology 256MB, Dataram 512MB parts. (In shaded area).
July/01	19.0	Added Dataram 128MB, ATP 256MB parts. (in shaded area).
July/01	20.0	Added Simple Tech 1GB part. (In shaded area).
July/01	21.0	Added Aved 128MB part. (In shaded area).
Aug/01	22.0	Added Dataram 256MB part. (In shaded area).
Aug/01	23.0	Added Apacer 256MB and 1GB parts. (In shaded area). Made corrections to Itaucom part #'s.
Aug/01	24.0	Added Micro Memory Bank 256MB and 512MB parts, Apacer 512MB parts. (In shaded area)
Aug/01	25.0	Added Micron 1GB, Dane 256MB, PNY 512MB parts. (In shaded area)
Aug/01	26.0	Added Ventura Technology 512MB parts (in shaded area) and updated Vendor Information.
Sept/01	27.0	Added Kingston 1GB, Dane 256mb (in shaded area).

<b>Revision History</b>		
<b>Date</b>	<b>Rev</b>	<b>Modifications</b>
Oct./01	28.0	Added Legend 256, 512MB and 1G. Dataram 256MB part. Added Century Micro 512MB Correction on Kentron 1G part. (in shaded area).
Oct./01	29.0	Added Peripheral Enhancements 256MB part. Added Legend 256MB part. Added Viking 1GB part. (in shaded area).
Nov./01	30.0	Added ATP 1GB, 256MB and 128MB parts, Netlist 1GB parts, Viking 1GB parts, Dataram 256MB part, Aved 512MB and 256MB parts. (In shaded area)
Dec./01	31.0	Added Aved 128 and 256MB parts. Smart 256MB parts. Dataram 512MB part. Legend 1GB part. (In shaded area)
Jan./02	32.0	Added Dataram & Samsung 512MB parts. (In shaded area)
Jan./02	33.0	Added Samsung 1G part. (In shaded area)
Jan./02	34.0	Added Dataram 256MB & 1G parts. Legend 512MB part. (In shaded area)
Feb./02	35.0	Added Dataram 256MB parts. Added SMART Modular 256MB, 512MB & 1GB parts. (In shaded area)
Feb./02	36.0	Added Dataram 512MB & 1GB parts. (In shaded area)
Mar./02	37.0	Added Dataram 512MB part. Samsung 128MB & 125MB parts. (In shaded area)
Mar./02	38.0	Added ATP 256MB parts. Added Dataram 256MB parts. (In shaded area)
April/02	39.0	Added MSC 512MB parts. Updated Dataram part numbers (~ noted by this symbol).
April/02	40.0	Added Dane-Elec & Dataram 256MB parts. (In shaded area)
May/02	41.0	Added Dataram 128MB parts. Added TechnoLinc 256MB parts. Added MSC 512MB parts. Added Samsung 128MB, 256MB & 512MB parts. Added Micron 512MB part. Added Infineon 128MB part. (In shaded area).
May/02	42.0	Added Aved 256MB parts. (In shaded area)
May/02	43.0	Added MSC 256MB parts. (In shaded area)
June/02	44.0	Added Dataram 1GB parts. Added Technolinc 512MB parts. (In shaded area)
June/02	45.0	Added Beijing Winward 256MB parts. (In shaded area)
July/02	46.0	Added Buffalo 512MB parts. Added Dataram 256MB & 512MB parts. (In shaded area)
July/02	47.0	Added Buffalo 256MB parts. (In shaded area)
Aug/02	48.0	Added MSC 256MB parts. (In shaded area)
Aug/02	49.0	Added Dataram 512MB & 1GB parts. Added Kingston 1GB parts. (In shaded area)
Sept/02	50.0	Added Dataram 1GB parts. Added MSC 512MB parts. (In shaded area)
Sept/02	51.0	Added MSC 256MB & 512MB parts. (In shaded area)
Oct/02	52.0	Added Dataram 256 & 512MB parts. Added Legend 256MB parts. Added MSC 512MB parts. (In shaded area)
Oct/02	53.0	Added Dataram, Legend & MSC 512MB parts. (In shaded area)
Nov/02	54.0	Added Avant 1GB parts. Added Dataram 256MB & 512MB parts. Added MSC 512MB parts. (In shaded area)
Dec/02	55.0	Added MSC 1GB parts. Added Avant 512MB parts. (In shaded area)
Jan/03	56.0	Added Avant & Dataram 1GB parts. Added ATP 512MB parts. (In shaded area)
Jan/03	57.0	Added Avant 1GB parts. (In shaded area)
Feb/03	58.0	Added Buffalo 256MB & 512MB parts. (In shaded area)
Apr/03	59.0	Added Avant 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 STL2 Server Board 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® STL2 Server Board. 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)<sup>1</sup>. 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\*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.

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<sup>1</sup> 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
	<a href="http://www.cmtlabs.com/">http://www.cmtlabs.com/</a>

## Qualified Memory for the STL2 Server Board

The memory module on the STL2 server board has 4 DIMM sockets, which can hold up to 4 GB of Registered ECC PC133 memory using four 72 bit DIMM modules. The following memory features are supported:

- 133 MHz, Registered ECC PC-133 compatible 3.3V registered SDRAM modules (in compliance with the PC-133 Registered DIMM Specification)
- DIMMs with 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: Note:

PC-133 Registered SDRAM Module Configurations for Cas Latency 2 & 3					
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices/rows/Banks	# Address bits rows/Banks/column
64MB	8M x 72	64Mbit	8M x 8	9/1/4	12/2/9
128MB	16M x 72	64Mbit	16M x 4	18/1/4	12/2/10
128MB	16M x 72	64Mbit	8M x 8	18/2/4	12/2/10
128MB	16M x 72	128Mbit	16M x 8	9/1/4	12/2/10
256MB	32M x 72	64Mbit	16M x 4	36/2/4	12/2/10
256MB	32M x 72	128Mbit	32M x 4	18/1/4	12/2/11
256MB	32M x 72	128Mbit	16M x 8	18/2/4	12/2/10
256MB	32M x 72	256Mbit	64M x 4	9/1/4	13/2/11
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10
512MB	64M x 72	128Mbit	32M x 4	36/2/4	12/2/11
512MB	64M x 72	256Mbit	64M x 4	18/1/4	13/2/11
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10
1GB	128M x 72	256Mbit	64M x 4	36/2/4	13/2/11

Memory features are detailed in *the STL2 Server Board Technical Product Specification* available on-line at <http://support.intel.com/support/motherboards/server/STL2/>

The following table lists DIMM devices known to be compatible with the Intel STL2 Server Board. 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.*

## *STL2 Server Board*

**Registered, ECC, 133MHz SDRAM DIMM Modules  
64MB Sizes (8Mx72)**

<b>Manufacturer</b>	<b>Part Number</b>	<b>DRAM Part Number</b>	<b>DRAM Vendor</b>	<b>PCB Part Number</b>	<b>Date</b>	<b>CMTL Test #</b>	<b>CAS Latency</b>	<b>Low Profile</b>	<b>EOL</b>
Hyundai	HYM7V73AC801BTHG-75				9/21/00		3		
Samsung	M390S0823DT1-C75				9/12/00		3		
Micron	MT9LSDT872G-133C3				10/30/00		3		
+Dane-Elec	DP133R072083A	NT56V6610C0T-75	Nanya	16-25600B rev B	12/09/00	B767			
Samsung	M390S0823ET1-C75				3/5/01		3		
+GoldenRAM	7550010-GR	MT48LC8M8A2-7.5 rev C	Micron	1030238- 001A rev A	3/27/01	B630	3		

+ This vendor is part of the CMTL Gold or Advance Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>



## *STL2 Server Board*

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Hitachi	HB52F169E1-75F				9/21/00		3		
Hyundai	HYM7V73AC1601BTNG-75				9/21/00		3		
Samsung	M390S1620DT1-C75				9/12/00		3		
+Dataram	DTM60158	MT48LC16M8A2TG-75 rev B	Micron	40484 rev A	10/9/00	B547	3		
Micron	MT9LSDT1672G-133B1				10/12/00				
Infineon	HYS72V16301GR-7.5-C				10/26/00		3		
+ATP Electronics	AR16V72L8S4GAS	K4S280832B-TC75 rev B	Samsung	SR168L08V rev 1	10/18/00	B549	3	Yes	
Silicon Tech	INT72R8E16M4H-B75AV	D45128841G5-A75	NEC	918 rev A	10/19/00	B573	3	Yes	
Simple Tech	SINT7216118RD1-75AVG	D45128841G5-A75	NEC	918 rev A	10/19/00	B574	3	Yes	
Kingston	KVR133X72RC3L/128-IS	D45128441G5-A75-9JF	NEC	2025031-002 rev A00	11/9/00	B728	3	Yes	
+Dataram	DTM60168	MT48LC16M8A2TG-75 rev B	Micron	40506 rev A	11/20/00	B722	3	Yes	
Samsung	M390S1723CTU-C75				12/4/00		3	Yes	
+ATP Electronics	AR16V72M8S4GAS	K4S640832D-TC75 die D	Samsung	SR168M08V rev 1	12/09/00	B833	3		
+ATP Electronics	AR16V72N4S4GAS	K4S640432D-TC75 die D	Samsung	SR168N04V rev 2	12/22/00	B929	3	Yes	
+AVED Memory Products	AMP377P1723AT2-C75/H	HY57V28820AT-H rev A	Hyundai	105399 rev B	12/29/00	B762	3	Yes	
+Viking	INT12818	UPD45128841G5-A75-9JF	NEC	9001689G	1/8/01	C035	3		
+Dane-Elec	DP133R072163EL	K4S280832A-TC75	Samsung	SRBF 2568 rev A	1/30/01	B945		Yes	
Samsung	M390S1723CT1-C75				1/31/01		3		
Micron	MT18LSDT1672G-133C2				2/1/01		3		
+Dane-Elec	DP133R072163C	MT48LC16M4A2-75	Micron	DE0401 rev A	3/7/01	C534	3		
ITAUCOM	ICMM16M6872A6MCR-5Q	ICM4V280806-5	Itaucom	4200-06A2	3/27/01	C478	3		
+GoldenRAM	7550020-GR	MT48LC8M8A2-75 rev C	Micron	1030238-001A rev A	4/201	B633	3		

*Continued*

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
+Dane-Elec	DP133R072163C	TC59S6404CFT-75	Toshiba	168-327201C rev C	10/30/00	B647	3		
Ramaxel Technology Limited	RMD311S18B4T-7	HYB39S128800C T-75 rev C	Infineon	RPD118208 0R62 rev 2	5/21/01	D063	3		
+PNY	7216ZHSTM4G13TWI-PK0	TC59SM708AFT-75 rev A	Toshiba	40000494 rev A	6/18/01	C127	3	YES	
+PNY	7216ZHSTM4G13TWI-PH0	HYB39S128800C T-7.5 rev C	Infineon	40000494 rev A	6/24/01	C187	3	YES	
Micron	MT9LSDT1672G-133B1	MT48LC32M4A2-75	Micron	0129 rev A	6/24/01	D839	3		
+Dataram	DTM60168C (Old Part# DTM60168(M))	MT48LC16M8A2 TG-75 rev E	Micron	40506 rev A	7/9/01	D693	3	Yes	
+Dataram	DTM60158(60158Z)(M)	MT48LC16M8A2 TG-75 rev E	Micron	40484 rev A	7/9/01	D701	3		
+Aved Memory Products	AMP377P1723AT2-C7B/MI	MT48LC16M8A2 TG-7E rev A	Micron	105399 rev B	7/24/01	D006	3	Yes	
+ATP Electronics	AR16V72L8S4GAS	K4S280832D-TC75 rev D	Samsung	SR168L08V rev 1	11/01/01	F204	3	Yes	
+Aved Memory Products	AMP377P1723DT2-C75/S	K4S280832D-TC75 rev D	Samsung	105399 rev B	11/14/01	E916	3	Yes	
Samsung	M390S1620ET1-C75	K4S6408232E-TC75	Samsung		2/14/02		3		
Samsung	M390S1620FT1-C7A	K4S640432F-TC75	Samsung		2/6/02		3		
Infineon	HYS72V16301GR-7.5-C2		Infineon		3/22/02		3		
+Dataram	DTM60168D	HYB39S128800C T-75 rev C	Infineon	40506 rev A	4/21/02	I187	3	Yes	

**Modules shaded in blue are low profile**

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

## *STL2 Server Board*

### **Registered, ECC, 133MHz SDRAM DIMM Modules 256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Kentron	KT3272SSN3R-07L	48LC32M4A2	Micron	1672SSR2	9/12/00		3	YES	
Silicon Tech	INT72R8F32M8H-B75AV	K4S560832B-TC75	Samsung	00918 rev A	10/9/00	B575	3	YES	
Simple Tech	SINT7232218RD1-75AVG	K4S560832B-TC75	Samsung	00918 rev A	10/9/00	B576		YES	
Samsung	M390S3320BT1-C75				10/11/00				
+ATP Electronics	AR32V72L8S8GAS	K4S560832A-TC75 die A	Samsung	SR168L08V rev 1	10/12/00	B550		YES	
+Dataram	DTM60125	MT48LC32M4A2TG-75 rev B	Micron	40481 rev A	10/21/00	B545			
+Viking	INT25621 And PC13332X72RCL3-IA	K4S560832A-TC75 rev A	Samsung	9001689 rev A	10/25/00	B544	3		
Kingston	KVR133X72RC3/256-IS	TC59SM704FT-75	Toshiba	2022254-001 rev A00	10/25/00	B554			
Corsair	CM766S256-133/M	MT48LC32M4A2TG-75 rev B	Micron	50-00096 rev A	10/30/00	B581			
Kingston	KVR133X72RC3L/256-IS	TC59SM808BFT-75	Toshiba	2025031-002 rev A00	11/9/00	B729	3	Yes	
Corsair	CM764S256ALP-133/S	K4S560832A-TC75 rev A	Samsung	50-00104 rev B	11/18/00	B726		Yes	
+Dataram	~DTM60172D (Old Part# DTM60172)	HYB39S256800CT-7.5 rev C	Infineon	40506 rev A	12/5/00	B724		Yes	
+ATP Electronics	AR32V72M8S4GAS	K4S280832B-TC75 rev B	Samsung	SR168M08V rev 1 Aug 2000	12/5/00	B812			
Legacy Electronics Inc.	37L6HS0R-1HAG	LES32808TA-7.5	Legacy	LE32872R rev A	12/7/00	B831		Yes	
Samsung	M390S3253BTU-C75				12/11/00		3	Yes	
+ATP Electronics	AR32V72N4S4GAS	K4S280432B-TC75 rev B	Samsung	SR168N04V rev 2	12/21/00	B891	3	Yes	
+Viking	INT25624	HY57V28820AT-H	Hyundai	9001742 rev A	12/22/00	B887	3		
Silicon Tech	INT72R8E32M4H-A75AV	K4S280832C-TC75	Samsung	814	1/25/01	C193	3		
Simple Tech	SINT7232118RD2-75AVG	K4S280832C-TC75	Samsung	814	1/25/01	C196	3		
Infineon	HYS72V32300GR-7.5				1/25/01		3		

*Continued*

**Registered, ECC, 133MHz SDRAM DIMM Modules  
256MB Sizes (32Mx72) (continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Samsung	M390S3320CT1-C75				2/5/01		3		
Corsair	CM766S256-133/S	K4S280432C-TC75	Samsung	50-00096 REV. A-RV1	2/6/01	C305	3		
+Viking	INT25624	HY57V28820AT-H rev. A	Hyundai	9001742 rev. A	2/13/01	C463			
+AVED Memory Products	AMP377P3323AT2-C75/H	HY57V28820AT-H rev A	Hyundai	105352 rev B	2/19/01	C484	3		
+Dane-Elec	DP133R072323IL	K4S560832B-TC75	Samsung	SRBF 2568 rev. A	3/1/01	C525	3	Yes	
#+GoldenRAM	7550030-GR	MT48LC16M8A2-75	Micron	1030238-001A rev A	3/21/01	B637	3	Yes	
Avant Technology	TNV7232837A3EE0	MT48LC32M4A2 REV. B	Micron	50135501 rev A	3/26/01	C836	3		
+AVED Memory Products	AMP377P3253BTE-C75/S	K4S560832B-TC75 REV.B	Samsung	105399 REV. B	2/2/01	C288	3	Yes	
Virtium Technology Inc	VM375S3320E-GAS	K4S280432C-TC75	Samsung	16-25140A rev A	1/19/01	C106	3	Yes	
+PNY	7232ZHSTM4G24TWR-PK0	TC59SM708AFT-75 REV. A	Toshiba	40000476 rev B	4/16/01	C134	3		
+AVED Memory Products	AMP377P3323AT2-C75/MV	V54C3128804VAT-7 rev. A	Mosel-Vitellic	105352 Rev.B	4/13/01	C518	3		
+Dane-Elec	DP133R072323E	HYB39S128800CT-7.5 rev B	Infineon	16-25600B rev B	5/11/01	C895	3		
ITAUCOM	ICMM32M6872A6MCR-5Q	ICM4V280806-5	Itaucom	4200-06A2	5/24/01	C985	3		
Infineon	HYS72V32301GR-7.5-C2	HYB39S128400CT-7.5	Infineon	DIM-168-37-03	5/16/01	D170	3		
Infineon	HYS72V32300GR-7.5				1/25/01		3		
Samsung	M390S3320CTU-C75				5/22/01		3		
Infineon	HYS72V32600GR-7.5-C2				5/22/01		3	Yes	
+ATP Electronics	AR32V72N4S4GAS	K4S280432A-TC75 rev A	Samsung	SR168N04V rev 2	5/31/01	D058	3	Yes	
+ATP Electronics	AR32V72N4S4GAS	K4S280432C-TC75 rev C	Samsung	SR168N04V rev 2	5/31/01	D175	3	Yes	
+Dataram	DTM60172(60172Z)(H)	HM5225805BTT-75 rev B	Hitachi	40506 rev A	6/6/01	C227	3	Yes	

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**Registered, ECC, 133MHz SDRAM DIMM Modules  
256MB Sizes (32Mx72) (continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
ITAUCOM	ICMM32M6872A6MCR-5Q	ICM4V280806-5	Itaucom	4200-06A2	5/26/01	C985	3		
+PNY	7232ZHSTM4G24TWR-PH0	HYB39S128800CT-7.5 rev C	Infineon	40000476 rev B	6/7/01	C120	3		
+Viking	INT25628	K4S560832B-TC75 rev B	Samsung	9001689 rev A	5/26/01	D022	3		
+Dataram	DTM60188(60188Z)	MT48LC32M4A2T-G-75 rev B	Micron	40506 rev A	6/13/01	C918	3	YES	
Ramax	RMD311S18B5T-7	HYB39S128800CT-75 rev C	Infineon	RPD118208 0R62 rev 2	6/14/01	D071	3		
Micron	MT18LSDT3272G-133B1	MT48LC32M4A2-75	Micron	0129 rev A	6/14/01	D416	3		
+Dataram	DTM60188(60188Z)	HYB39S128400CT-7.5 rev C	Infineon	40506 rev A	6/19/01	C910	3	YES	
Ventura Technology Group	S26SSJ23MV	MT48LC16M8A2-TG75 rev E	Micron	V204	6/27/01	D759	3		
ATP Electronics	AMR32V72J4S4GAS	K4S280432C-TC75 rev C	Samsung	SR168J 04V rev 1	7/2/01	D592	3		
ATP Electronics	AMR32V72F8S4GAS	K4S280832C-TC75 rev C	Samsung	SR168F08V rev 1	7/2/01	D607	3		
+Dataram	DTM60125(60125Z)(M)	MT48LC32M4A2T-G-75 rev E	Micron	40481 rev A	8/1/01	D651	3		
Apacer	AM256LS52R13301	K4S280432C-TC75	Samsung	48.16103.01 2	8/8/01	D398	3		
Micro Memory Bank	M15M3272-060CCMAU	48LC32M4A2TG-75	Micron	128MX72R	08/14/01	E285	3		
+Dane-Elec	DP133R072323IL	HYB39S256800CT-7.5	Infineon	DE082030	8/21/01	E236	3	Yes	
+Dane-Elec	DP133R072323IL	K4S560832B-TC75	Samsung	DE082030	9/5/01	E220	3	Yes	
+Dataram	DTM60125 (68014Z) (Y)	HY57V28420AT-H rev A	Hyundai	651219-G1 rev 1	9/12/01	E459	3		
#Legend	L3272QC3-59AHSC3A	HY57V56820T-H rev A	Hyundai	B5982 rev A	9/10/01	E471	3		
Legend	L1272QC3-HRAHSD3A	HY57V56420T-H	Hyundai	0114-1 rev A	10/01/01	E473	3		
#Peripheral Enhancements	INTEL-00-256M-STL2	K4S280432C-TC75 rev 4	Samsung	1672SSR2-PCB rev 2	09/27/01	E611	3		
Legend	L3272QC3	HYB39S128800CT-7.5	Infineon	B5982 rev A	10/06/01	E615	3		
+Dataram	DTM60188 (60188)	MT48LC32M4A2T-G-75 rev E	Micron	40506 rev A	11/08/01	E007	3	Yes	
+Aved Memory Products	AMP377P3253ATE-C75/MV	V54C3256804VAT-7 rev A	Mosel-Vitellic	105399 rev B	11/08/01	E666	3	Yes	
+Aved Memory Products	AMP377P3323DT2-C75/S	K4S280832D-TC75 rev D	Samsung	105352 rev B	11/16/01	E702	3		

Continued

**Registered, ECC, 133MHz SDRAM DIMM Modules  
256MB Sizes (32Mx72) (continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
+Smart Modular	SM572324574E03R	K4S280432D-TC75	Samsung	P51G168NE BSIB33 rev B	11/16/01	F619	3		
+Dataram	~DTM60172C (Old Part# DTM60172(M))	MT48LC32M8A2T G-75 rev A	Micron	40506 rev A	1/11/02	F627	3	Yes	
+Dataram	~DTM68014B (Old Part# DTM68014(M))	MT48LC32M4A2T G-75 rev E	Micron	651219-G rev 1	1/24/02	F774	3		
+SMART Modular Technologies	SM3272SR301-ICA	TC59S6404CFT75 rev C	Toshiba	P51G168NE BSIBP3	1/28/02	H206	3		
Samsung	M390S1620ET1-C75	K4S6408232E-TC75	Samsung		2/14/02		3	Yes	
+ATP Electronics	AR32V72L8S8GAS	K4S560832C-TC/L75	Samsung	SR168L08V1 rev 1	3/14/02	H751	3	Yes	
+Dataram	~DTM60199A (Old Part# DTM60199(M))	MT48LC32M4A2T G-75 rev E	Micron	40551 rev A	3/1/02	H598	N/A	Yes	
+Dane-Elec	DP133R072323IL	NT5SV32M8AT-7KT	Nanya	DE082030 rev B	4/5/02	H879	2	Yes	
+Dataram	DTM60172D	HYB39S256800CT-75 rev C	Infineon	40506 rev A	4/11/02	I054	3	Yes	
Samsung	M390S3320DTU-C7A	K4S280432D-TC75	Samsung		2/12/02		3	Yes	
TechnoLinc Corporation	SL32X072TC75DSG	K4S560832C-TC75 rev C	Samsung	BRSA80A	4/21/02	I292	3	Yes	
+Aved Memory Products	AMP377P3323AT2-C75/N	NT5SV16M8CT-7K rev C	Nanya	105352 rev B	5/6/02	I334	3	Yes	
+MSC Vertriebs GmbH	MSC256M00036	K4S560832C-TC rev C	Samsung	M0508LA1	5/22/02	I257	3		
BEIJING WINWARD	WMB6R1358TN-243	K4S280432D-TC75 rev D	Samsung	128MX72R	6/19/02	J234	3		
+Dataram	DTM60172E	HYB39S256800DT-7 rev D	Infineon	40506 rev A	6/26/02	I445	3	Yes	
+Buffalo	VS133-R256/ME	48LC16M8A2-75 rev E	Micron	ZEY8RWF-AA	7/11/02	J232	3		
+MSC Vertriebs GmbH	MSC256M00040	HYB39S256800CT-7.5 rev C	Infineon	M0508LA1	7/30/02	I284	3		
+MSC Vertriebs GmbH	MSC256M00142	HYB39S256800CT-7.5 rev C	Infineon	M0493LA2	9/10/02	J876	3	Yes	
+Legend	L3272QC3-59AIS73C	HYB39S128800CT-7.5 rev C	Infineon	B5982 rev A	7/25/02	J745	3		
+Dataram	DTM60172F	MT48LC32M8A2T G-75 rev C	Micron	40506 rev A	11/8/02	000555	3	Yes	
Buffalo+	VS133-RS256/MC	MT48LC32M8A2T G-75 rev C	Micron	YEY8RWF-AA	2/3/03	002702	3		

**Modules shaded in blue are low profile**

# Part number change/correction

+ This vendor is part of the CMTL Gold or Advance Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

## *STL2 Server Board*

### **Registered, ECC, 133MHz SDRAM DIMM Modules 512 MB Sizes (64Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Hitachi	HB52F649E1-75B				9/21/00		3		
Infineon	HYS72V64300GR-7.5-C2				9/12/00		3		
Samsung	M390S6450AT1-C75				9/21/00		3		
+Viking	INT51209	K4S560832A-TC75	Samsung	9001742	10/9/00	B543			
+ATP Electronics	AR64V72L8SSGAS	K4S560832A-TC75 die A	Samsung	SR168L08 V rev 1	10/9/00	B548		YES	
+Dataram	DTM60133	HYB39S256400CT-7.5 rev C2	Infineon	40481 rev A	10/20/00	B546			
+Dane-Elec	DP133R072643H	K4S560432A-TC75	Samsung	168-327201C rev C	12/4/00	B645			
+ATP Electronics	AR64V72M8S8GAS	K4S560832A-TC75 rev A	Samsung	SR168M08 V rev 1 Aug 2000	12/8/00	B811			
Corsair	CM766S512-133/S	K4S560432A-TC75	Samsung	50-00096 rev A	12/12/00	B582			
+ATP Electronics	AR64V72N4S8GAS	K4S560432A-TC75 rev A	Samsung	SR168N04 V rev 2	12/29/00	B935	3	Yes	
Virtium Technology Inc	VM375S6550E-GAS	K4S560432A-TC75	Samsung	16-25140A rev A	1/9/01	B995	3	Yes	
Kingston	KVR133X72RC3/512-IS	HYB39S256400AT-75	Infineon	2022254-001	1/15/01	B578	3		
+GoldenRAM	7550040-GR	K4S560832A-TC75	Samsung	1030238-001 rev A	1/13/01	B639	3		
Simple Tech	SINT7264118IRD2-75AVG	K4S280432C-TC75	Samsung	758	1/17/01	C033	3		
Silicon Tech	INT72R4J64M4H-A75AV	K4S280432C-TC75	Samsung	758	1/17/01	C034	3		
Unigen	UG564T7588KG-PL	HN5225805BTT-75	Hitachi	RAWCARD-E	1/19/01	C069	3		
+AVED Memory Products	AMP377P6453BT2-C75/S	K4S560832B-TC75	Samsung	105352 REV. B	1/18/01	C102	3		
Virtium Technology Inc	VM375S3320E-GAS	K4S280432C-TC75	Samsung	16-25140A REV. A	1/19/01	C106	3		
+Dataram	DTM60133(60133Z)	HM5225405BTT-75 rev A	Hitachi	40481 rev a2	1/29/01	C023			
Corsair	CM766S512-133/S	K4S560432B-TC/75	Samsung	50-00096 REV. A-RV1	1/29/01	C089	3		
+Dataram	DTM60133(60133Z)	K4S560432A-TC75 rev A	Samsung	40481 rev A2	1/30/01	C020	3		
+AVED Memory Products	AMP377P6450BT3-C75/S	K4S560432B-TC75 REV. B	Samsung	105349 REV. C	2/6/01	C277	3		

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**Registered, ECC, 133MHz SDRAM DIMM Modules**  
**512 MB Sizes (64Mx72)(Continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMT L Test #	CAS Latency	Low Profile	EOL
Samsung	M390S6450BT1-C75				1/15/01		3		
Legacy Electronics Inc	38L6JS0R-1HAG	LES64408TA-7.5	Legacy	LEIG472R133A	2/19/01	C457	3		
+Dataram	DTM60176 (60176Z)	HYB39S256800CT-7.5	Infineon	40511 rev A	3/27/01	C245	3	Yes	
Avant Technology	TNV72648E38A3EE0	HY57V56420T-H	Hyundai	50135501 rev A	5/18/01	C838	3		
Legend	L6472QC3	HYB39S256800CT-7.5 rev C	Infineon	B5982 rev A	5/14/01	D062	3		
+ATP Electronics	AR64V72N4S8GAS	K4S560432B-TC75 rev B	Samsung	SR168N04V rev 2	5/21/01	D037	3	Yes	
+Dataram	DTM60176(60176Z)	HM5225805BTT-75 rev B	Hitachi	40511 rev A	5/16/01	C238	3	Yes	
Infineon	HYS72V64500GR-7.5-C2				5/30/01		3	Yes	
Samsung	M390S6450BTU-C75	K4S560432B-TC75	Samsung		5/30/01		3		
+ATP Electronics	AR64V72N4S8GAS	K4S560432B-TC75 rev B	Samsung	SR168N04V rev 2	5/26/01	D037	3	Yes	
Avant Technology	TNV72648E38A3EE0	HY57V56420T-H	Hyundai	50135501 rev A	5/26/01	C838	3		
Centon Electronics	CINT512M/RP133S	K4S560432B-TC75	Samsung	CPCB-00505-G	5/30/01	D679	3		
+PNY	7264WHSTM8G24TW R-PH0	HYB39S256800CT-7.5 rev C	Infineon	40000476 rev B	6/6/01	C166	3		
Simple Tech	ST72R4E64-A75A	UPD45128441G5-A75	NEC	758	6/6/01	D092	3		
+Viking	INT51214	K4S560832B-TC75 rev B	Samsung	9001742 rev A	5/30/01	D016	3		
Ramax	RMD311S28B6T-7	HYB39S256800CT-75 rev C	Infineon	RPD1182080R 62 rev 2	6/12/01	D171	3		
Avant Technology	TNV7264E38A2EE0	NT5SV64M4AT-7K	Nanya	50135501 rev A	6/20/01	D716	3		
+Dataram	DTM60116(60116Z)(M)	MT48LC32M4A2TG-75 rev E	Micron	40481 rev A	6/26/01	D722	3		
Apacer	AM512LS62R13302	K4S560432B-TC75	Samsung	48.16103.012	08/14/01	D400	3		
Micro Memory Bank	M15M6472-060BCMAU	48LC64M4A2TG-75	Micron	128MX72R	08/14/01	E283	3		
+PNY	7264WHSTM8G24TW R-PK0	TC59SM808BFT-75 rev B	Toshiba	40000476 rev B	8/20/01	C150	3		
Ventura Technology Group	S52SVJ23EV	HYB39S256800CT	Infineon	V204	08/29/01	E436	3		
Legend	L6472QC3-59AHSC3A	HY57V562820T-H rev A	Hyundai	B5982 rev A	9/10/01	E472	3		

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**Registered, ECC, 133MHz SDRAM DIMM Modules**  
**512 MB Sizes (64Mx72)(Continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
+Century Microelectronics Inc	DTR3S4	K4S560432B-TC75	Samsung	CE021	10/03/01	E627	3	Yes	
+Aved Memory Products	AMP377P6453AT2-C75/MV	V54C3256804VAT-7 rev A	Mosel-Vitelic	105352 rev B	11/08/01	E658	3		
+ATP Electronics	AR64V72N4S8GAS	K4S560432C-TC75 rev C	Samsung	SR168N04V rev 2	11/01/01	F191	3	Yes	
+Dataram	DTM60194 (60194Z)	MT48LC64M4A2T G-75	Micron	40551 rev A	12/7/01	F744	3	Yes	
+Dataram	DTM60133 (68015Z)	HY57V56420T-H	Hyundai	651219-G rev 1	12/27/01	G071	3		
Samsung	M390S6450CT1-C7A	K4S560432C-TC75	Samsung		01/04/02		3		
+Legend	L6472WC3-21ASSG3C	K4S560432C-TC75 rev C	Samsung	16-21040 rev A	1/9/02	F865	3	Yes	
+SMART Modular Technologies	SM6472SR301-ICA	K4S560432C-TC75 rev C	Samsung	P51G168NEBS IBP3	1/30/02	G553	3		
+Dataram	~DTM68015B (Old Part#DTM68015(M))	MT48LC64M4A2T G-75 rev B	Micron	651219-G rev 1	2/10/02	F767	3		
+Dataram	~DTM60194C (Old Part#DTM60194(E))	HYB39S256400CT -75 rev C	Infineon	40551 rev A	2/25/02	H001	3	Yes	
+MSC Vertriebs GmbH	MSC512M00001	HYB39S256400CT -7.5	Infineon	M0507LA1	3/24/02	H856	3	Yes	
Samsung	M390S6450CTU-C7A		Samsung		3/7/02		3	Yes	
Micron	MT18LSDT6472G-133B1		Micron		3/11/02		3		
+MSC Vertriebs GmbH	MSC512M00002	K4S560432C-TC75 rev C	Samsung	M0507LA1	4/25/02	I204	3		
Samsung	M390S6450DTU-C7A		Samsung		5/1/02		3	Yes	
Samsung	M390S6450DT1-C7A	K4S560432D-TC75	Samsung		5/1/02		3		
Techno Linc Corporation	SL64X072TC75DS D	K4S560832D-TC75 rev D	Samsung	BRSA80A	6/5/02	J003	3	Yes	
+Buffalo	VS133-R512/MB	48LC32M8A2-75 rev B	Micron	ZEY8RWF-AA	6/24/02	J244	3		
+Dataram	DTM60194D	HYB39S256400DT -7 rev D	Infineon	40551 rev A	7/3/02	I441	3	Yes	
+Dataram	DTM60194E	K4S560432D-TC75 rev D	Samsung	40551 rev A	8/16/02	J301	3	Yes	
+MSC Vertriebs GmbH	MSC512M00037	K4S560832C-TC rev C	Samsung	M0508LA1	8/26/02	I266	3		
+MSC Vertriebs GmbH	MSC512M00149	HYB39S256400DT -7 rev D	Infineon	M0507LA1	9/3/02	J886	2		

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**Registered, ECC, 133MHz SDRAM DIMM Modules  
512 MB Sizes (64Mx72)(Continued.....)**

+Dataram	DTM68015E	MT48LC64M4A2T G-75 rev C	Micron	40544 rev A	10/14/02	000547	3		
+MSC Vertriebs GmbH	MSC512M00148	K4S510832C- KC75 rev C	Samsung	M0493LA2	10/7/02	I977	3	Yes	
+Dataram	DTM68015E	MT48LC64M4A2T G-75 rev C	Micron	40544 rev A	10/14/02	000547	3		
+Legend	L6472QC3- 59BHSC3B	HY57V56820BT-H rev B	Hyundai	B5982 rev B	10/16/02	001559	3		
+MSC Vertriebs GmbH	MSC 512M00153	HYB 39S256800DT-7.5 rev D	Infineon	PCB M0508LA1	10/21/02	000762	3		
+Dataram	DTM60194F	MT48LC64M4A2T G-75 rev C	Micron	40551 rev A	11/12/02	000563	3	Yes	
+MSC Vertriebs GmbH	MSC 512M00151	MSCS8608A8A-75	Fujitsu	PCB M0508LA1	10/30/02	000383	3		
+MSC Vertriebs GmbH	MSC512M00003	MT48LC64M4A2T G-75 rev A	Micron	M0507LA1	10/29/02	I521	3		
+Avant Technology	AVE7264R38A3133 E1-A	K4S560432D- TC75 rev D	Samsung	501412-01A rev A	11/21/02	001516	3	Yes	
+Avant Technology	AVE7264R38A2133 E1-A	NT5SV64M4AT-7K rev A	Nanya	501412-01-A rev A	11/25/02	001500	2	Yes	
+ATP Electronics	AR64V72Q8S8GAS	K4S560832D- TC75 rev D	Samsung	BRSA80A	12/6/02	001749	3	Yes	
+Buffalo	VS133-R512/MC	MT48LC32M8A2T G-75 rev C	Micron	ZEY8RWF-AA	2/7/03	002679	3		
+Avant Technology	AVE7264R39A3133 E4-A	HY57V56820BT-H rev B	Hyundai	BRSA80A rev A	3/31/03	002790	3	Yes	

**Modules shaded in blue are low profile**

+ This vendor is part of the CMTL Gold or Advance Certification program. This means this part has/will be tested across all compatible Intel Server Boards. For further information contact CMTL @ <http://cmtlabs.com/>

## *STL2 Server Board*

**Registered, ECC, 133MHz SDRAM DIMM Modules  
1G Sizes (64Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EO L
+Legacy Electronics Inc.	39B6JS0C-1AAG	K4S560432A-TC75	Samsung	LE1G472R 133 rev A	11/9/00	B623			
Samsung	~M390S2858BT1-C75				11/9/00		3		
+ATP Electronics	AR128V72N4SSGAS	K4S560432A-TC75 rev A	Samsung	SR168N04 V rev 2	12/26/00	B923	3	Yes	
Corsair	CM744S1024-133/S	K4S560432b-TC/75	Samsung	50-00096 rev. A-RV1	2/6/01	C198	3		
+Dane-Elec	DP133R072283H-S	K4S560432A-TC75	Samsung	DE042001 rev A	3/26/01	C764	3		
+Dataram	DTM60126(60126Z)	K4S560432B-TC75 rev B	Samsung	40481 rev A	5/11/01	C053	3		
Kingston	KVR133X72RC3/1024- IS	K4S560432B-TC75 rev B	Samsung	2022254- 001 rev A00	5/24/01	C458			
Legacy Electronics Inc.	39L6JS0C-1HAG	LES64408TA-7.5	Legacy	LE1G472R 133 rev A	5/16/01	C548	3		
Infineon	HYS72V128320GR-7.5- C2				5/4/01		3		
+ATP Electronics	AR128V72N4SMGAS	K4S560432B-TC75 rev B	Samsung	SR168N04 V rev 2	5/30/01	D147	3		
+Dataram	DTM60126(60126Z)(H)	HM5225405BTT-75 rev B	Hitachi	40481 rev A	5/26/01	C049	3		
Kingston	KVR133X72RC3/1024- IS	K4S560432B-TC75 rev B	Samsung	2022254- 001 rev A00	5/26/01	C458	3		
+PNY	72A0UHSTM8G24KWR- PH0	HYB39S256400CT- 7.5 rev C	Infineon	40000475 rev B	6/14/01	D729	3		
+ATP Electronics	AR128V72N4SSGAS	K4S560432B-TC75 rev B	Samsung	SR168N04 V rev 2	6/18/01	D030	3	YES	
+ATP Electronics	AR128V72J4SMGAS	K4S560432B-TC75 rev B	Samsung	SR168J 04V rev 1	6/20/01	D143	3		
+PNY	72A0UHSTM8G24KWR- PK0	TC59SM804BFT-75 rev B	Toshiba	40000475 rev B	6/18/01	D737	3		
+ATP Electronics	AR128V72J4SGGAS	K4560432B-TC75	Samsung	SR168J 04V rev 1	6/26/01	D658	3		
Simple Tech	ST72R4L128-A75A	K4S560432B-TC75	Samsung	930	7/18/01	D871	3	Yes	
Apacer	AM1024LS72R13302	K4S560432B-TC75	Samsung	48.16103.0 12	8/9/01	D399	3		
~Micron	MT36LSDF12872G- 133B1	MT48LC64M4A2FB- 75 rev B	Micron	0142 rev B	8/24/01	E289	3		
Kentron	KT12872SRN3R-14V8	K4S560432B-TC75	Samsung	3272SRN8 -PCB	9/7/01	E287	3	Yes	

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**STL2 Server Board**  
**Registered, ECC, 133MHz SDRAM DIMM Modules**  
**1G Sizes (64Mx72) (Continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
Legend	L1272QC3-HRAHSD3A	HY57V56420T-H	Hyundai	0114-1 rev A	10/01/01	E473	3		
Legend	L1272QC3-HRAHSD3A	HY57V56420T-H	Hyundai	0114-1 rev A	10/01/01	E473	3		
+Viking	INT102410	HM5225405BTT75 rev B	Hitachi	0000891 rev A	10/25/01	F209	3		
Netlist Inc	NL3127RS64043-D75K-S2	K4S560432C-TC75000 rev C	Samsung	0139-10	10/26/01	E696	3		
+Viking	INT102409	HM5225405BTT75 rev B	Hitachi	9001690 rev B	10/26/01	F017	2		
+ATP Electronics	AR128V72N4SMGAS	K4S560432C-TC75 rev C	Samsung	SR168N04 V rev 2	11/02/01	F197	3	Yes	
+Legend	L1272WC3-21ASSG3C	K4S560432C-TC75	Samsung	16-21040 rev A	11/28/01	F496	N/A	Yes	
Samsung	M390S2858CT1-C7A	K4S560432C-TC75	Samsung		1/14/02		3		
+Dataram	~DTM60193A (Old Part# DTM60193(M))	MT48LC64M4A2FB -75 rev B	Micron	40554 rev A	1/14/2002	G464	2	Yes	
+SMART Modular Technologies	SM12872SR301-ICA	K4S560432C-TC75 rev C	Samsung	P51G168N EBSIBP3	1/22/02	G565	3		
+Dataram	~DTM60192A (Old Part# DTM60192(M))	MT48LC64M4A2TG -75 rev B	Micron	40481 rev A	2/12/02	G064	3		
+Dataram	DTM60192D	HYB39S256400DT-7 rev D	Infineon	40481 rev A	5/31/02	I425	3		
+Dataram	DTM60192E	K4S560432D-TC75 rev D	Samsung	40481 rev A	8/9/02	J292	3		
Kingston	KVR133X72RC3/1024I	D644SWH-75	Kingston	2025186-001 rev A	8/14/02	000939	3	Yes	
+Dataram	DTM60193C	MT48LC64M4A2FB -75 rev B	Micron	40554A rev A	8/20/02	000202	3	Yes	
+Dataram	DTM60193B	V54C3256404VBS-7	Mosel-Vitellic	40554 rev A	7/23/02	I616	3	Yes	
+Avant Technology	AVE7228R38A2133E3-A	NT5SV64M4AT-7K rev A	Nanya	BRSB43A rev A	11/4/02	000370	2		
+MSC Vertriebs GmbH	MSC 001G00150	HYB39S256400DT-7 rev D	Infineon	M0507LA1	11/18/02	001042	2		

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**STL2 Server Board**  
**Registered, ECC, 133MHz SDRAM DIMM Modules**  
**1G Sizes (64Mx72) (Continued.....)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CMTL Test #	CAS Latency	Low Profile	EOL
+Dataram	DTM60193E	MT48LC64M4A2FB-75 rev C	Micron	40554A rev A	12/5/02	001714	3	Yes	
+Avant Technology	AVE7228R38A3133E3-A	NT5SV64M4AT-7K rev A	Nanya	BRSB43A	12/20/02	001822	3		
+Avant Technology	AVE7228R82A3133E1-A	NT5SV64M4AT-7K rev A	Nanya	501412-01-A rev A	12/31/02	002046	3	Yes	

**Modules shaded in blue are low profile**

~ **Part number change/correction**

+ This vendor is part of the CMTL Gold or Advance 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	<a href="http://www.atpusa.com/">http://www.atpusa.com/</a>	Florence Hsieh Tel 408-732-5831 Fax 408-732-5055 <a href="mailto:sales@atpusa.com">sales@atpusa.com</a>
ATP Electronics -- Taiwan Inc.	<a href="http://www.atpusa.com/">http://www.atpusa.com/</a>	Patty Kuo Tel 011-886-2-2659-6368 Fax 886-2-2659-4982
Avant Technology	<a href="http://www.avanttechnology.com">http://www.avanttechnology.com</a>	Brad Scoggins Phone: (512)491-7411 Fax: (512)491-7412 <a href="mailto:brads@avanttechnology.com">brads@avanttechnology.com</a>
Aved Memory Products	<a href="http://www.avedmemory.com/">http://www.avedmemory.com/</a>	
Buffalo Technology	<a href="http://www.buffalotech.com/">http://www.buffalotech.com/</a>	(800) 456-9799 <a href="mailto:memory@buffalotech.com">memory@buffalotech.com</a>
Corsair	<a href="http://www.corsairmicro.com/">http://www.corsairmicro.com/</a>	<a href="http://www.corsairmicro.com/sales.htm">http://www.corsairmicro.com/sales.htm</a>
Dane-Elec	<a href="http://www.dane-memory.com/">http://www.dane-memory.com/</a>	Michal Hassan @ (949)450-2941 or email @ <a href="mailto:Michal@Dane-memory.com">Michal@Dane-memory.com</a>
Dataram	<a href="http://www.dataram.com/">http://www.dataram.com/</a>	Robert Olszak @ 800-822-0071 ext. 2404
GoldenRAM	<a href="http://www.goldenram.com">http://www.goldenram.com</a>	Jason M. Barrette @ 800-222-861 x7546 <a href="mailto:jasonb@goldenram.com">jasonb@goldenram.com</a> or Michael E. Meyer @800-222-8861 x7512 <a href="mailto:michaelm@goldenram.com">michaelm@goldenram.com</a>
Hitachi	<a href="http://semiconductor.hitachi.com/pointer/">http://semiconductor.hitachi.com/pointer/</a>	
Hyundai/Hynix Semiconductor	<a href="http://www.hea.com/">http://www.hea.com/</a>	
Infineon	<a href="http://www.infineon.com/business/distribut/index.htm">http://www.infineon.com/business/distribut/index.htm</a>	
ITAUCOM	<a href="http://www.itaucum.com.br">http://www.itaucum.com.br</a>	
Kentron	<a href="http://www.kentrontech.com/New_Product_pages/products.htm">http://www.kentrontech.com/New_Product_pages/products.htm</a>	Brian Newburn @ (978) 988-9100 Ext. 2135 or email @ <a href="mailto:bnewburn@kentrontech.com">bnewburn@kentrontech.com</a>
Kingston	<a href="http://www.kingston.com">http://www.kingston.com</a>	US.- Call (877) 435-8726 Asia – Call 886-3-564-1539 Europe – Call +44-1932-755205
Legacy Electronics Inc.	<a href="http://www.legacyelectronics.com">http://www.legacyelectronics.com</a>	
Micron	<a href="http://silicon.micron.com/mktg/http://silicon.micron.com/mktg/mbqual/qual_data.cfm">http://silicon.micron.com/mktg/http://silicon.micron.com/mktg/mbqual/qual_data.cfm</a>	
MSC Vertriebs GmbH	<a href="http://www.msc-ge.com">http://www.msc-ge.com</a>	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 <a href="mailto:wpe@msc-ge.com">wpe@msc-ge.com</a>
Peripheral Enhancements	<a href="http://www.peripheral.com/">http://www.peripheral.com/</a>	
PNY	<a href="http://www.pny.com/internet_explorer/LPB.HTML">http://www.pny.com/internet_explorer/LPB.HTML</a>	
Samsung	<a href="http://www.korea.samsungsemi.com/locate/buy/list_na.html">http://www.korea.samsungsemi.com/locate/buy/list_na.html</a>	For US customers go to: <a href="http://www.mymemorystore.com/">http://www.mymemorystore.com/</a>
Silicon Tech	<a href="http://www.silicontech.com/contact/salescontacts.shtml">http://www.silicontech.com/contact/salescontacts.shtml</a>	

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<b>Vendor Name</b>	<b>Web URL</b>	<b>Vendor Direct Sales Info</b>
<b>Simple Tech</b>	<a href="http://www.simpletech.com">http://www.simpletech.com</a>	Ron Darwish @ (949) 260-8230 or email @ <a href="mailto:Rdarwish@Simpletech.com">Rdarwish@Simpletech.com</a>
<b>SMART Modular Technologies</b>	<a href="http://www.smartm.com">http://www.smartm.com</a>	Leo Alafriz 949-753-0116 ext. 125 <a href="mailto:leo.alafriz@smartm.com">leo.alafriz@smartm.com</a>
<b>TechnoLinc Corporation</b>	<a href="http://www.technolinc.com">http://www.technolinc.com</a>	David Curtis 510-445-7400 <a href="mailto:davide@technolinc.com">davide@technolinc.com</a>
<b>Unigen</b>	<a href="http://www.unigen.com">http://www.unigen.com</a>	
<b>Ventura Technology Inc</b>	<a href="http://www.venturatech.com">http://www.venturatech.com</a>	Don Hummel @ 805-581-0800 x 108 or email @ <a href="mailto:don@venturatech.com">don@venturatech.com</a>
<b>Viking InterWorks</b>	<a href="http://www.vikinginterworks.com">http://www.vikinginterworks.com</a>	
<b>Virtium Technology Inc</b>	<a href="http://www.virtium.com">http://www.virtium.com</a>	Tod Skelton @ (949) 460-0020 ext. 146 or email @ <a href="mailto:tod.skelton@virtium.com">tod.skelton@virtium.com</a>
<b>Legend</b>	<a href="http://www.legend.com.au">http://www.legend.com.au</a>	Tel: 800-338-2361 Fax: 949-459-8577 <a href="mailto:orderdesk@vikingcomponents.com">orderdesk@vikingcomponents.com</a>

### **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.

### **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 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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