Intel® Server Board SDS2
Memory List Test Report Summary

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Revision History		
Date	**Rev**	**Modifications**
Dec./01	0.5	Initial post-launch release for review.
Dec./01	1.0	Added Samsung 128MB part and Micron 128MB part. (In shaded area)
Jan./02	2.0	Added Legend 512MB & 1G parts. Dataram 1G part. PNY, Smart Modular & Samsung 256MB parts. ATP 512MB part.
Jan./02	3.0	Added ATP Electronics 128MB & 1G parts and Virtium Technology Inc. 1G & 512MB parts. (In shaded area)
Feb./02	4.0	Added Aved 256MB parts. Added Dataram 128MB, 256MB, 512MB & 1GB parts. Added Legend 256MB Parts. Added SMART Modular 256MB & 1GB parts. (In shaded area)
Feb./02	5.0	Added Aved 128MB, 256MB & 512MB parts. Added PNY 128MB & 512MB parts. Added ATP 256MB parts. Added Dataram 256MB & 512MB parts. Added Smart Modular 512MB part. (In shaded area)
Mar./02	6.0	Added ATP 256MB part. Added Dataram 256MB part. (In shaded area)
Mar./02	7.0	Added Ventura 1GB parts. Added SimpleTech 512MB parts. (In shaded area)
April/02	8.0	Added MSC 512MB parts. Added Samsung 128MB, 256MB & 512MB parts. Added Micron & Infineon 256MB parts. (In shaded area) Updated some Dataram part numbers (~ noted with this symbol)
April/02	9.0	Added Dane-Elec & Dataram 256MB parts. Added ATP & Dane-Elec 512MB parts. (In shaded area)
May/02	10.0	Added Dataram 128MB & 126MB parts. Added Samsung 256MB, 512MB & 1G parts. Added Micron 1G parts. Added Infineon 128MB part. (In shaded area)
May/02	11.0	Added Legacy & Dataram 1GB parts. Added Legacy, Aved & Dataram 256MB parts. Added Legacy, MSC & Dataram 512MB parts. (In shaded area)
May/02	12.0	Added MSC 256MB & 512MB parts. Added Kingston256MB parts. (In shaded area)
June/02	13.0	Added Dataram 1GB parts. (In shaded area)
June/02	14.0	Added Advantage Memory 512MB parts. Added Buffalo 512MB pars. (In shaded area)
July/02	15.0	Added Buffalo 256MB parts. Added Dataram 512MB & 1GB parts. Added MSC 512MB parts. (In shaded area)
Aug/02	16.0	Added MCS 256MB & 512MB parts. (In shaded area)
Aug/02	17.0	Added Legend 256MB parts. Added MSC & Samsung 512MB parts (In shaded area).
Sept/02	18.0	Added MSC 512MB parts. Added Smart 256MB parts. (In shaded area)
Sept/02	19.0	Added Dataram & MSC 1GB parts. (In shaded area)
Oct/02	20.0	Added Centon 512MB & 1GB parts. Added Dataram 512MB parts. (In shaded area)
Oct/02	21.0	Added Dataram 256MB parts. Added Avant 512MB parts. Part number correction for Micron 1G part. (In shaded area)
Oct/02	22.0	Added ATP 1GB parts. Added Itaucom 256MB parts. Added Avant & Dataram 512MB parts.
Nov/02	23.0	Added ITAUCOM & Legend 512MB parts. Added Legend 256MB parts. (In shaded area)
Dec/02	24.0	Added Dataram 1GB parts. Added ATP 256 & 512MB parts. (In shaded area)
Jan/03	25.0	Added Centon 512MB & 1GB parts. Added Ventura 512MB parts. Added Avant 512MB parts. (In shaded area)
Jan/03	26.0	Added Avant 1GB parts. (In shaded area)
Jan/03	27.0	Added Smart 256MB parts. Added Buffalo 512MB parts. (In shaded area)
Feb/03	28.0	Added Avant 512MB parts. Added Buffalo 256MB parts. (In shaded area)
May/03	29.0	Updated EOL status.
June/03	30.0	Updated EOL status.
July/03	31.0	Added Viking 512MB parts. (In shaded area) Also Updated EOL status
July/03	32.0	Added Viking 1GB, 512MB and 256MB parts. (In shaded area)
Aug/03	33.0	Updated EOL status.
Sept/03	34.0	Added Dataram 256MB, 512MB & 1GB parts. (In shaded area)

Please Note: *DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts or vice-versa. Mixing dissimilar metal contact types has been shown to result in unreliable memory operation. Intel recommends similar manufacturer and similar speeds in each bank on the memory module. Mixing of dissimilar memory manufacturer and similar speeds in each bank on the memory module is NOT recommended*

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Overview of Memory Testing

The following procedure is used to test memory modules for use in the Intel® Server Board SDS2. Memory is a vital subsystem in a platform. Intel Corporation requires strict guidelines to be met before a memory vendor and part is put onto the qualified memory list. Each Intel Server Board product has a separate qualified memory list.

Memory qualification for Intel's Server Board products is performed by Intel's Memory Validation Laboratory (MVL), and by an independent external test laboratory, Computer Memory Test Lab (CMTL)[1]. CMTL is a leading memory testing organization responsible for testing a broad range of memory products. Memory devices tested by Intel's MVL or CMTL must undergo rigorous tests to ensure that the product will perform the intended server functions.

Intel® 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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[1] CMTL is an independent memory testing organization responsible for testing a broad range of memory products. Receiving a "PASS" after being tested by CMTL, means that a product functions correctly and consumers can use it to perform the intended server functions. In order to pass these stringent standards, memory products must maintain the highest manufacturing procedures and pass an exacting battery of tests. Testing is performed with equipment and a procedure as defined by Intel's various functional testing levels. CMTL contact:

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 Board SDS2

The memory module on the server board SDS2 has 6 DIMM sockets, which can hold up to 6 GB of Registered ECC PC133 memory using six 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 128MB using two 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 Intel® Server Board SDS2 Technical Product Specification* available on-line at http://support.intel.com/support/motherboards/server/SDS2/

The following table lists DIMM devices known to be compatible with the Intel Server Board SDS2. 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.

SDS2Server Board

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
Samsung	MM390S0823FT1-C7A		Samsung		11/24/01	3		
Micron	MT9LSDT872G-133C3	MT48LC8M8A2-75C	Micron		11/24/01	3		

SDS2Server Board

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
Samsung	M390S1723DT1-C7A	K4S2808320-TC75	Samsung		12/10/01	3		
Micron	MT9LSDT1672G-133E1	MT48LC16M8AA2	Micron		12/10/01	3		
+ATP Electronics	AR16V72L8S4GAS	K4S280832D-TC75 rev D	Samsung	SR168L08V rev 1	1/17/02	3	Yes	EOL
+Dataram	~DTM60168C (Old Part# DTM60168(M))	MT48LC16M8A2TG-75 rev E	Micron	40506 rev A	1/28/02	3	Yes	EOL
+Aved Memory Products	AMP377P1723AT2-C75/H	HY57V28820AT-H rev A	Hyundai	105399 rev B	2/12/02	3	Yes	EOL
+Aved Memory Products	AMP377P1723AT2-C7B/MI	MT48LC16M8A2TG-7E rev A	Micron	105399 rev B	2/11/02	3	Yes	EOL
+PNY	7216ZHSTM4G13TWI-PH0	HYB39S128800CT-7.5 rev C	Infineon	40000494 rev A	2/13/02	3	Yes	EOL
+PNY	7216ZHSTM4G13TWI-PK0	TC59SM708AFT-75 rev A	Toshiba	40000494 rev A	2/7/02	3	Yes	EOL
Samsung	M390S1620FT1-C7A	K4S640432F-TC75	Samsung		4/3/02			
+Dataram	DTM60168D	HYB39S128800CT-75 rev C	Infineon	40506 rev A	4/21/02	3	Yes	EOL
Infineon	HYS72V16301GR-7.5 C2	HYB39S128800CT-7.5-C2	Infineon		4/30/02	3		

Modules shaded in blue are low profile

(+) This vendor is part of the CMTL 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.*

SDS2 Server Board

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
Micron	MT9LSDT3272G-133B1		Micron		11/15/01	3		
Samsung	M390S3320DT1-C7A	K4S2804320-TC75	Samsung		12/12/01	3		
Samsung	M390S3253CT1-C7A	K4S560832C-TC75	Samsung		12/12/01	3		
+PNY	7232ZHSTM4G24TWR-PH0	HYB39S128800CT-7.5 rev C	Infineon	40000476 rev B	12/20/01	3		EOL
+SMART Modular	SM572324574E03R	K4S280432D-TC75	Samsung	P51G168NEBSIB33 rev B	12/26/01	3		EOL
+SMART Modular Technologies	SM3272SR301-ICA	TC59S6404CFT75 rev C	Toshiba	P51G168NEBSIBP3	1/29/02	3		EOL
+Dataram	~DTM68014D (Old Part# DTM68014(Y))	HY57V28420AT-H rev A	Hyundai	651219-G rev 1	1/29/02	3		EOL
+Legend	L3272QC3-59AHSC3A	HY57V56820T-H rev A	Hyundai	B5982 rev A	1/30/02	3		EOL
+Aved Memory Products	AMP377P3323AT2-C75/MV	V54C3128804VAT-7 rev A	Mosel-Vitelic	105352 Rev.B	1/25/02	3		EOL
+ATP Electronics	AR32V72N4S4GAS	K4S280432C-TC75 rev C	Samsung	SR168N04V rev 2	2/6/2002	3	Yes	EOL
+Aved Memory Products	AMP377P3253BTE-C75/S	K4S560832B-TC75 rev B	Samsung	105399 rev B	2/6/02	3	Yes	EOL
+Aved Memory Products	AMP377P3323AT2-C7B/MI	MT48LC16M8A2TG-7E rev A	Micron	105352 rev B	2/6/02	2		EOL
+Dataram	~DTM68014B (Old Part# DTM68014(M))	MT48LC32M4A2TG-75 rev E	Micron	651219-G rev 1	2/7/02	3		EOL
+Dataram	~DTM60172C (Old Part# DTM60172(M))	MT48LC32M8A2TG-75 rev B	Micron	40506 rev A	2/2/02	3	Yes	EOL
+Dataram	~DTM60199A (Old Part# DTM60199(M))	MT48LC32M4A2TG-75 rev E	Micron	40551 rev A	2/17/02	3	Yes	EOL
+ATP Electronics	AR32V72L8S8GAS	K4S560832C-TC/L75	Samsung	SR168L08V1 rev 1	2/26/02	3	Yes	
Infineon	HYS72V32300GR-7.5C2	HYB39S256800CT-7.5-C2	Infineon		3/21/02			
Samsung	M390S1620FT1-C7A	K4S640432F-TC75	Samsung		4/3/02			
Micron	MT18LSDT3272G-133E1	MT 48LC32M4A2 -75E	Micron		4/3/02			
Samsung	M390S3253DT1-C7A	K4S560832D-TC75	Samsung		4/3/02	3		
+Dane-Elec	DP133R072323IL	NT5SV32M8AT-7KT	Nanya	DE082030 rev B	4/11/02	2	Yes	
+Dataram	DTM60172D	HYB39S256800CT-75 rev C	Infineon	40506 rev A	4/15/02	3	Yes	EOL
+Dataram	DTM60172D	HYB39S256800CT-75 rev C	Infineon	40506 rev A	4/15/02	3	Yes	

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
+Aved Memory Products	AMP377P3323CT3-C75/N	NT5SV16M8CT-7K rev C	Nanya	GR-6437 rev A	5/2/02	3		EOL
Legacy Electronics Inc.	37L6ES0R-1HAG	LES32404TA-7.5	Legacy	LE12872RLP rev C	4/30/02	3	Yes	EOL
+Dataram	DTM60172E	HYB39S256800DT-7 rev D	Infineon	40506 rev A	5/9/02	3	Yes	EOL
Kingston	KVR133X72RC3/256-IS	HYB39S128400CT-7.5	Infineon	2022254-001.A00	5/22/02	3		EOL
+MSC Vertriebs GmbH	MSC256M00040	HYB39S256800CT-7.5 rev C	Infineon	M0508LA1	5/15/02	3		EOL
+MSC Vertriebs GmbH	MSC256M00036	K4S560832C-TC rev C	Samsung	M0508LA1	5/20/02	3		EOL
+Buffalo	VS133-R256/ME	48LC16M8A2-75 rev E	Micron	ZEY8RWF-AA	6/24/02	3		EOL
+MSC Vertriebs GmbH	MSC256M00142	HYB39S256800CT-7.5 rev C	Infineon	M0493LA2	7/29/02	3	Yes	EOL
+Legend	L3272QC3-59AIS73C	HYB39S128800CT-7.5 rev C	Infineon	B5982 rev A	8/19/02	3		EOL
+Smart Modular Technologies	SM572324574E03R01	K4S280432D-TC75 rev D	Samsung	P52G168NEBSKGSI rev A	8/22/02	3	Yes	EOL
Micron	MT9VDDT3272G-265B2	MT46V32M8-75 B	Micron		9/20/02	2.5	Yes	
+Dataram	DTM60172F	MT48LC32M8A2TG-75 rev C	Micron	40506 rev A	10/2/02	3	Yes	
ITAUCOM	256E1333R28	ICM4V560806-5	Micron	0198 B	10/24/02	3	Yes	
+Legend	L3272QC3-59BHSC3B	HY57V56820BT-H rev B	Hyundai	B5982 rev B	11/13/02	3		
+ATP Electronics	AR32V72Q8S8GAS	K4S560832D-TC75 rev D	Samsung	BRSA80A	11/25/02	3	Yes	
+Smart Modular Technologies	SM5NET32M72LMDOG	K4S560832D-TC75	Samsung	P512168NEBSKGAX rev A	1/23/03	3	Yes	
+Buffalo	VS133-RS256/MC	MT48LC32M8A2TG-75 rev C	Micron	YEY8RWF-AA	2/3/2003	3		
+Viking	VI8AR327238DTEL1	K4S560832D-TC75 rev D	Samsung	0000967A	6/27/03	3	Yes	
+Dataram	DTM60172H	MT48LC32M8A2TG-75 rev D	Micron	40506 rev A	8/18/03	3	Yes	

Modules shaded in blue are low profile

(+) This vendor is part of the CMTL 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.*

SDS2 Server Board

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
Samsung	M390S6450CT1-C7A	K4S560432C-TC75	Samsung		11/02/01	3		
Infineon	HYS72V64300GR-7.5-C2	HYB395256400CT-7.5-C2	Infineon		11/02/01	3		
+ATP Electronics	AR64V72N4S8GAS	K4S560432C-TC75 rev C	Samsung	SR168N04V rev 2	12/28/01	3	Yes	EOL
+Legend	L6472WC3-21ASSG3C	K4S560432C-TC75 rev C	Samsung	16-21040 rev A	12/28/01	3	Yes	EOL
Virtium Technology Inc	VM375S6550E-GA	K4S650432C-TC75 rev C	Samsung	16-25142A	1/9/02	3	Yes	EOL
+Dataram	DTM60194 (M)	MT48LC64M4A2TG-75 rev B	Micron	40551 rev A	1/23/02	3	Yes	EOL
+Aved Memory Products	AMP377P6450BT3-C75/S	K4S560432B-TC75 rev B	Samsung	105349 rev C	2/7/02	3		EOL
+Dataram	~DTM68015B (Old Part#DTM68015(M))	MT48LC64M4A2TG-75 rev B	Micron	651219-G rev 1	2/2/02	3		EOL
+Dataram	DTM68015 (Y)	HY57V56420T-H	Hyundai	651219-G rev 1	2/2/02	3		EOL
+Dataram	DTM60194 (H)	HM5225405BTT-75 rev B	Hitachi	40551 rev A	2/10/02	3	Yes	EOL
+Dataram	~DTM60194C (Old Part# DTM60194(E))	HYB39S256400CT-75 rev C	Infineon	40551 rev A	2/2/02	3	Yes	EOL
+PNY	7264WHSTM8G24TWR-PH0	HYB39S256800CT-7.5 rev C	Infineon	40000476 rev B	2/11/02	3		EOL
+PNY	7264WHSTM8G24TWR-PK0	TC59SM808BFT-75 rev B	Toshiba	40000476 rev B	2/11/02	3		EOL
+SMART Modular Technologies	SM6472SR301-ICA	K4S560432C-TC75 rev C	Samsung	P51G168NEBSIBP3	2/5/02	3		EOL
SimpleTech	ST72R4K64-A75A	MT48LC64M4A2-75 rev B	Micron	758	3/1/02	3		
+MSC Vertriebs GmbH	MSC512M00001	HYB39S256400CT-7.5	Infineon	M0507LA1	3/24/02	3	Yes	
Samsung	M390S6450DT1-C7A	K4S560432D-TC75	Samsung		3/28/02			
+ATP Electronics	AR64V72M8S8GAS	K4S560832C-TC/L75 rev C	Samsung	SR168M08V rev 2	4/2/02	N/A		
+Dane-Elec	DP133R072643IL	K4S560832C-TC75 rev C	Samsung	DE082030 rev B	4/2/02	2	Yes	
Samsung	M390S6450DTU-C7A	K4S560432D-TC75	Samsung		4/18/02	3		
+MSC Vertriebs GmbH	MSC512M00002	K4S560432C-TC75 rev C	Samsung	M0507LA1	5/1/02	3		EOL
Legacy Electronics Inc.	38L6JSLR-1HAG	LES64408TA-7.5	Legacy	LE12872R LP rev C	4/30/02	3	Yes	

	Registered, ECC, 133MHz SDRAM DIMM Modules 512 MB Sizes (64Mx72)							
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**CAS Latency**	**Low Profile**	**EOL**
+Dataram	DTM60194D	HYB39S256400DT-7 rev D	Infineon	40551 rev A	5/9/02	3	Yes	EOL
+MSC Vertriebs GmbH	MSC512M00037	K4S560832C-TC rev C	Samsung	M0508LA1	5/15/02	3		EOL
+MSC Vertriebs GmbH	MSC512M00041	HYB39S256800CT-7.5 rev C	Infineon	M0508LA1	5/15/02	3		EOL
+Advantage Memory	SD6472-64X4-74VRS8	LES64408TA-7.5 rev A	Legacy	LE12872R LP rev C	6/13/02	3	Yes	
+Buffalo	VS133-R512/MB	48LC32M8A2-75 rev B	Micron	ZEY8RWF-AA	6/19/02	3		EOL
+Dataram	DTM60194E	K4S560432D-TC75 rev D	Samsung	40551 rev A	7/3/02	3	Yes	EOL
+MSC Vertriebs GmbH	MSC512M00003	MT48LC64M4A2TG-75 rev A	Micron	M0507LA1	6/26/02	3		EOL
+MSC Vertriebs GmbH	MSC512M00149	HYB39S256400DT-7 rev D	Infineon	M0507LA1	7/26/02	2		EOL
+MSC Vertriebs GmbH	MSC 512M00151	MSCS8608A8A-75	Fujitsu	PCB M0508LA1	8/8/02	3		EOL
+MSC Vertriebs GmbH	MSC 512M00152	K4S560832D-TC75 rev D	Samsung	PCB M0508LA1	8/12/02	3		
Samsung	M390S6450CTU-C7A	K4S560432C-TC75	Samsung		8/23/02	3	Yes	
+MSC Vertriebs GmbH	MSC 512M00153	HYB 39S256800DT-7.5 rev D	Infineon	PCB M0508LA1	8/29/02	3		
+Centon Electronics	TOP02-C004D (Old Part# CMB512M/RP133S)	K4S560432C-TC75 rev C	Samsung	LE12872R LP rev C	9/20/02	2	Yes	
+Dataram	DTM68015E	MT48LC64M4A2TG-75 rev C	Micron	40544 rev A	9/27/02	3		EOL
+Avant Technology	AVE7264R38A3133E1-A	K4S560432D-TC75 rev D	Samsung	501412-01A rev A	10/14/02	3	Yes	
+Avant Technology	AVE7264R38A3133E1-A	K4S560432D-TC75 rev D	Samsung	501412-01A rev A	10/14/02	3	Yes	
+Dataram	DTM60194F	MT48LC64M4A2TG-75 rev C	Micron	40551 rev A	10/16/02	3	Yes	
ITAUCOM	512E1333R28	ICM4V560806-5	Micron	0156 A	11/11/02	3		
+Legend	L6472QC3-59BHSC3B	HY57V56820BT-H rev B	Hyundai	B5982 rev B	11/5/02	3		
+ATP Electronics	AR64V72Q8S8GAS	K4S560832D-TC75 rev D	Samsung	BRSA80A	12/2/02	3	Yes	

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

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
+Centon Electronics	TOP02-C007G	48LC64M4A2TG75 rev C	Micron	LE12872R LP rev C	12/18/02	2	Yes	
Ventura Technology Group	S52SWJ30SV	K4S560432D-TC75	Samsung	V216	12/12/02	3	Yes	
+Avant Technology	AVE7228R82A3133 E1-A	NT5SV64M4AT-7K rev A	Nanya	501412-01-A rev A	12/20/02	3	Yes	
+Buffalo	VS133-R512/MC	MT48LC32M8A2TG-75 rev C	Micron	ZEY8RWF-AA	1/29/03	3		
+Avant Technology	AVE7264R39A3133 E4-A	HY57V56820BT-H rev B	Hyundai	BRSA80A rev A	2/5/03	3	Yes	
+Viking	VI8AR647234DTEL1	K4S560432D-TC75 rev D	Samsung	0000891B	6/23/03	3	Yes	
+Viking	VI8AR647238DTEL1	K4S560832D-TC75 rev D	Samsung	0000967A	7/2/03	3	Yes	
+Dataram	DTM60194I	MT48LC64M4A2TG-75 rev D	Micron	40551 rev A	8/14/03	3	Yes	

Modules shaded in blue are low profile

(+) This vendor is part of the CMTL Certification program. This means this part has/will been tested across all compatible Intel Server Boards.   For further information contact CMTL @ http://cmtlabs.com/

(~) Part number change/correction

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.*

SDS2Server Board
Registered, ECC, 133MHz SDRAM DIMM Modules
1G Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
Infineon	HYS72V128320GR-7.5-C2	HYB39S256400CI-75	Infineon		10/28/01	3		
Samsung	M390S2858CT1-C7A		Samsung		11/05/01	3		
+Legend	L1272WC3-21ASSG3C	K4S560432C-TC75	Samsung	16-21040 rev A	12/27/01	N/A	Yes	EOL
+Dataram	~DTM60192A (Old Part# DTM60192(M))	MT48LC64M4A2TG-75 rev B	Micron	40481 rev A	12/21/01	N/A		EOL
+ATP Electronics	AR128V72N4SMGAS	K4S560432C-TC75 rev C	Samsung	SR168N04 V rev 2	1/9/02	3	Yes	EOL
Virtium Technology Inc	VM375S2850E-GA	K4S650432C-TC75 rev C	Samsung	16-25142A	1/14/02	3	Yes	EOL
+Dataram	~DTM60192C (Old Part# DTM60192(E))	HYB39S256400CT-75 rev C	Infineon	40481 rev A	1/30/02	3		EOL
+SMART Modular Technologies	SM12872SR301-ICA	K4S560432C-TC75 rev C	Samsung	P51G168N EBSIBP3	1/25/02	3		EOL
Ventura Technology Group	S54SWJ27SV	K4S560432A-TC75 rev A	Samsung	V211	3/6/02	3		
Micron	MT36LSDT12872G-133B2	MT48LC64M4A2-75B	Micron		4/18/02	3		
Micron	MT36LSDF12872G-133B1	~MT48LC64M4A2FB-75	Micron		4/25/02	3		
Samsung	M390S2858DT1-C7A	K4S560432D-TC75	Samsung		4/25/02	3		
+Dataram	DTM60192D	HYB39S256400DT-7 rev D	Infineon	40481 rev A	5/1/02	3		EOL
Legacy Electronics Inc.	39L6JSLC-1HAG	LES64408TA-7.5	Legacy	LE12872R LP rev C	5/6/02	3	Yes	EOL
+Dataram	DTM60193B	V54C3256404VBS-7	Mosel-Vitelic	40554 rev A	6/3/02	3	Yes	EOL
+Dataram	DTM60192E	K4S560432D-TC75 rev D	Samsung	40481 rev A	6/29/02	3		EOL

Registered, ECC, 133MHz SDRAM DIMM Modules
1G Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	EOL
+Dataram	DTM60193C	MT48LC64M4A2FB-75 rev B	Micron	40554A rev A	9/4/02	3	Yes	EOL
+Dataram	DTM60192F	MT48LC64M4A2TG-75 rev C	Micron	40481 rev A	9/12/02	3		EOL
+MSC Vertriebs GmbH	MSC 001G00150	HYB39S256400DT-7 rev D	Infineon	M0507LA1	9/9/02	2		
+Centon Electronics	TOP02-C005E (Old Part# CMB1G/RP133S)	K4S560432D-TC75 rev D	Samsung	LE12872R LP rev C	9/17/02	2	Yes	
+ATP Electronics	AR128V72N4SMGA	NT5SV64M4AT-7K	Nanya	SR168N04V rev 2	10/22/02	3	Yes	
+Dataram	DTM60193E	MT48LC64M4A2FB-75 rev C	Micron	40554A rev A	11/19/02	3	Yes	
+Centon Electronics	TOP02-C008H	48LC64M4A2TG75 rev C	Micron	LE12872R LP rev C	12/5/02	2	Yes	
+Avant Technology	AVE7228R38A3133E3-A	NT5SV64M4AT-7K rev A	Nanya	BRSB43A	12/31/02	3		
+Viking	VI8AR287234DYEL1	K4S560432D-TC75 rev D	Samsung	0000891B	6/30/03	3	Yes	
+Dataram	DTM60193H	MT48LC64M4A2FB-75 rev D	Micron	40554A rev A	8/11/03	3	Yes	

Modules shaded in blue are low profile

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(~) Part number change/correction

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Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpusa.com/	Florence Hsieh Tel 408-732-5831 Fax 408-732-5055 sales@atpusa.com
ATP Electronics -- Taiwan Inc.	http://www.atpusa.com/	Patty Kuo Tel 011-886-2-2659-6368 Fax 886-2-2659-4982
Avant Technology	http://www.avanttechnology.com	Brad Scoggins Phone: (512)491-7411 Fax: (512)491-7412 brads@avanttechnology.com
Aved Memory Products	http://www.avedmemory.com/	
Buffalo Technology	http://www.buffalotech.com/	(800) 967-0959 memory@buffalotech.com
Centon Electronics	http://www.centon.com	Tel: 949-855-9111 Fax: 949-855-6035
Corsair	http://www.corsairmicro.com/	Tel: 510-657-8747 Fax: 510-657-8748
Dane-Elec	http://www.dane-memory.com/	Michal Hassan @ (949)450-2941 or email @ Michal@Dane-memory.com
Dataram	http://www.dataram.com/	Robert Olszak @ 800-822-0071 ext. 2404
GoldenRAM	http://www.goldenram.com	Jason M. Barrette @ 800-222-861 x7546 jasonb@goldenram.com or Michael E. Meyer @800-222-8861 x7512 michaelm@goldenram.com
Hitachi	http://semiconductor.hitachi.com/pointer/	
Hyundai/Hynix Semiconductor	http://www.hea.com/	
Infineon	http://www.infineon.com/business/distribut/index.htm	
ITAUCOM	http://www.itaucom.com.br	
JITCO CO LTD	http://www.jitco.net/	Seong Jeon Tel: 82-32-817-9740 s.jeon@jitco.net
Kingston	http://www.kingston.com	US.- Call (877) 435-8726 Asia – Call 886-3-564-1539 Europe – Call +44-1932-755205
Legacy Electronics Inc.	http://www.legacyelectronics.com	
Legend	http://www.legend.com.au	
Micron	http://silicon.micron.com/mktg/'http://silicon.micron.com/mktg/mbqual/qual_data.cfm	
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 wpe@msc-ge.com
Netlist, Inc	http://www.netlistinc.com	Christopher Lopes 949.435.0025 tel 949.435.0031 fax sales@netlistinc.com
Peripheral Enhancements	http://www.peripheral.com/	
PNY	http://www.pny.com/internet_explorer/LPB.HTML	

Vendor Name	Web URL	Vendor Direct Sales Info
Samsung	http://www.korea.samsungsemi.com/locate/buy/list_na.html	For US customers go to: http://www.mymemorystore.com/
Silicon Tech	http://www.silicontech.com/contact/salescontacts.shtml	
Simple Tech	http://www.simpletech.com	Ron Darwish @ (949) 260-8230 or email @ Rdarwish@Simpletech.com
SMART Modular Technologies	http://www.smartm.com	Leo Alafriz 949-753-0116 ext. 125 leo.alafriz@smartm.com
TechnoLinc Corporation	http://www.technolinc.com	David Curtis 510-445-7400 davidc@technolinc.com
TRS	http://www.certified-memory.com	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 wpe@msc-ge.com
Unigen	http://www.unigen.com	
Ventura Technology Inc	http://www.venturatech.com	Don Hummel @ 805-581-0800 x 108 or email @ don@venturatech.com
Viking InterWorks	http://www.vikinginterworks.com	
Virtium Technology Inc	http://www.virtium.com	Tod Skelton @ (949) 460-0020 ext. 146 or email @ tod.skelton@virtium.com
Legend	http://www.legend.com.au	Tel: 800-338-2361 Fax: 949-459-8577 orderdesk@vikingcomponents.com
Wintec Industries	http://www.wintecindustries.com	Tel 510-770-9239 Fax 510-770-9338

CMTL* (Computer Memory Test Labs)

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