Intel® Server Board SE7520AF2
Memory Test List

Revision History

Date	Rev	Modifications
Sept/04	1.0	Initial release.
Oct/04	2.0	Added Infineon* 512MB part. Added Hynix* 1GB part. (In shaded area)
Oct/04	3.0	Added Smart*, Apacer*, ATP*, and Dataram* 1GB parts. (In shaded area)
Oct/04	4.0	Added ATP and Samsung* 256MB parts. Added ATP, Smart, Kingston* and Samsung 512MB parts. (In shaded area)
Nov/04	5.0	Removed Samsung 512MB part as testing is not complete. Corrected Infineon 512MB part number. Added Legacy* 512MB parts. Added Smart, Wintec*, Legacy and Kingston 1GB parts. Added Smart 2GB parts. (In shaded area)
Nov/04	6.0	Added Buffalo* 512MB parts. Added Wintec* 1GB parts. (In shaded area)
Dec/04	7.0	Added Buffalo 256MB parts. Added Samsung 512MB parts. Added Dataram* and Samsung 2GB parts. (In shaded area)
Dec/04	8.0	Added Wintec 512MB parts and Smart 1GB parts. (In shaded area)
Dec/04	9.0	Added Micron* and Hynix 512MB parts. Added Dataram and Samsung 1GB parts. Added Legacy* and Micron 2GB parts. (In shaded area)
Dec/04	10.0	Added Smart 512MB parts. (In shaded area)
Jan/05	11.0	Added Smart 1GB and Samsung 2GB parts. (In shaded area)
Jan/05	12.0	Added Smart 1GB part. (In shaded area)
Feb/05	13.0	Added Samsung 256MB, 512MB, 1GB and 2GB parts. Added Dataram 512MB parts. Added Netlist* 1GB parts. (In shaded area)
Mar/05	14.0	Added Smart and Samsung 1GB parts. (In shaded area)
Mar/05	15.0	Added note on Lead free modules (these modules are now in bold text). Added Smart 1GB and 2GB parts. Added ATP 2GB parts. (In shaded area)
Mar/05	16.0	Added Netlist Inc 1GB Lead free part. (In shaded area)
Apr/05	17.0	Added Super Talent* 512MB and 1GB parts. Added Legend and Samsung 1GB parts. (In shaded area)
Apr/05	18.0	Added Viking, Samsung and Infineon 1GB parts. Added ATP and Smart 2GB parts. (In shaded area)
May/05	19.0	Added Kingston and Samsung 512MB parts. Added Ventura, Transcend*, and Netlist 1GB parts. Added Netlist and Dataram 2GB parts. Added Samsung and Infineon 256MB parts to ROMB list. (In shaded area)
May/05	20.0	Added Kingston 1GB and 2GB parts. Added Infineon 2GB part. (In shaded area)
Jun/05	21.0	Added ATP 512MB part. Added Samsung 1GB part. Added Smart 2GB part. (In shaded area)
Jun/05	22.0	Added Legacy 512MB and 1GB parts. (In shaded area)
Jun/05	23.0	Added Viking 512MB and 1GB parts. Added Simple, Avant* and Wintec
Aug/05	24.0	Added Wintec and Kingston 512MB parts. Added Apacer* and Wintec 1GB parts. Added Dataram and Wintec 2GB parts. Added Infineon 512MB & 1G parts. Added Micron 512MB, 1G & 2G parts. Added TRS 256MB module for ROMB (In shaded area)

Date	Rev	Modifications
Aug/05	25.0	Added Smart 1GB parts. Added Kingston 2GB parts. (In shaded area)
Sept/05	26.0	Added Wintec and Kingston 1GB parts. Added Transcend 512MB parts. Added Samsung 2GB part. (In shaded area)
Oct/05	27.0	Added Ventura 512MB part. Added Samsung 1GB and 2GB parts. (In shaded area)
Oct/05	28.0	Added Nanya* 512MB, 1GB and 2GB parts. Added Legacy 512MB part. Added Kingston 1GB part. Added Smart 2GB part. (In shaded area) Updated unleaded parts with correct shading.
Nov/05	29.0	Added Smart and Wintec 1GB parts. Added Kingston 2GB and 512MB parts. Added Samsung 256MB, 512MB, 1GB and 2GB parts. Added Hynix 1GB, 2GB and 4GB parts. Added Smart and Infineon 4GB parts. (In shaded area)
Dec/05	30.0	Added Legacy and Smart 1GB parts. Added Wintec 512MB part. (In shaded area)
Jan/06	31.0	Added Legacy and ATP 2GB parts. (In shaded area)
Jan/06	32.0	Added ATP and Smart 512MB parts. Added Kingston 1GB part. Added Samsung 2G part. Added ROMB Samsung & Infineon 512MB parts. (In shaded area)
Feb/06	33.0	Added Legend 512MB, 1GB and 2GB parts. Added Smart 1GB part. Added ROMB Micron 128MB part. Added ROMB Micron, Dataram and ATP 256MB parts. Added Hynix 512MB, 1G & 2G parts. Added ROMB Micron, Buffalo, Dataram, ATP and Netlist 512MB parts. Removed Samsung & Infineon 512MB DR parts from the RMOB section. Made correction to verbiage saying that the ROMB controller will not support Dual Rank or 1G parts. (In shaded area)
Mar/06	34.0	Added ATP 1GB part. Added Unigen 512MB parts. (In shaded area)

Disclaimer

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 Rank on the memory module. Mixing of dissimilar memory is NOT recommended.*

Table of Contents

1. Overview of Memory Testing

The following test processes are used to qualify Dual In-Line Memory Modules (DIMMs) for use with the Intel® Server Board SE7520AF2.   Memory is a vital subsystem in a server. Intel requires that strict guidelines be met before a DIMM vendor is added to the Tested Memory List. To be included on the list as a fully supported DIMM, the memory must undergo rigorous tests to ensure that the product will perform the intended server product functions. Memory qualification for Intel server, workstation and RAID contoller products is performed both by Intel's Memory Validation Lab (MVL) and by an independent external test lab, Computer Memory Test Lab* (CMTL).

The Tested Memory Lists for Intel's server board, workstation board, and RAID controller products categorize memory modules as Advanced Tested. The Advanced Testing process includes a standard paper qualification and then is followed by two levels of functional testing. DIMMs that have completed and passed Advanced Testing are considered to be compatible with the product on which they were tested, and with the test software and operating systems that was used during the test process.

Note: Memory qualification for main memory is done by testing identical memory modules in all DIMM slots. Memory qualification does not include testing of mixed DIMM type and/or vendors. Mixing of DIMM type and/or vendors is not recommended.

1.1 Paper Qualification

A paper qualification is performed to verify that the specifications of a given DIMM meet Intel's memory specifications for a given product. Specification criteria reviewed include: critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements.

1.2 Functional Testing

After a given DIMM passes the standard paper qualification, functionality of the DIMM is then tested with the intended Intel product. Two levels of functional testing is performed; Standard and Advanced.

Standard functional testing requires that the given DIMM and Intel product combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed using a Microsoft Windows* operating system and a custom test package. The test systems operate with standard voltage and at room temperature.

1.3 Advanced functional testing

Advanced functional testing requires that the given DIMM and Intel prodcut combination operate with no failures for a period of no less than 24 hours for both minimum and maximum DIMM configurations. Testing is performed with multiple operating systems and various custom test packages. Each test configuration is tested with various voltage and temperature margin conditions.

1.4 Computer Memory Test Lab*

Computer Memory Test Lab, also known as "CMTL*" is a leading memory test organization responsible for testing a broad range of memory products. A memory product, which receives a "PASS" after being tested by CMTL, means it functions correctly and consumers can use the product 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 Intel supplied equipment and procedures defined by Intel's various functional testing levels.

CMTL* Contact Information:

Office: (949) 716-8690   Computer Memory Test Lab (CMTL)
Main Fax: (949) 716-8691   24 Hammond Suite F
                                Irvine, CA 92618
                                http://www.cmtlabs.com/

2.   Memory Subsystem SE7520AF2

The Intel® server board SE7520AF2 main memory subsystem was designed to support Double Data Rate2 (DDR2) 400-MHz Registered ECC Synchronous Dynamic Random Access Memory (SDRAM). Other industry naming conventions for DDR2-400 include PC23200.

The maximum main memory capacity supported is based on the number of DIMM slots provided and maximum supported memory loads by the chipset. On the Intel Server Board SE7520AF2 the maximum supported capacity is 16GB, the minimun supported capacity is 256MB with one single 256MB DIMM.

Supported DDR2-400 DIMM capacities for main memory include: 256MB, 512MB, 1GB, 2GB, and 4GB.

The SE7520AF2 RAID memory subsystem (SROMBU42E) was designed to support Double Data Rate (DDR) 333MHz Unbuffered ECC Synchronous Dynamic Random Access Memory (SDRAM). Other industry naming conventions for DDR333 include PC2700.

The Intel Server Board SE7520AF2 maximum supported RAID memory capacity is 1GB, the minimun supported capacity is 128MB.

Supported DDR333 DIMM capacities for RAID memory include: 128MB, 256MB, 512MB, 1GB.

2.1   Main Memory Population

The Intel Server Board SE7520AF2 has eight DIMM slots grouped into four DIMM banks for main memory. DIMMs within each bank should be identical (same manufacturer, CAS latency, number of rows, columns and devices, timing parameters etc.). Although DIMMs within a bank must be identical, the BIOS supports various DIMM sizes and configurations allowing memory between banks to be different. Memory sizing and configuration is guaranteed only for qualified DIMMs approved by Intel.
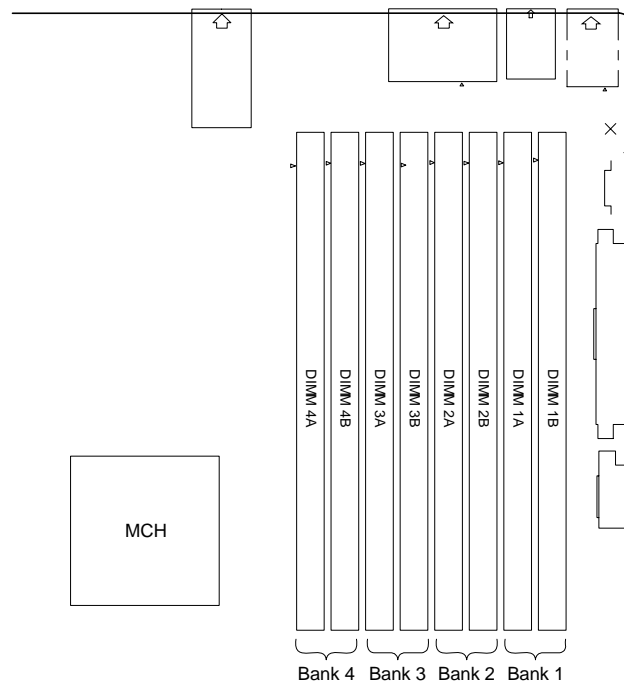
Figure 1. Identifying Banks of Memory

The memory controller is capable of supporting up to 4 loads per channel for DDR2-400. Memory technologies are classified as being either single rank or dual rank depending on the number of DRAM devices that are used on any one DIMM. A single rank DIMM is a single load device, ie) Single Rank = 1 Load. Dual rank DIMMs are dual load devices, ie) Dual Rank = 2 loads. Refer to the memory module manufacturer specifications to determine if a DIMM is single or dual rank.

DDR2 400 DIMM population rules are as follows:
(1) DIMM banks must be populated in order, starting with the bank furthest from MCH.
(2) Dual rank DIMMs must be populated before single rank DIMMs.
(3) A maximum of four DIMMs can be populated when all DIMMs are dual rank.

The following tables show the supported memory configurations:

- s/r = single rank
- d/r = dual rank
- E = Empty

Table 1: Supported DDR2-400 DIMM Populations

Bank 4	Bank 3	Bank 2	Bank 1
E	E	E	s/r
E	E	E	d/r
E	E	s/r	s/r
E	E	s/r	d/r
E	E	d/r	d/r
E	s/r	s/r	s/r
E	s/r	s/r	d/r
s/r	s/r	s/r	s/r

Note: On the **Server Board SE7520AF2,** when using all dual rank DDR2-400 DIMMs, a total of four DIMMs can be populated (two in Bank 1 and two in Bank 2). Configuring more than four dual rank DDR2-400 DIMMs will result in the BIOS generating a memory configuration error.

The following table lists the current supported memory types:

Table 2: DDR2-400 DIMM Module Matrix

DDR2-400 Registered SDRAM Module Matrix						
DIMM Capacity	DIMM Organization	SDRAM Density	SDRAM Organization	# SDRAM Devices/rows/Ranks	# Address bits rows/Ranks/column	Ranked
256MB	32M x 72	256Mbit	32M x 8	9/1/4	13/2/10	Single Ranked
512MB	64M x 72	256Mbit	64M x 4	18/1/4	13/2/11	Single Ranked
512MB	64M x 72	256Mbit	32M x 8	18/2/4	13/2/10	Double Ranked
512MB	64M x 72	512Mbit	64M x 8	9/1/4	14/2/10	Single Ranked
1GB	128M x 72	512Mbit	128M x 4	18/1/4	14/2/11	Single Ranked
1GB	128M x 72	512Mbit	64M x 8	18/2/4	14/2/10	Double Ranked
1GB	128M x 72	1Gbit	128M x 8	9/1/8	14/3/10	Single Ranked
2GB	256M x 72	1Gbit	256M x 4	18/1/8	14/3/11	Single Ranked
2GB	256M x 72	1Gbit	128M x 8	18/2/8	14/3/10	Double Ranked
2GB	256M x 72	2Gbit	256M x 8	9/1/8	15/3/10	Single Ranked
4GB	512M x 72	2Gbit	256M x 8	18/2/8	15/3/10	Double Ranked
4GB	512M x 72	2Gbit	512M x 4	18/1/8	15/3/11	Single Ranked
4GB	512M x 72	4Gbit	512M x 8	9/1/8	TBD	Single Ranked

2.2   RAID Memory Population

The Intel Server Board SE7520AF2 includes one DDR DIMM slot next to the PCI Slots not shared with main memory and for exclusive use as RAID cache of the SROMBU42E RAID subsystem. Memory sizing and configuration is guaranteed only for qualified DIMMs approved by Intel. The ROMB subsystem supports RAID memory for higher performance operation (write back cache). In addition, for enhanced data protection, the ROMB functionality in the SE7520AF2 server board supports the Intel® Portable Cache Module Accessory which enables 72 hours of battery back-up.
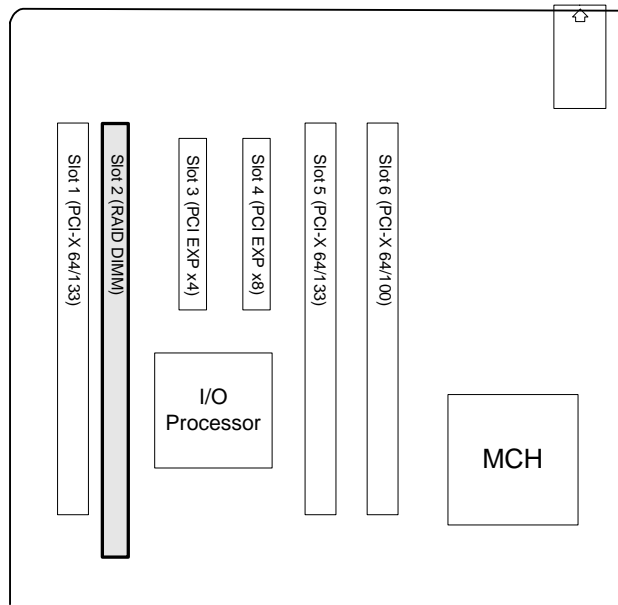
Figure 2. Identifying RAID Memory Slot

The following table lists the current supported memory types for RAID memory slot:

Table 3: DDR333 DIMM Module Matrix

DDR333 Unbuffered SDRAM Module Matrix					
DIMM Capacity	DIMM Organization	DRAM Density	DRAM Organization	# DRAM Devices/rows/Banks	# Address bits rows/Banks/column
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	12/2/9
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	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
512MB	64M x 72	512Mbit	64M x 8	9/1/4	13/2/11
1GB	128M x 72	256Mbit	64M x 4	36/2/4	13/2/11
1GB	128M x 72	512Mbit	64M x 8	18/2/4	13/2/11
1GB	128M x 72	512Mbit	128M x 4	18/1/4	13/2/12

3.   SE7520AF2 Main Memory Tested

The following tables list DIMM devices tested to be compatible with the Intel® Server Board SE7520AF2. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the Server Board SE7520AF2 may result in unpredictable operation and data loss.

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. This list is subject to change without notice.

Note: This list is not intended to 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.

Server Board SE7520AF2
Registered ECC, DDR2-400 DIMM Modules
256 MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Rank	EOL
Infineon*	**HYS72T32000HR-5-A**	**HYB18T256800AF5-A**	**Infineon**		**9/22/04**	**Yes**	**(32Mx8)*9**	**x8SR**	
Micron*	**MT9HTF3272Y-40EB2**	**MT47H32M8BP-37E**	**Micron**		**9/22/04**	**Yes**	**(32Mx8)*9**	**x8SR**	
+ATP Electronics*	AH32K72N8BQC4M	MT47H32M8BP(FP)-37E rev	Micron	SH240N08K1	10/14/04		(32Mx8)*9	x8SR	
Samsung*	M393T3253FG0-CCC Date Code: 0521	K4T56083QF-GCCC	Samsung		10/29/04		(32Mx8)*9	x8SR	
+Buffalo*	D2R400A-ES256MBJ	MT47H32M8BP(FP)-5E rev B	Micron	2DRA18F-BA	11/23/04		(32Mx8)*9	x8SR	
Samsung	**M393T3253FZ0-CCC Date Code: 0521**	**K4T56083QF-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(32Mx8)*9**	**x8SR**	
Samsung	M393T3253FG3-CCC	K4T56083QF-GCCC	Samsung		11/4/05		(32Mx8)*9	x8SR	
Samsung	**M393T3253FZ3-CCC**	**K4T56083QF-ZCCC**	**Samsung**		**11/4/05**	**Yes**	**(32Mx8)*9**	**x8SR**	

Modules shaded in blue do not contain Lead.

(+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

Server Board SE7520AF2
Registered ECC, DDR2-400 DIMM Modules
512 MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Rank	EOL
Infineon	**HYS72T64000HR-5-A**	**HYB18T512800AF**	**Infineon**		**9/22/04**	**Yes**	**(64Mx8)*9**	**x8SR**	
Infineon	**HYS72T64020HR-5-A**	**HYB18T256800AF5-A**	**Infineon**		**10/1/04**	**Yes**			
+Smart Modular Technologies*	SM647RDR264835IA	HYB18T512800AC5 rev A	Infineon	P54G240NEBUB1RA rev A	10/11/04		(64Mx8)*9	x8SR	
+Smart Modular Technologies	SM647RDR26483-5-I	HYB18T512800AF(AC)5 rev A	Infineon	240-11-4 rev C	10/13/04		(64Mx8)*9	x8SR	
+ATP Electronics	AH64K72M4BQC4S	K4T56043QF-GCCC rev F	Samsung	SH240M04K1	10/14/04		(64Mx4)*18	x4SR	
Kingston*	KVR400D2R3/512	HYB18T512800AF5 rev A	Infineon	2025263-001.A00	10/18/04		(64Mx8)*9	x8SR	
+Legacy Electronics Inc.*	S506472J20A-50A	HYB18T256400AF5 rev A	Infineon	LE18DD2F2404RRH rev 1	11/3/04		(64Mx4)*18	x4SR	
+Buffalo	D2R400A-E512MBJ	MT47H32M8BP(FP)-5E rev B	Micron	2DRB28F-BA	11/19/04		(32Mx8)*18	x8DR	
Samsung	M393T6553BG0-CCC	K4T51083QB-GCCC	Samsung		11/29/04		(64Mx8)*9	x8SR	
Samsung	M393T6450FG0-CCC Date Code: 0521	K4T56043QF-GCCC	Samsung		11/29/04		(64Mx4)*18	x4SR	
Samsung	M393T6453FG0-CCC Date Code: 0521	K4T56083QF-GCCC	Samsung		11/29/04		(32Mx8)*18	x8DR	
+Wintec Industries*	39C921284B-L	K4T51083QB-GCD5 rev B	Samsung	D2R872	12/2/04		(64Mx8)*9	x8SR	
Micron*	**MT18HTF6472Y-40EB2**		**Micron**		**12/13/04**	**Yes**			
Hynix*	HYMP564R728-E3 AA	HY5PS12821-F-E3	Hynix		12/13/04		(64Mx8)*9	x8SR	
+Smart Modular Technologies	SB647RDR264835IA	HYB18T512800AF5 rev A	Infineon	PB54G240NEBUB2RA rev A	12/17/04		(64Mx8)*9	x8SR	
+Dataram*	DTM63311C	K4T56043QF-GCCC rev F	Samsung	40011A rev A	2/2/05		(64Mx8)*9	x8SR	
Samsung	**M393T6553BZ0-CCC**	**K4T51083QB-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
Samsung	**M393T6453FZ0-CCC Date Code: 0521**	**K4T56083QF-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(32Mx8)*18**	**x8DR**	
Samsung	**M393T6450FZ0-CCC Date Code: 0521**	**K4T56043QF-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(64Mx4)*18**	**x4SR**	
+Super Talent Electronics*	T400RA512	K4T51083QB-ZCD5 rev B	Samsung	B62RRCA	3/15/05		(64Mx8)*9	x8SR	
+Kingston	KVR400D2S8R3/512I	HYB18T512800AF37 rev A	Infineon	2025263-001.A00 rev A	4/29/05		(64Mx8)*9	x8SR	

Registered ECC, DDR2-400 DIMM Modules 512 MB Sizes (64Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Rank**	**EOL**
Samsung	**M393T6553CZ0-CCC**	**K4T51083QC-ZCCC**	**Samsung**		**5/2/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
+ATP Electronics	AH64K72N8BHC4S	K4T51083QB-GCCC rev B	Samsung	SH240N08K1	5/19/05		(64Mx8)*9	x8SR	
+Legacy Electronics Inc.	L506472K20A-50A	G64Mx8DDR2	Legacy	LE9DD2F2408RRA rev A	6/3/05		(64Mx8)*9	x8SR	
+Viking*	VR5ER647218EBPL1	MT47H64M8CB-37E rev B	Micron	0000992A rev A	6/22/05		(64Mx8)*9	x8SR	
+Wintec Industries	39C921284B-GL	K4T51083QB-ZCD5 rev B	Samsung	D2R872 na	7/6/05		(64Mx8)*9	x8SR	
Infineon	**HYS72T64000HR-5-A**	**HYB18T512800AC5**	**Infineon**		**7/8/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
+Kingston	KVR400D2S8R3/512I	HYB18T512800AF37 rev A	Infineon	2025263-001.C00 na	7/1/05		(64Mx8)*9	x8SR	
Micron	**MT9HTF6472Y-40EB2**	**MT47H64M8CB-5E**	**Micron**		**7/21/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
+Transcend Information*	TS64MQR72V4J	K4T51083QC-ZCCC rev C	Samsung	09-2140 na	8/31/05		(64Mx8)*9	x8SR	
+Ventura Technology Group*	D2-52KC53SV-333	K4T56043QF-ZCD5 rev F	Samsung	D2R472 na	9/23/05		(64Mx4)*18	x4SR	
+Legacy Electronics Inc.	B557K4C2AAA-50	K4T51083QC-ZCCC rev C	Samsung	LE9DD2F2408RRA rev A	10/4/05		(64Mx8)*9	x8SR	
Nanya Technology Corporation*	**NT512T72U89A0BV-5A**	**NT5TU64M8AE-5A rev A**	**Nanya**	**NTPCB00020P (0509) na**	**10/17/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
+Kingston	KVR400D2S8R3/512I	NT5TU64M8AE-37B rev A	Nanya	2025263-001.C00 na	10/31/05		(64Mx8)*9	x8SR	
Samsung	**M393T6450FZ3-CCC**	**K4T56043QF-ZCCC**	**Samsung**		**10/24/05**	**Yes**	**(64Mx4)*18**	**x4SR**	
Samsung	M393T6450FG3-CCC	K4T56043QF-GCCC	Samsung		11/4/05		(64Mx4)*18	x4SR	
Samsung	**M393T6453FZ3-CCC**	**K4T56083QF-ZCCC**	**Samsung**		**11/4/05**	**Yes**	**(32Mx8)*18**	**x8DR**	
Samsung	M393T6453FG3-CCC	K4T56083QF-GCCC	Samsung		11/4/05		(32Mx8)*18	x8DR	
Samsung	**M393T6553CZ3-CCC**	**K4T51083QC-ZCCC**	**Samsung**		**11/4/05**	**Yes**	**(64Mx8)*9**	**x8SR**	
+Wintec Industries	39C921284C-G	K4T51083QC-ZCD5 rev C	Samsung	B62RRCF na	11/30/05		(64Mx8)*9	x8SR	

Registered ECC, DDR2-400 DIMM Modules 512 MB Sizes (64Mx72)									
Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Rank	EOL
+ATP Electronics	AH64K72F8BHC4S	K4T51083QC-ZCD5 rev C	Samsung	SH240F08K 1 na	12/23/05	Yes	(64Mx8)*9	x8SR	
+Smart Modular Technologies	SG647RDR264835-SC	K4T51083QC-ZCCC rev C	Samsung	M393T6553 BG1 (KS-11A)	1/13/06	Yes	(64Mx8)*9	x8SR	
+Legend	L64723C7-R41H2H1F	HY5PS12821FP-E3 rev 1st Gen.	Hynix	104 (0530,0534)	1/27/06	Yes	(64Mx8)*9	x8SR	
Hynix	HYMP564R72P8-E3	HY5PS12821FP-E3	Hynix		1/31/06	Yes	(64Mx8)*9	x8SR	
Hynix	HYMP564R72BP8-E3	HY5PS12821BFP-E3	Hynix		1/31/06	Yes	(64Mx8)*9	x8SR	
Unigen	UG64T7200L8DR-5AREF-CD	MT47H64M8B6-37E rev D	Micron	ACORN na	2/9/06	Yes	(64Mx8)*9	x8SR	
Unigen	UG64T7200L8DR-5AREF-NG	EDE5108AGSE-5C-E rev G	Elpida	ACORN na	2/14/06	Yes	(64Mx8)*9	x8SR	

Modules shaded in blue do not contain Lead.

 (+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

Server Board SE7520AF2
Registered ECC, DDR2-400 DIMM Modules
1 GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Rank	EOL
Micron	**MT18HTF12872Y-40EA2**	**MT47H128M8FP**	**Micron**		**9/22/04**	**Yes**	**(128x4) *18**	**x4SR**	
Hynix	HYMP512R724-E3 AA-A	HY5PS12421-F-E3	Hynix		10/1/04		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SM1287RDR212435SB	K4T51043QB-GCCC rev B	Samsung	P54G240NESUBRCC rev A	10/8/04		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SM1287RDR212435IA	HYB18T512400AC5 rev A	Infineon	P54G240NESUBRCC rev A	10/6/04		(128Mx4) *18	x4SR	
+Apacer*	78.01068.461	K4T51043QB-GCCC rev B	Samsung	48.16189.091 rev 1	10/8/04		(128Mx4) *18	x4SR	
+Dataram	DTM63310A	HYB18T512400AF5 rev A	Infineon	40011A rev A	10/1/04		(128Mx4) *18	x4SR	
+ATP Electronics	AH28K72M4BHC4S	K4T51043QB-GCCC rev B	Samsung	SH240M04K1	10/8/04		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SM1287RDR21243-5-I	HYB18T512400AC5 rev A	Infineon	240-13-4	11/5/04		(128Mx4) *18	x4SR	
+Wintec Industries	39C931284B-L	K4T51083QB-GCD5 rev B	Samsung	D2R872	11/11/04		(64Mx8)* 18	X8DR	
+Legacy Electronics Inc.	S512872M20A-50A	HYB18T512400AF(C)5 rev A	Infineon	LE18DD2F2404RRH rev 1	11/9/04		(128Mx4) *18	x4SR	
Kingston	KVR400D2R3/1G	E5104AB-4A-E rev B	Elpida	2025248-001 rev 0.5	11/10/04		(128Mx4) *18	x4SR	
+Wintec Industries	39S931281A-L	HYB18T512800AF5 rev A	Infineon	D2R872	11/15/04		(64Mx8)* 18	x8DR	
+Smart Modular Technologies	SM1287RDR21243-5-S	K4T51043QB-GCCC rev B	Samsung	M393T2950BG0	12/2/04		(128Mx4) *18	x4SR	
+Dataram	DTM63310F	K4T51043QB-GCCC rev B	Samsung	40011A rev A	12/6/04		(128Mx4) *18	x4SR	
Samsung	M393T2953BG0-CCC	K4T51083QB-GCCC	Samsung		12/14/04		(64Mx8)* 18	x8DR	
+Smart Modular Technologies	SM2567RDR21283-5-S	K4T51043QB-SCCC rev B	Samsung	M393T5750BS1	1/6/05		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SB1287RDR212435IA	HYB18T512400AF5 rev A	Infineon	PB54G240NESUBRCC1 rev A	1/12/05		(128Mx4) *18	x4SR	
Netlist Inc*	NLD127R212038-D32KSB	K4T51043QB-GCCC rev B	Samsung	0208-10 rev A	1/31/05		(128Mx4) *18	x4SR	
Samsung	**M393T2953BZ0-CCC**	**K4T51083QB-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(64Mx8)* 18**	**x8DR**	
+Smart Modular Technologies	SM1287RDR21243-5-H	HY5PS12421F-E3 rev A	Hynix	E72369	2/25/05		(128Mx4) *18	x4SR	

Registered ECC, DDR2-400 DIMM Modules 1 GB Sizes (128Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Rank**	**EOL**
Samsung	M393T2950BG0-CCC Date Code: 0521	K4T51043QB-GCCC	Samsung		2/28/05		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SM1287RDR21243-5-H	HY5PS12421F-E3 rev A	Hynix	E72369	2/25/05		(128Mx4) *18	x4SR	
Netlist Inc*	**NLD127R21203F-D32KSB**	**K4T51043QB-ZCCC rev B**	**Samsung**	**0208-10 rev A**	**3/16/05**	**Yes**	**(128Mx4) *18**	**x4SR**	
Super Talent Electronics	T400RA1G4	K4T51043QB-ZCCC rev B	Samsung	D2R472	3/17/05		(128Mx4) *18	x4SR	
+Legend	L12723C7-RCAH2HBF	HY5PS12821F-E3 rev A	Hynix	B62RRCA rev A	3/22/05		(128Mx4) *18	x4SR	
Samsung	**M393T2953CZ0-CCC**	**K4T510830C-ZCCC**	**Samsung**		**3/22/05**	**Yes**	**(64Mx8)* 18**	**x8DR**	
+Viking	VR5ER287214EBPL1	MT47H128M4BT-37E rev A	Micron	0001009A rev A	3/30/05		(128Mx4) *18	x4SR	
Samsung	**M393T2950BZ0-CCC Date Code: 0521**	**K4T51043QB-ZCCC**	**Samsung**		**4/14/05**	**Yes**	**(128Mx4) *18**	**x4SR**	
Infineon	**HYS72T128000HR-5-A**	**HYB18T512400AF5**	**Infineon**		**4/27/05**	**Yes**	**(128Mx4) *18**	**x4SR**	
+Ventura Technology Group	D2-54KF53SV-333	K4T51043QB-ZCCC rev B	Samsung	D2R472	4/19/05		(128Mx4) *18	x4SR	
+Transcend Information	TS128MQR72V4K	K4T51043QB-GCCC rev B	Samsung	09-2090	4/21/05		(128Mx4) *18	x4SR	
+Netlist, Incorporated	NLD127R212038-D32KIA	HYB18T512400AF5 rev A	Infineon	0208-10 rev A	4/18/05		(128Mx4) *18	x4SR	
+Kingston	KVR400D2S4R3/1GI	E5104AE-5C-E rev E	Elpida	2025248-001.B00	5/5/05		(128Mx4) *18	x4SR	
Samsung	**M393T2950CZ0-CCC**	**K45T1043QC-ZCCC**	**Samsung**		**6/6/05**	**Yes**	**(128Mx4) *18**	**x4SR**	
+Legacy Electronics Inc.	B512872M20A-50A	K4T51043QB-GCCC rev B	Samsung	LE18DD2F 2404RRH rev A	6/8/05		(128Mx4) *18	x4SR	
+SimpleTech*	ST72P4T128M-B05AU	K4T51043QB-ZCCC rev B	Samsung	E186014 na	6/20/05		(128Mx4) *18	x4SR	
+Avant Technology*	AVF7228R52E3400F0-MTB	MT47H64M8CB-37E rev B	Micron	50-1431-01B rev B	6/27/05		(64Mx8)* 18	x8DR	
+Viking	VR5ER287218EBPL3	MT47H64M8CB-37E rev B	Micron	0000992A rev A	6/20/05		(64Mx8)* 18	x8DR	
+Wintec Industries	39S931341A-L	HYB18T512400AF5 rev A	Infineon	D2R472	6/15/05		(128Mx4) *18	x4SR	
+Apacer	76.02220.B06	HYB18T512400AF5 rev A	Infineon	48.16189.0 11 rev 1	7/27/05		(128Mx4) *18	x4SR	
Infineon	**HYS72T128020HR-5-A**	**HYB18T512800AF5-A**	**Infineon**		**7/25/05**	**Yes**	**(64Mx8)* 18**	**x8DR**	
Micron	**MT18HTF12872Y-40EB3**	**MT47H64M8BT-5E**	**Micron**		**7/25/05**	**Yes**	**(128Mx4) *18**	**x4SR**	
+Wintec Industries	39C931344B-GL	K4T51043QB-ZCCC rev B	Samsung	D2R472 na	7/12/05		(128Mx4) *18	x4SR	
+Smart Modular Technologies	SB1287RDR21243-5-E	E5104AB-4A-E rev B	Elpida	Z10 026A na	08/09/05		128Mx4)* 18	X4SR	

<table>
<tr><td colspan="9"><i>Registered ECC, DDR2-400 DIMM Modules
1 GB Sizes (128Mx72)</i></td></tr>
<tr><th>Manufacturer</th><th>Part Number</th><th>DRAM Part Number</th><th>DRAM Vendor</th><th>PCB Part Number</th><th>Date</th><th>Lead Free</th><th>DRAM Organization</th><th>Rank</th><th>EOL</th></tr>
<tr><td>+Wintec Industries</td><td>39931342-L</td><td>MT47H128M4CB-5E rev B</td><td>Micron</td><td>D2R472 na</td><td>8/30/05</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Kingston</td><td>KVR400D2S8R3/1GI</td><td>HYB18T1G800AF-5 rev A</td><td>Infineon</td><td>2025263-001.C00</td><td>9/6/05</td><td></td><td>128M x 8</td><td></td><td></td></tr>
<tr><td>+Wintec Industries</td><td>39931344B-L</td><td>K4T51043QB-GCCC rev B</td><td>Samsung</td><td>D2R472 na</td><td>9/12/05</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>Samsung</td><td>M393T2950CZ3-CCC</td><td>K4T51043QC-ZCCC</td><td>Samsung</td><td></td><td>9/30/05</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Kingston</td><td>KVR400D2S4R3/1GI</td><td>HYB18T512400AF5 rev A</td><td>Infineon</td><td>2025248-001.B00 na</td><td>10/7/05</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>Nanya Technology Corporation</td><td>NT1GT72U4PA0BV-5A</td><td>NT5TU128M4AE-5A rev A</td><td>Nanya</td><td>NTPCB00019 (0519, 0515) na</td><td>10/18/05</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Wintec Industries</td><td>39C931344C-L</td><td>K4T51043QC-ZCCC rev C</td><td>Samsung</td><td>D2R472 na</td><td>10/24/05</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Smart Modular Technologies</td><td>SG1287RDR264835IA5</td><td>HYB18T512800AF5 rev A</td><td>Infineon</td><td>PG58G240NEBUB2RB rev A</td><td>11/1/05</td><td></td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>Hynix</td><td>HYMP512R72P8-E3</td><td></td><td>Hynix</td><td></td><td>10/24/05</td><td>Yes</td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>Samsung</td><td>M393T2953CZ3-CCC</td><td>K4T510830C-ZCCC</td><td>Samsung</td><td></td><td>11/4/05</td><td>Yes</td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>+Legacy Electronics Inc.</td><td>B517M4C2AHA-50</td><td>K4T51043QC-ZCCC rev C</td><td>Samsung</td><td>LE18DD2F2404RRH rev A</td><td>11/23/05</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Smart Modular Technologies</td><td>SG1287RDR264835IA</td><td>HYB18T512800AF37 rev A</td><td>Infineon</td><td>PG58G240NEBUB2RB rev A</td><td>11/10/05</td><td></td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>+Kingston</td><td>KVR400D2S4R3/1GI</td><td>HYB18T512400AF37 rev A</td><td>Infineon</td><td>2025248-001.B00 na</td><td>1/13/06</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+Smart Modular Technologies</td><td>SG1287RDR264835SC</td><td>K4T51083QC-ZCD5 rev C</td><td>Samsung</td><td>PG58G240NEBUB2RB rev A</td><td>1/18/06</td><td>Yes</td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>Hynix</td><td>HYMP512R72P4-E3</td><td>HY5PS12421FP-E3</td><td>Hynix</td><td></td><td>1/31/06</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>Hynix</td><td>HYMP112R72P8-E3</td><td>HY5PS1G831FP-E3</td><td>Hynix</td><td></td><td>1/31/06</td><td>Yes</td><td>(128Mx8) *9</td><td></td><td></td></tr>
<tr><td>Hynix</td><td>HYMP512R72BP4-E3</td><td>HY5PS12421BFP-E3</td><td>Hynix</td><td></td><td>1/31/06</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>Hynix</td><td>HYMP512R72BP8-E3</td><td>HY5PS12821BFP-E3</td><td>Hynix</td><td></td><td>1/31/06</td><td>Yes</td><td>(64Mx8)* 18</td><td>x8DR</td><td></td></tr>
<tr><td>+Legend</td><td>L12723C7-R41H2M1F</td><td>HY5PS12421F-E3 rev 1st Gen.</td><td>Hyundai</td><td>104</td><td>2/2/06</td><td></td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
<tr><td>+ATP Electronics</td><td>AH28K72M4BHC4S</td><td>K4T51043QC-ZCCC rev C</td><td>Samsung</td><td>SH240M04K2 na</td><td>3/1/06</td><td>Yes</td><td>(128Mx4) *18</td><td>x4SR</td><td></td></tr>
</table>

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Server Board SE7520AF2									
Registered ECC, DDR2-400 DIMM Modules									
2 GB Sizes (256Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Rank**	**EOL**
+Smart Modular Technologies	SM2567RDR21283-5-I	HYB18T512400AC5 rev A	Infineon	240-20-1	11/3/04		(128Mx4) *36	x4DR	
+Dataram	DTM63309A	HYB18T512400AF5 rev A	Infineon	40040A rev A	11/23/04		(128Mx4) *36	x4DR	
Samsung	**M393T5660MZ0-CCC**	**K4T1G044QM-ZCCC**	**Samsung**		**11/29/04**	**Yes**	**(256Mx4) *18**	**x4SR**	
+Legacy Electronics Inc.	S525672M20A-50A	HYB18T512400AF5 rev A	Infineon	TTM-SA2 rev 1	12/6/04		(128Mx4) *36	x4DR	
Micron	**MT18HTF25672Y-40EA2**		**Micron**		**12/13/04**	**Yes**	**(256Mx4) *18**	**x4SR**	
Samsung	M393T5750BS0-CCC Date Code: 0521	K45T1043QB-SCCC	Samsung		1/10/05		(128Mx4) *36	x4DR	
Samsung	**M393T5750BY0-CCC Date Code: 0521**	**K45T1043QB-ZCCC**	**Samsung**		**2/24/05**	**Yes**	**(128Mx4) *36**	**x4DR**	
+Smart Modular Technologies	SB2567RDR212835IA	HYB18T512400AF5 rev A	Infineon	PB52G240NESUB1RJ	3/1/05		(128Mx4) *36	x4DR	
+ATP Electronics	AH56K72M4BJC4M	MT47H256M4BT-5E rev A	Micron	SH240M04K1	3/10/05		(128Mx4) *36	x4DR	
+ATP Electronics	AH56K72J4BHC4C	HYB18T512400AF5 rev A	Infineon	SH240J04K1	4/6/05		(128Mx4) *36	x4DR	
+Smart Modular Technologies	SM2567RDR22543-5-I	HYB18T1G400AF-5 rev A	Infineon	240-13-5	4/1/05		(256Mx4) *18	x4SR	
+Smart Modular Technologies	SM2567RDR22543-5-S	K4T1G044QM-ZCCC rev M	Samsung	M393T2950BG0	4/13/05		(256Mx4) *18	x4SR	
Netlist, Incorporated	NLD257R212038-D32KIA	HYB18T512400AF5 rev A	Infineon	0203-10 rev A	4/21/05		(128Mx4) *36	x4DR	
+Dataram	DTM63320A	HYB18T1G400AF-5 rev A	Infineon	40011A rev A	4/28/05		(128Mx4) *36	x4DR	
+Kingston	KVR400D2D4R3/2GI	E5104AE-5C-E rev E	Elpida	2025292-001.A00	5/4/05		(128Mx4) *36	x4DR	
Infineon	**HYS72T256000HR-5-A**	**HYB18T1G400AF-5**	**Infineon**		**5/24/05**	**Yes**	**(256Mx4) *18**	**x4SR**	
+Smart Modular Technologies	SG2567RDR212835IA	HYB18T512400AF5 rev A	Infineon	PG52G240NESUB1RJ rev A	6/2/05		(256Mx4) *18	x4SR	
+Dataram	DTM63309B	K4T51043QC-ZCCC rev C	Samsung	40040A rev A	7/21/05		(128Mx4) *36	x4DR	
+Wintec Industries	39C941441A-L	HYB18T1G400AF-5 rev A	Infineon	D2R472 na	7/8/05		(256Mx4) *18	x4SR	
Micron	**MT36HTF25672Y-40EB1**		**Micron**		**7/25/05**	**Yes**			
+Kingston	KVR400D2D8R3/2GI	HYB18T1G800AF-5 rev A	Infineon	2025302-001.A00 na	08/15/05		(128Mx8) *18		
Samsung	**M393T5750CZ0-CCC**	**K45T1043QC-ZCCC**	**Samsung**		**9/20/05**	**Yes**	**(128Mx4) *36**	**x4DR**	

Registered ECC, DDR2-400 DIMM Modules 2 GB Sizes (256Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Rank**	**EOL**
Samsung	**M393T5750CZ0-CCC**	**K4T51043QC-ZCCC**	**Samsung**		**9/30/05**	**Yes**	**(128Mx4) *36**	**x4DR**	
Nanya Technology Corporation	**NT2GT72U4NA1BV-5A**	**NT5TU128M4AE-5A rev A**	**Nanya**	**NTPCB00037P (0514) na**	**10/18/05**	**Yes**	**(128Mx4) *36**	**x4DR**	
+Smart Modular Technologies	SG2567RDR21283-5-H	HY5PS1G421MP-E3 rev A	Hynix	0518-1,-2,-3,-4,-6	9/28/05		(128Mx4) *36	x4DR	
+Kingston	KVR400D2D4R3/2GI	HYB18T512400AF5 rev A	Infineon	2025292-001.B00 na	11/4/05		(128Mx4) *36	x4DR	
Hynix	**HYMP125R72P4-E3**	**HY5PS1G431FP-E3**	**Hynix**		**10/24/05**	**Yes**	**(256Mx4) *18**	**x4SR**	
Samsung	**M393T5750CZ3-CCC**	**K45T1043QC-ZCCC**	**Samsung**		**11/4/05**	**Yes**	**(128Mx4) *36**	**x4DR**	
Samsung	**M393T5660MZ3-CCC**	**K4T1G044QM-ZCCC**	**Samsung**		**11/4/05**	**Yes**	**(256Mx4) *18**	**x4SR**	
+Legacy Electronics Inc.	B527M4C2BJA-50	K4T51043QC-ZCCC rev C	Samsung	LE36DD2F2404RRJ rev B	12/5/05		(128Mx4) *36	x4DR	
+ATP Electronics	AH56K72M4BJC4C	HYB18T1G400AF-5 rev A	Infineon	SH240M04K1 na	12/16/05		(256Mx4) *18	x4SR	
Samsung	**M393T5660AZ3-CCC**	**K4T1G044QA-ZCCC**	**Samsung**		**12/13/05**	**Yes**	**(256Mx4) *18**	**X4DR**	
+Legend	**L25723C7-R41H2W2F**	**HY5PS1G421MP-E3 rev 1st Gen.**	**Hynix**	**0536**	**1/20/06**	**Yes**	**(256Mx4) *18**	**x4SR**	
Hynix	**HYMP125R72P8-E3**	**HY5PS1G831FP-E3**	**Hynix**		**1/31/06**	**Yes**	**(128Mx8)* 18**		
Hynix	**HYMP525R72BP4-E3**	**HY5PS12421BFP-E3**	**Hynix**		**1/31/06**	**Yes**	**(128Mx4)* 36**	**x4SR**	

Modules shaded in blue do not contain Lead.

 (+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

Server Board SE7520AF2 Registered ECC, DDR2-400 DIMM Modules 4 GB Sizes (512Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Rank**	**EOL**
+Smart Modular Technologies	SG5127RDR225635IA	HYB18T1G400AF-5 rev A	Infineon	PG516G240 NESUC1RK rev A	10/28/05		(128Mx4) *36	x4DR	
Hynix	**HYMP351R72MP4-E3**		**Hynix**		**10/24/05**	**Yes**	**(256Mx4) *36**	**x4DR**	
Infineon	**HYS72T512022HR-5-A**	**HYB18T2G402AF-5-A**	**Infineon**		**11/1/05**	**Yes**	**(2x256Mx 4)*18**		

Modules shaded in blue do not contain Lead.

(+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

4.   SROMBU42E RAID Memory Tested

The following tables list DIMM devices tested to be compatible with the SROMBU42E RAID subsystem of the Intel® Server Board SE7520AF2. The list of tested memory is periodically updated as qualified memory is added during the production life of the Intel product.

Intel strongly recommends the use of ECC memory in all server products.

Memory modules not listed in the following tables have not been tested for compatibility and their use with the RAID subsystem of the Server Board SE7520AF2 may result in unpredictable operation and data loss.

The Intel® RAID On MotherBoard (ROMB) DIMM should be a single rank device (with at maximum nine x8 devices) due to the Intel® RAID Smart Battery (RSB) retention time requirements.

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. This list is subject to change without notice.

Note: This list is not intended to 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.

Server RAID SROMBU42E
Unbuffered ECC DDR DIMM Modules
128 MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Speed	EOL
Intel	AXXRPCM1 (DIMM-Battery Unit)	K4H561638D-TCB3	Samsung				(16Mx8)*9	333	
Infineon	HYS72D16000GU-7-A	HYB250D128800AT-7A	Infineon				(16Mx8)*9	266	
Micron	MT9VDDT1672AG-335B4	MT46V16M8-6TB	Micron				(16Mx8)*9	333	
Micron	MT5VDDT1672AG-40BF3	MT46V16M16TG-5B rev F	Micron	0287 rev A	6/6/05		(16Mx16)*5	400	

Server RAID SROMBU42E
Unbuffered ECC DDR DIMM Modules
256 MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	Lead Free	DRAM Organization	Speed	EOL
Samsung	M381L3223DTL-CA2	K4H560838D-TCA2	Samsung				(32Mx8)*9	266	
Samsung	M381L3223ETM-CB3	K4H560838E-TCB3	Samsung				(32Mx8)*9	333	
Infineon	**HYS72D32300HU-5-C**		**Infineon**			**Yes**		**400**	
Samsung	M381L3223FTM-CCC		Samsung					400	
TRS	TRS20206	HYB25D256800CE-6 rev C	Infineon	M0498LA1 rev 1	7/15/05			333	
Micron	MT9VDDT3272AG-335G4	MT46V32M8TG-6T rev G	Micron	0286 rev A	6/3/05		(32Mx8)*9	333	
+Dataram	DTM63635D	HYB25D256800CE-6 rev C	Infineon	40570A rev A	3/4/05		(32Mx8)*9	333	
+ATP Electronics	AG32L72T8SQB3S	K4H560838F-TCB3 rev F	Samsung	SG184T08L1 rev 1	3/2/05		(32Mx8)*9	333	
Micron	MT9VDDT3272AG-40BG4	MT46V32M8TG-5B rev G	Micron	0286 rev A	6/8/05		(32Mx8)*9	400	

Modules shaded are Lead Free

(+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

Server RAID SROMBU42E									
Unbuffered ECC DDR DIMM Modules									
512 MB Sizes (64Mx72)									
Manufacturer	**Part Number**	**DRAM Part Number**	**DRAM Vendor**	**PCB Part Number**	**Date**	**Lead Free**	**DRAM Organization**	**Speed**	**EOL**
Samsung	M381L6523CUM-CB3	K4H510838C-UCB3 rev C	Samsung		1/23/06			333	
Infineon	**HYS72D64300HU-6-C**	**HYB25D512800CE-6 rev C**	**Infineon**		**1/16/06**	**Yes**	**(64Mx8)* 9**	**333**	
Micron	MT9VDDT6472AG-335D1	MT46V64M8TG-5B rev D	Micron	0286 rev A	6/10/05		(64Mx8)* 9	333	
+Buffalo	DD333-E512/MG	MT46V32M8-6TG rev G	Micron	UE0532-AA	3/3/05		(32Mx8)* 18	333	
+Dataram	DTM63715A	HYB25D512800CE-5 rev C	Infineon	40024A rev A	6/30/05		(64Mx8)* 9	400	
+ATP Electronics	AG64L72T8SHC4S	K4H510838C-UCCC rev C	Samsung	SG184T08L1	5/26/05		(64Mx8)* 9	400	
Netlist, Incorporated	**NL96472D6408A-D32KSC**	**K4H510838C-UCCC rev C**	**Samsung**	**BDS982A**	**2/1/06**	**Yes**	**(64Mx8)* 9**	**400**	

Modules shaded are Lead Free

 (+) 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.*

Verify that the DRAM part number match the DRAM on this list before purchasing.

Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
ATP Electronics	http://www.atpinc.com/	Albert Chung Tel: (1) 408-732-5831, Ext 5858 Fax: (1) 408-732-5055 sales@atpinc.com
ATP Electronics -- Taiwan Inc.	http://www.atpinc.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/	Paul Henke, 800-328-2726 x2239 in USA 609-799-0071 phenke@dataram.com
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	U.S. Contact: Gary Ridenour, 949-498-9600, Ext 350 European Contact: 49 89 370 664 11
Legend	http://www.legend.com.au	
Micron	http://silicon.micron.com/mktg/'http://silicon.micron.com/mktg/mbqual/qual_data.cfm	
MSC Vertriebs GmbH	http://www.msc-ge.com	William Perrigo 49-7249-910-417 Fax: 49-7249-910-229 wpe@msc-ge.com
Nanya Technology	http://www.ntc.com.tw	Winson Shao 886-3-328-1688, Ext 6018 winsonshao@ntc.com.tw

Vendor Name	Web URL	Vendor Direct Sales Info
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/	
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/channel	Gene Patino (949) 439-6167 Gene.Patino@Smartm.com
Super Talent Electronics	http://www.supertalentmemory.com	David Crume (408) 957-8181 support@supertalentmemory.com
Swissbit	http://www.swissbit.com	Tony Cerreta Tel: 914-935-1400 x240 Fax: 914-935-9865 tony.cerreta@swissbitna.com
TechnoLinc Corporation	http://www.technolinc.com	David Curtis 510-445-7400 davidc@technolinc.com
TRS* Tele-Radio-Space GmbH	http://www.certified-memory.com http://www.certified-memory.de	Vendor Direct Sales Info: Andreas Gründl, Pho.: +49(0)89/94553234, Fax.: +49(0)89/94553293, agruendl@trs-space.de
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 510-360-6300 Fax 510-770-9338

5.   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.