

Intel[®] Server Board S845WD1-E Memory List Test Report Summary



*Revision 36.0
October, 2004*

Revision History		
Date	Rev	Modifications
May/02	0.5	Initial release.
May/02	1.0	Release Version.
June/02	2.0	Added Micron & Samsung 128MB parts. (In shaded area)
July/02	3.0	Added Buffalo 128MB parts. Added Dataram 256MB, 512MB & 1GB parts. Added Ventura 256MB parts. (In shaded area)
July/02	4.0	Added ATP 1GB parts. Added Buffalo 128MB & 256MB parts. Added Dataram 128MB & 256MB parts. Added Smart Modular 128MB & 512MB parts. (In shaded area)
Aug/02	5.0	Added ATP 128MB, 256MB & 512MB parts. Added Dataram 128MB & 256MB parts. Added Smart Modular 256MB parts. Added Samsung 128MB, 256MB & 512MB parts. Added Infineon 128MB & 256MB parts. (In shaded area)
Aug/02	6.0	Correction made for Samsung & Infineon listings. (In shaded area)
Aug/02	7.0	Added ATP 1GB parts. Added Aved 256MB parts. Added Dataram 128MB, 256MB & 512MB parts. Added Kingston 256MB parts. Added MSC 256MB parts Added Infineon 128MB part. (In shaded area).
Sept/02	8.0	Added Avant 256MB parts. Added Aved 128MB & 256MB parts. Added 128MB parts. Added Dataram 1GB parts. Added Kingston 512MB parts. Added MSC 128MB parts. (In shaded area)
Sept/02	9.0	Added ATP 128MB parts. Added Avant 512MB parts. Added Aved 128MB, 256MB & 512MB parts. Added Dane-Elec 256MB parts. Added Dataram 256MB, 512MB & 1GB parts. Added Smart Modular 512MB parts. (In shaded area)
Oct/02	10.0	Added Infineon 512MB part. Added ATP 128MB parts. Added MSC 128MB parts. Added Aved 256MB parts. Added Dane-Elec 256MB parts. Added Smart 256MB parts. Added Dane-Elec 512MB parts. (In shaded area)
Oct/02	11.0	Added Aved 128MB & 256MB parts. Added ATP 256MB parts. Added Buffalo 256MB & 512MB parts. Added Dataram 512MB parts. (In shaded area)
Oct/02	12.0	Added ATP 512MB & 1GB Parts. (In shaded area)
Nov/02	13.0	Added DaneElec 512MB parts. Added Ventura 1GB parts. (In shaded area)
Dec/02	14.0	Added Buffalo 256MB parts. Added MSC Ventura & Virtium 512MB parts. (In shaded area)
Jan/03	15.0	Added Dataram 1GB parts. Added DaneElec 512MB parts. (In shaded area)
Jan/03	16.0	Added Dataram 256MB & 512MB parts. (In shaded area)
Jan/03	17.0	Added Dataram 256MB parts. Added Avant & Buffalo 512MB parts. (In shaded area)
Feb/03	18.0	Added Netlist 1GB parts. Added Buffalo & Legend 512MB parts. Added Legend 256MB parts. (In shaded area).
Mar/03	19.0	Added Legend 256MB parts. Added Buffalo 512MB parts. Added Micron 128MB, 256MB & 512MB parts. Removed Kingston 256MB & 512MB parts, as they are EOL. (In shaded area)
Apr/03	20.0	Added Apacer 256MB & 512MB parts. Added Buffalo 256MB parts. Added ATP 512MB & 1GB parts. (In Shaded area) And Updated EOL Statuses.
June/03	21.0	Added Avant 1GB parts. (In shaded area)
June/03	22.0	Added Viking 512MB and 1GB parts. (In shaded area). Also Updated EOL Status
July/03	23.0	Updated EOL status
July/03	24.0	Added Legend 512MB parts. (In shaded area)
Aug/03	25.0	Added TRS 512MB & 1GB parts. Added Viking 1GB parts. (In shaded area). Also Updated EOL Status
Sept/03	26.0	Added TRS 256MB parts. Added Viking 512MB parts. (In shaded area)
Sept/03	27.0	Added Centon 256MB parts. Added Samsung 256MB parts. (In shaded area)
Oct/03	28.0	Added Centon and Viking 512MB parts. (In shaded area). Also updated EOL status.
Nov/03	29.0	Added Buffalo 1GB parts. Added Micron 512MB part. (In shaded area)

Revision History		
Date	Rev	Modifications
Nov/03	30.0	Added ATP and Dataram 256MB parts. (In shaded area)
Jan/03	31.0	Updated EOL statuses.
Mar/04	32.0	Updated EOL Statuses.
Apr/04	33.0	Added ATP 512MB parts. Added Dataram 1GB parts. (In shaded area)
May/04	34.0	Added ATP 256MB parts. (In shaded area)
Sept/04	35.0	Added Legend 256MB parts. (In shaded area)
Oct/04	36.0	Added Legend 256MB and 512MB parts. (In shaded area)

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The Intel® Server Board S845WD1-E 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® Server Board S845WD1-E. 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'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.

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
714-960-1243 (voice)
714-960-4695 (fax)

Computer Memory Test Lab (CMTL)
101 Main Street, Suite 2G
Huntington Beach, CA 92648
<http://www.cmtlabs.com/>

Qualified Memory for the Intel® Server Board S845WD1-E

The memory module on the server board S845WD1-E has 2 DIMM sockets, which can hold up to 2 GB of Unbuffered ECC and non-ECC DDR200 or DDR266 memory using two 72-bit DIMM modules. The following memory features are supported:

- DDR200 and DDR266 Unbuffered ECC and non-ECC compatible 2.5V modules (in compliance with the DDR JEDEC DIMM Specification)
- DIMMs with capacity of 64MB, 128MB, 256 MB, 512 MB, 1G. Other DRAM sizes may function correctly but will not be validated.
- Minimum configuration is 64MB using one 64MB DIMM.

Please Note: The S845WD1-E Tested Memory List is valid for all S845WD1-E Product Codes (S845WD1, S845WD11U and S845WD1H).

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

DDR200 and DDR266 Unbuffered DRAM Module Configurations for Cas Latency 2 & 2.5					
DIMM Capacity	DIMM Organization	DRAM Density	DRAM Organization	# DRAM Devices/rows/Banks	# Address bits rows/Banks/column
64MB	8M x 72	64Mbit	8M x 8		
64MB	8M x 72	128Mbit	8M x 16		
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	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

Memory features are detailed in the *Intel® Server Board S845WD1-E Technical Product Specification* available on-line at <http://support.intel.com/support/motherboards/server/S845WD1-E>

The following table lists DIMM devices known to be compatible with the Intel Server Board S845WD1-E. 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.

Server Board S845WD1-E

Unbuffered, ECC, DDR200 DIMM Modules 128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D16000GU-8-A	HYB25D128800AT-8A	Infineon		7/29/02	2	Yes	16M x 8	

Unbuffered, ECC, DDR266 DIMM Modules 128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Micron	MT9VDDT1672AG-265B1	MT46V16M8-75 B	Micron		6/15/02	2.5	Yes	16M x 8	
Samsung	M381L1713DTL-CA2	K4H280838D-TCA2	Samsung		6/15/02	2	Yes	16M x 8	
+Buffalo	DD266-ES128/MB	46V16M8-75 rev B	Micron	UE0802-AA	6/28/02	2.5	Yes	16M x 8	EOL
+Dataram	DTM63605C (Old Part# DTM63605(M))	MT46V16M8TG-75 rev A	Micron	40507 rev A	7/16/02	2.5	Yes	16M x 8	EOL
+ATP Electronics	AG16L72C8SEB0S	K4H280838D-TCB0 rev D	Samsung	SG184C08 L1	7/29/02	2.5	Yes	16M x 8	EOL
+Dataram	DTM63605B (Old Part# DTM63605(Y))	HY5DU28822AT-H rev A	Hyundai	40507 rev A	8/1/02	2.5	Yes	16M x 8	EOL
Infineon	HYS72D16000GU-7-A	HYB250D128800AT-7A	Infineon		8/16/02	2	Yes	16M X 8	
+Aved Memory Products	AMP371D1713AT1-CA2/N	NT5DS16M8AT-7K	Nanya	105600 rev A	8/22/02	2	Yes	16M x 8	EOL
+MSC Vertriebs GmbH	MSC128M00073	K4H280838C-TCB0 rev C	Samsung	M0498LA1	9/20/02	3	Yes	16M x 8	EOL
+Aved Memory Products	AMP371D1713BT1-CA2/MI	MT46V16M8-75Z rev B	Micron	105600 rev A	10/7/02	2	Yes	16M x 8	EOL
Micron	MT9VDDT1672AG-265B1	MT46V16M8-75 B	Micron		11/31/02	2.5	Yes	16M x 8	

Modules shaded in blue are low profile

(+) This vendor is part of the CMTL 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.

Server Board S845WD1-E

Unbuffered, Non-ECC, DDR200 DIMM Modules 128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL

Unbuffered, Non-ECC, DDR266 DIMM Modules 128MB Sizes (16Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Buffalo	DD266-S128/MB	46V16M8-75 rev B	Micron	UE0802-AA	7/13/02	2.5	Yes	16M x 8	EOL
+Smart Modular Technologies	SM1664DDR301-ICA	K4H280838B-TCA rev B	Samsung	P51284NVBZ6GMC1 rev B	7/9/02	2	Yes	16M x 8	EOL
+Dataram	DTM63604B	MT46V16M8TG-75 rev A	Micron	40507 rev A	8/5/02	2.5	Yes	16M x 8	EOL
+Buffalo	DD266-S128/SD	K4H280838D-TCB0 rev D	Samsung	UE0802-AA	8/26/02	2.5	Yes	16M x 8	EOL
+MSC Vertriebs GmbH	MSC128M00069	HY5DU28822AT-H rev A	Hyundai	M0498LA1	8/20/02	2.5	Yes	16M x 8	EOL
+Aved Memory Products	AMP368D1713AT1-CA2/N	NT5DS16M8AT-7K	Nanya	105600 rev A	9/11/02	2	Yes	16M x 8	EOL
+ATP Electronics	AG16L64C8S-EB0S	K4H280838C-TCB0 rev C	Samsung	BDMA83A6	9/16/02	2.5	Yes	16M x 8	EOL
+Legend	L3264D35-643HDC5A	HY5DU56822AT-H rev A	Hyundai	DR640816A rev 3	2/24/03	2.5	Yes	32M x 8	

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Server Board S845WD1-E

Unbuffered, ECC, DDR200 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D32000 GU-8-A	HYB25D256800A T-8A	Infineon		7/22/02	2	Yes	32Mx8	
Samsung	M381L1713DTL -CA0	K4H280838D- TCA0	Samsung		7/11/02	2	Yes	16Mx8	
Samsung	M381L3223DTL -CA0	K4H560838D- TCA0	Samsung		8/5/02	2	Yes	32Mx8	

Unbuffered, ECC, DDR266 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D32000 GU-7-A	HYB25D256800A T-7A	Infineon		5/5/02	2	Yes		
Micron	MT9VDDT3272 AG-265B1	MT46V32M8-75 B	Micron		5/5/02	2.5	Yes		
+Dataram	DTM63607B (Old Part# DTM63607(M))	MT46V16M8TG- 75 rev A	Micron	40507 rev A	6/24/02	2.5	Yes	16M x 8	EOL
Ventura Technology Group	D26VSJ29SV	K4H560838C- TCB0 rev C	Samsung	V215	6/26/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63613A	MT46V32M8TG- 75 rev B	Micron	40507 rev A	7/18/02	2.5	Yes	32M x 8	EOL
Samsung	M381L3223DTL -CA2	K4H560838D- TCA2	Samsung		7/11/02	2	Yes	32Mx8	
+ATP Electronics	AG32L72C8SE B0S	K4H280838D- TCB0 rev D	Samsung	SG184C0 8L1	7/31/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63607A (Old Part# DTM63607(Y))	HY5DU28822AT- H rev A	Hyundai	40507 rev A	8/5/02	2.5	Yes	16M x 8	EOL
+MSC Vertriebs GmbH	MSC256M0007 4	K4H280838C- TCB0 rev C	Samsung	M0474LA 1	8/15/02	3	Yes	32M x 8	EOL
+Aved Memory	AMP371D3313A T1-CA2/N	NT5DS16M8AT- 7K	Nanya	105600 rev A	8/29/02	2	Yes	16M x 8	EOL
+Aved Memory	AMP371D3223A T1-CA2/N	NT5DS32M8AT- 7K	Nanya	105600 rev A	9/5/02	2	Yes	32M x 8	EOL
+Dane-Elec	D1D266- 072322E	NT5DS16M8AT- 7K rev A	Nanya	DR1GBD X8 rev A3	9/11/02	2	Yes	16M x 8	EOL
+Dane-Elec	D1D266- 072325E	MT46V16M8-75A	Micron	DR1GBD X8 rev A3	9/16/02	2.5	Yes	16M x 8	EOL

**Unbuffered, ECC, DDR266 DIMM Modules
256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Dataram	DTM63642A	MT46V32M8TG-75 rev B	Micron	40596A rev A	9/9/02	2.5	Yes	32M x 8	EOL
+Aved Memory Products	AMP371D3313DT1-CA2/S	K4H280838D-TCA2 rev D	Samsung	105600 rev A	10/2/02	2	Yes	16M x 8	EOL
+Aved Memory Products	AMP371D3313BT1-CA2/MI	MT46V16M8-75Z rev B	Micron	105600 rev 1	10/2/02	2	Yes	16M x 8	EOL
+Buffalo	DD266-E256/MB	46V16M8-75 rev B	Micron	UE0502-AA rev A	7/25/02	2.5	Yes	16M x 8	EOL
+Dataram	DTM63642B	MT46V32M8TG-75 rev C	Micron	40596A rev A	1/10/03	2.5	Yes	32M x 8	EOL
Micron	MT9VDDT3272AG-265C4	MT46V32M8-75 C	Micron		12/2/02	2.5	Yes	32M x 8	
Apacer	AM512LD53E266	K4H560838C-TCB0	Samsung	48.16118.090	3/19/03	2.5	Yes	32M x 8	EOL
TRS* Tele-Radio-Space GmbH	TRS20156	HYB25D256800B T-7 rev B	Infineon	M0498LA1 rev 1	8/14/03	2	Yes	32M x 8	
+Centon Electronics	TOP02-D014N	MT46V32M8TG-75 rev C	Micron	86ESDO4A rev A	8/26/03	2.5	Yes	32M x 8	
Samsung	M381L3223ETM-CA2	K4H560838E-TCA2	Samsung		9/8/03	2	Yes	32M x 8	
+Viking	VI4CU647228DTHL2	K4H560838E-TCB0 rev E	Samsung	0000927A	9/18/03	2.5	Yes	32M x 8	
+ATP Electronics	AG64L72T8S QB0S	K4H560838E-TCB3 rev E	Samsung	SG184T08L1	10/15/03	2.5	Yes	32M x 8	
+ATP Electronics	AG32L72T8S QB0S	K4H560838E-TCB3 rev E	Samsung	SG184T08L1	10/17/03	2.5	Yes	32M x 8	
+Dataram	DTM63642E	HYB25D256800B T-6 rev B	Infineon	40596A rev A	10/24/03	2.5	Yes	32M x 8	
+Dataram	DTM63643E	HYB25D256800B T-6 rev B	Infineon	40596A rev A	10/27/03	2.5	Yes	32M x 8	
+ATP Electronics	AG32L72T8S QB0S	K4H560838F-TCB3 rev F	Samsung	SG184T08L1 rev 1	4/19/04	2.5	Yes	32M x 8	
+Legend	L3272DC5-MA6HDC5D	HY5DU56822DT-J rev D	Hyundai	BDMA83A6 rev 6	9/24/2004	2.5	Yes	32M x 8	

Modules shaded in blue are low profile

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Server Board S845WD1-E

Unbuffered, Non-ECC, DDR200 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL

Unbuffered, Non-ECC, DDR266 DIMM Modules 256MB Sizes (32Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Buffalo	DD266-256/MB	46V16M8-75 rev B	Micron	UE0502-AA	7/13/02	2.5	Yes	16M x 8	EOL
+Dataram	DTM63630A	MT46V32M8T G-75 rev B	Micron	40507 rev A	7/18/02	2.5	Yes	32M x 8	EOL
+Smart Modular Technologies	SM3264DD R301-ICA	K4H280838C-TCA2 rev C	Samsung	P512184NV BZ6GMC1 rev B	7/29/02	2	Yes	16M x 8	EOL
+Aved Memory Products	AMP368D33 13AT1-CA2/N	NT5DS16M8A T-7K	Nanya	105600 rev A	8/9/02	2	No	16M x 8	EOL
+Aved Memory Products	AMP368D32 23AT1-CA2/N	NT5DS32M8A T-7K	Nanya	105600 rev A	8/19/02	2	Yes	32M x 8	EOL
+Dataram	DTM63606B (Old Part# DTM63606(M))	MT46V16M8T G-75 rev A	Micron	40507 rev A	8/7/02	2.5	Yes	16M x 8	EOL
+Avant Technology	AVM6432U3 6C2266K1-A	NT5DS16M8A T-7K rev A	Nanya	50-1400-01-C rev C	8/26/02	2	Yes	16M x 8	EOL
+Aved Memory Products	AMP368D32 23AT1-CA2/N	NT5DS32M8A T-7K	Nanya	105600 rev A	8/19/02	2	Yes	32M x 8	
+Aved Memory Products	AMP368D33 13AT1-CB0/MV	V58C2128804 SAT-75 rev A	Mosel-Vitellic	105600 rev A	9/20/02	2.5	Yes	16M x 8	EOL
+Smart Modular Technologies	SM3264DD R301-ICB	NT5DS16M8A T-7K	Nanya	P512184NV BZ6GMC1 rev B	9/20/02	2	Yes	16M x 8	EOL
+ATP Electronics	AG32L64C8 SEB0S	K4H280838D-TCB0 rev D	Samsung	SG184C08L 1 rev 1	10/14/02	2.5	Yes	16M x 8	EOL
+Aved Memory Products	AMP368D33 13BT1-CA2/MI	MT46V16M8-75Z rev B	Micron	105600 rev A	10/7/02	2	Yes	16M x 8	EOL

**Unbuffered, Non-ECC, DDR266 DIMM Modules
256MB Sizes (32Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Buffalo	DD266-256/SD	K4H280838D-TCB0 rev D	Samsung	UE0502-AA	10/9/02	2.5	Yes	16M x 8	EOL
+Buffalo	DD266-S256/SD	K4H560838D-TCB0 rev D	Samsung	UE0802-AA	11/18/02	2.5	Yes	32M x 8	EOL
+Legend	L3264D35-643HDC5A	HY5DU56822 AT-H rev A	Hyundai	DR640816A rev 3	2/24/03	2.5	Yes	32M x 8	
+Buffalo	DD266-256/SE	K4H280838E-TCB0 rev E	Samsung	UE0502-AA	3/12/03	2.5	Yes	16M x 8	EOL
+Centon Electronics	TOP02-D014N	MT46V32M8T G-75 rev C	Micron	86ESDO4A rev A	8/26/03	2.5	Yes	32M x 8	
+Viking	VI4CU64642-8DTHL2	K4H560838E-TCB0 rev E	Samsung	0000981A	9/12/03	2.5	Yes	32M x 8	
+Legend	L3264DC5-BU1HDC5D	HY5DU56822 DT-J rev D	Hyundai	B6U808 rev 1	8/27/04	2.5	Yes	32M x 8	

Modules shaded in blue are low profile

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Server Board S845WD1-E

Unbuffered, ECC, DDR200 DIMM Modules 512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Samsung	M381L6423DTL-CA0	K4H560838D-TCA0	Samsung		05/15/02	2	Yes		

Unbuffered, ECC, DDR266 DIMM Modules 512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D64020G U-7-A	HYB25D25680 0AT-7A	Infineon		5/2/02	2	Yes		
+Dataram	DTM63612E (Old Part# DTM63612(C))	NT5DS32M8AT -7K	Nanya	40507 rev A	6/28/02	2.5	Yes	32M x 8	EOL
Samsung	M381L6423DTL-CA2	K4H560838D-TCA2	Samsung		7/18/02	2	Yes	16Mx8	
+ATP Electronics	AG64L72C8SQB 0S	K4H560838D-TCB0 rev D	Samsung	SG184C08L1	7/29/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63612D	HYB25D25680 0AT-7 rev A	Infineon	40507 rev A	8/13/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63643A	MT46V32M8TG -75 rev B	Micron	40596A rev A	9/9/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63612C	MT46V32M8TG -75 rev B	Micron	40507 rev A	7/24/02	2.5	Yes	32M x 8	EOL
+ATP Electronics	AG64L72T8SQB0 S	K4H560838D-TCB0 rev D	Samsung	SG184T08L1 rev 1	10/16/02	2	Yes	64M x 4	EOL
+Dane-Elec	D1D266-072642I	NT5DS32M8AT -7K rev A	Nanya	DR1GBDX8 rev A3	11/12/02	2	Yes	32M x 8	EOL
+MSC Vertriebs GmbH	MSC512M00080	HYB25D25680 0AT-7 rev A	Infineon	M0474LA1	11/19/02	2.5	Yes	32M x 8	EOL
+Ventura Technology Group	D52VVK29SV	K4H560838D-TCB0 rev D	Samsung	V215	11/21/02	2.5	Yes	32M x 8	EOL
Virtium Technology Inc	VM381L6423E-B0	K4H560838D-TCB0 rev D	Samsung	18-15181A rev A	11/25/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63643B	MT46V32M8TG -75 rev C	Micron	40596A rev A	1/6/03	2.5	Yes	32M x 8	EOL
+Avant Technology	AVM7264U39C22 66K1-A	HYB25D25680 0BT-7 rev B	Infineon	50-1400-01-C rev C	1/21/03	2	Yes	32M x 8	EOL
+Avant Technology	AVM7264U39C52 66K1-A	MT46V32M8-75 C rev C	Micron	50-1400-01-C rev C	1/23/03	2.5	Yes	32M x 8	EOL
+Buffalo	DD266-E512/SD	K4H560838D-TCB0 rev D	Samsung	UE0502-AA	1/29/03	2.5	Yes	32M x 8	EOL

**Unbuffered, ECC, DDR266 DIMM Modules
512MB Sizes (64Mx72)**

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Micron	MT18VDDT6 472AG- 265C4	MT64v32M8-75 C	Micron		12/2/02	2.5	Yes	32M x 8	
Micron	MT18VDDT6 472AG- 265C4	MT64v32M8-75 C	Micron		12/02/02	2.5	Yes	32M x 8	
+Buffalo	DD266- E512/SD	K4H560838D- TCB0 rev D	Samsung	UE0502-AA	1/29/03	2.5	Yes	32M x 8	EOL
Apacer	AM512LD53 E266	K4H560838C- TCB0	Samsung	48.16118.090	3/19/03	2.5	Yes	32M x 8	EOL
+Viking	VI4CU64722 8DTHL1	K4H560838D- TCB0 rev D	Samsung	0000839A	6/5/03	2.5	Yes	32M x 8	
+Legend	L6472DC5- DR1HDC5A	HY5DU56822AT -H rev A	Hyundai	DR720818C rev 1	6/30/03	2.5	Yes	32M x 8	
TRS* Tele- Radio-Space GmbH	TRS20157	HYB25D256800 BT-7 rev B	Infineon	M0474LA2 rev 2	7/24/03	2	Yes	32M x 8	
+Viking	VI4CU64722 8DTHL3	MT46V32M8TG- 75 rev C	Micron	0000927A	8/18/03	2.5	Yes	32M x 8	
+Centon Electronics	TOP02- D015O	MT46V32M8TG- 75 rev C	Micron	86ESDO4A rev A	9/5/03	2.5	Yes	32M x 8	
+ATP Electronics	AG64L72T8S QB0S	K4H560838F- TCB3 rev F	Samsung	SG184T08L1 rev 1	4/13/04	2.5	Yes	32M x 8	

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Server Board S845WD1-E

Unbuffered, Non-ECC, DDR200 DIMM Modules 512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D64020 GU-8-A	HYB25D25680 0AT-8A	Infineon		8/25/02	2	Yes	16Mx8	

Unbuffered, Non-ECC, DDR266 DIMM Modules 512MB Sizes (64Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Smart Modular Technologies	SM6464DDR3 01-ICB	NT5DS32M8AT -7K	Nanya	P512184NVBZ6 GMC1 rev B	7/11/02	2	Yes	32M x 8	EOL
+Dataram	DTM63624C	MT46V32M8TG -75 rev B	Micron	40507 rev A	8/14/02	2.5	Yes	32M x 8	EOL
+Dataram	DTM63624B (Old Part# DTM63624(E))	HYB25D25680 0AT-7 rev A	Infineon	40507 rev A	8/9/02	2.5	Yes	32M x 8	EOL
+Avant Technology	AVM6464U39C 2266K1-A	NT5DS32M8AT -7K rev A	Nanya	50-1400-01-C rev C	9/12/02	2	Yes	32M x 8	EOL
+Aved Memory Products	AMP368D6423 AT1-CA2/N	NT5DS32M8AT -7K	Nanya	105600 rev A	9/5/02	2	Yes	32M x 8	EOL
+Smart Modular Technologies	SM6464DDR3 01-ICA	K4H560838B- TCA2 rev B	Samsung	9512184NVBZ6 GMC1 rev B	9/5/02	2	Yes	32M x 8	
+Dane-Elec	D1D266- 064645I	K4H560838C- TCB0 rev C	Samsung	DR1GBDX8 REV A3 rev A	9/27/02	2.5	Yes	32M x 8	EOL
+Dane-Elec	D1D266- 064642I	NT5DS32M8AT -7K rev A	Nanya	DR1GBDX8 REV A3 rev A	9/27/02	2	Yes	32M x 8	EOL
+Buffalo	DD266- 512/MB	46V32M8-75 rev B	Micron	UE0502-AA	10/2/02	2.5	Yes	32M x 8	EOL
+Dane-Elec	OD1D266- 064645I-11B	HYB25D25680 0BT-7 rev B	Infineon	DE1GB8 rev A	12/16/02	2.5	Yes	32M x 8	EOL
+Legend	L6464D35- 643HDC5A	HY5DU56822A T-H rev A	Hyundai	DR640816A rev 3	2/19/03	2.5	Yes	32M x 8	
+Buffalo	DD266- 512/SD	K4H560838D- TCBO rev D	Samsung	UE0502-AA	3/3/03	2.5	Yes	32M x 8	EOL
+ATP Electronics	AG64L64T8SQ B0S	K4H560838D- TCB0 rev D	Samsung	SG184T08L1 rev 1	4/24/03	2.5	Yes	32M x 8	EOL
+Viking	VI4CU646428 DTHL1	K4H560838D- TCB0 rev D	Samsung	0000839A	6/2/03	2.5	Yes	32M x 8	
+Legend	L6464DC5- BU1HDC5D	HY5DU56822D T-J rev D	Hyundai	B6U808 rev 1	9/10/200 4	2.5	Yes	32M x 8	

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Server Board S845WD1-E

Unbuffered, ECC, DDR200 DIMM Modules 1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL

Unbuffered, ECC, DDR266 DIMM Modules 1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
Infineon	HYS72D128020 GU-7-A	HYB25D51280 OAT-7A	Infineon		5/16/02	2	Yes		
+ATP Electronics	AG28L72C8SM B0S	K4H560438D- TCB0 rev D	Samsung	BDMA83A6	7/16/02	2.5	Yes	64M x 4	EOL
+Dataram	DTM63628B	MT46V64M4TG -75 rev B	Micron	40507 rev A	8/23/02	2.5	Yes	64M x 4	EOL
+Dataram	DTM63638B	NT5DS64M4A W-7K rev A	Nanya	40573 rev A	9/9/02	2	Yes	64M x 4	EOL
+ATP Electronics	AG28L72T8SMB 0S	K4H560438D- TCB0 rev D	Samsung	SG184T08L1 rev 1	10/16/02	2	Yes	64M x 4	EOL
Ventura Technology Group	D54VPK29SV	K4H560438D- TCB0 rev D	Samsung	V215	11/8/02	2.5	Yes	64M x 4	EOL
+Dataram	DTM63638A	HYB25D25640 0BC-7 rev B	Infineon	40573A rev A	12/9/02	2	Yes	64M x 4	
Netlist Inc	NL9127LD6405 2-D21J	K4H560438D- TCB0 rev D	Samsung	0168-10 rev C	2/11/03	2.5	Yes	64M x 4	EOL
+Viking	VI4CU287228D XHL1	K4H560438D- TCB0 rev D	Samsung	0000839A	6/9/03	2.5	Yes	64M x 4	
TRS* Tele- Radio-Space GmbH	TRS20158	HYB25D51280 OAT-7 rev A	Infineon	M0474LA2 rev 2	7/28/03	2	Yes	64M x 8	
+Viking	VI4CU287228D XHL2	MT46V64M4TG -75 rev C	Micron	0000839A	7/30/03	2.5	Yes	64M x 4	
+Buffalo	DD266- EA1G/SD	K4H560438D- TCB0 rev D	Samsung	UE0502-AA	10/3/03	2.5	Yes	64M x 4	

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Server Board S845WD1-E

Unbuffered, Non-ECC, DDR200 DIMM Modules 1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL

Unbuffered, Non-ECC, DDR266 DIMM Modules 1GB Sizes (128Mx72)

Manufacturer	Part Number	DRAM Part Number	DRAM Vendor	PCB Part Number	Date	CAS Latency	Low Profile	DRAM Organization	EOL
+Dataram	DTM63632A	HYB25D256400AT-7 rev A	Infineon	40507 rev A	7/3/02	2.5	Yes	64M x 4	EOL
+ATP Electronics	AG28L64C8SM-B0S	K4H560438D-TCB0 rev D	Samsung	BDMA83A6	8/7/02	2.5	Yes	64M x 16	EOL
+ATP Electronics	AG28L64T8SM-B0S	K4H560438D-TCB0 rev D	Samsung	SG184T08L1 rev 1	3/17/03	2.5	Yes	64M x 4	EOL
+Avant Technology	AVM6428U86C2266K1-A	NT5DS64M4A-T-7K rev A	Nanya	50-1400-01-C rev C	5/2/03	2	Yes	64M x 8	EOL
+Viking	VI4CU286428DXHL1	K4H560438D-TCB0 rev D	Samsung	0000839A rev A	5/29/03	2.5	Yes	64M x 4	
+Dataram	DTM63638F	HYB25D256400BC-6 rev B	Infineon	40573A rev A	4/9/04	2	Yes	64M x 4	

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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/	Paul Henke, 800-328-2726 x2239 in USA phenke@dataram.com Peter Jauss, +49-69-680-9070 in EMEA pjauss@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.itauc.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: Keri Albers 888 466 3853 ext. 307 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

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	Leo Alafriz 949-753-0116 ext. 125 leo.alafriz@smartm.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

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.

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 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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