

Enterprise Server Group
Intel[®] MB440LX DP Server System &
Baseboard
Tested Memory List

November, 1998



Revision History

Revision	Revision History
June, 1998	Updated list with recently tested memory devices.
November, 1998	Updated list with recently tested memory devices.

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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.

Introduction

The following Tables list the memory modules that have been Intel tested and approved for use with the MB440LX DP Server baseboards and systems. This Server product supports the following memory features:

- 168-pin gold-plated EDO 0r SDRAM DIMM modules
- Support for up to 1 GB EDO DRAM, or 512 MB SDRAM
- Support for DIMM sizes of 32, 64, 128 MB

Memory features are detailed in the *MB440LX DP Server Technical Product Specification (Order Number 282944)* available on-line at www.intel.com/support.

Testing of memory modules for inclusion on this list for this Intel Server product may occur in two different phases: Intel internal testing and Computer Memory Testing Labs (CMTL) testing. The CMTL is a testing organization that has been enabled to provide rigorous testing of memory modules on several Intel server products including legacy products and the current entry and mid-range server product line.

Intel testing of memory modules occurs on three levels: Level 1, Level 2, and Level 3. Upon the completion of testing, the memory module is designated at the level at which it has been tested (this is indicated in the third column of the table). The definitions for these testing levels are as follows:

Level 1 Testing: The DIMM device has been electrically tested by Intel Engineering and is known to be compatible with the board set/baseboard or the associated memory module. Rigorous environmental testing, voltage margin, shock, and vibration testing were conducted on these DIMM devices. In addition, the vendor has met or exceeded Intel's product change, quality control, and availability requirements. The DIMM device has an Intel part number associated with the device. ***This level of testing is performed only through Intel.***

Level 2 Testing (Also Advanced Level Testing): The DIMM device has been electrically tested by Intel Engineering and is known to be compatible with the server board set/baseboard or associated memory module. Rigorous environmental testing, voltage margin, shock, and vibration testing were conducted on these DIMM devices. The vendor has Intel's product change, quality control, and availability requirements. ***This level of testing is the equivalent of Advanced tested as performed by CMTL.***

Level 3 Testing: This level of testing is considered a reference level. The DIMM device has been electrically tested by Intel Engineering. A small sample has been tested across voltage and temperature margins and is known to be compatible with the server board set/baseboard or associated memory module. A partial sample of the tested DIMMs are kept on hand for reference. ***This level of testing is also performed through the CMTL.***

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. Memory modules not listed in the following tables may be used, however, in the event of unreliable system operation, the modules should be replaced with Level 1 or Level 2 Intel tested memory modules to determine whether the unlisted modules are causing the problem. This list is subject to change without notice.

MB440LX DP SERVER SYSTEM & BASEBOARD - INTEL TESTED & CMTL ADVANCED TESTED MEMORY LIST

Shading indicates the latest additions to the list. The levels of testing are defined in the Introduction of this document.

Qualified EDO DIMM Modules					
Manufacturer	Part Number	Qualification Level	Intel Part #	DIMM Type	Size
32 MB Memory					
NEC	MC-424000LFC72F-A60	Level 1	800901-060	4Mx72	32MB
TI	TM4EP72BPB-60	Level 1	800901-060	4Mx72	32MB
Fujitsu	EDC4BV7242-60JG-S	Level 2	n/a	4Mx72	32MB
Samsung	KMM372F404AS-6	Level 1	800901-060	4Mx72	32MB
IBM	IBM11M4735CBE-60J	Level 2	n/a	4Mx72	32MB
Micron	MT18LD472G-60X (-S die)	Level 1	800901-060	4Mx72	32MB
Micron	MT18LD472G-60X (-P die)	Level 1	800901-060	4Mx72	32MB
Samsung	KMM372F400BK-6U	Level 1	800901-060	4Mx72	32MB
64 MB Memory					
NEC	MC-428LFC72FB-A60	Level 1	800902-060	8Mx72	64MB
Hitachi	HB56UW873E-6A	Level 2	n/a	8Mx72	64MB
Samsung	KMM372F803AK-60U	Level 1	800902-060	8Mx72	64MB
Micron	MT9LD872G-6X	Level 1	800902-060	8Mx72	64MB
Itaucom	ICMM8M8872A3HTL-6	Level 3	N/a	8mx72	64MB
128 MB Memory					
Micron	MT18LD1672G-6X	Level 1	800095-060	16Mx72	128MB
Mitsubishi	MH16V725ATJ-6	Level 2	n/a	16Mx72	128MB
Hitachi	HB56UW1673E-6A	Level 2	n/a	16Mx72	128MB
Vision Tek	N0401.0SASA-60	Level 2	n/a	16Mx72	128MB
Itaucom	ICMM16M6472A3HTL-6	Level 3	N/a	16mx72	128MB

Qualified SDRAM DIMM Modules

Manufacturer	Part Number	Qualification Level	Intel Part #	DIMM Type	Size
32 MB Memory					
TI	TM4SR72EPU-12A	Level 1	682413-002	4Mx72	32MB
Samsung	KMM374S403BTL-G0	Level 1	682413-002	4Mx72	32MB
Micron	MT18LSDT472AG-66CL2	Level 1	682413-002	4Mx72	32MB
NEC	MC-454AC724F-A10	Level 1	682413-002	4Mx72	32MB
NEC	MC- 454AC725F- A10	Level 1	682413- 001	4Mx72	32MB
Fujitsu	SDC4UV7282-100T-S	Level 2	n/a	4Mx72	32MB
Simple Tech.	I724118UD1-1GVNANAA	Level 2	n/a	4Mx72	32MB
Hitachi	HB526C472EN-10IN	Level 2	n/a	4Mx72	32MB
Hyundai	HYM7V72A400CTFG-10	Level 2	n/a	4Mx72	32MB
Celestica	CLB0032CBBSCG	Level 2	n/a	4Mx72	32MB
Viking	INT472USBABAOA-10	Level 2	n/a	4Mx72	32MB
Samsung	KMM374S403CTL-60	Level 1	682413-002	4Mx72	32MB
Micron	MT18LSDT472AG-662C1	Level 1	682413-002	4Mx72	32MB
64 MB Memory					
NEC	MC-458CA724F-A10	Level 1	682413-004	8Mx72	64MB
Mitsubishi	MH8S72ALD-10	Level 2	n/a	8Mx72	64MB
Hyundai	HYM7V72A801TFG-10	Level 2	n/a	8Mx72	64MB
Celestica	CLB0064JCBBSAG	Level 2	n/a	8Mx72	64MB
Viking	INT872USSASAOA-10	Level 2	n/a	8Mx72	64MB
Samsung	KMM374S823ATL-G0	Level 1	682413-004	8Mx72	64MB
Samsung	KMM374S823BTL-G0	Level 1	682413-004	8Mx72	64MB
Micron	MT9LSDT872AG-662D3	Level 1	682413-004	8Mx72	64MB
128 MB Memory					
Micron	MT18LSDT1672AG-662D2	Level 1	682413-003	16Mx72	128MB
NEC	MC-4516CC724F-A10	Level 1	682413-003	16Mx72	128MB
Fujitsu	SDC16UV7284-100TS	Level 2	n/a	16Mx72	128MB
Hyundai	HYM7V72A1601TFG-10	Level 2	n/a	8Mx72	128MB
Celestica	CLB0128JCBBSAG	Level 2	n/a	16Mx72	128MB
Viking	INT1672USSASAOA-10	Level 2	n/a	16Mx72	128MB
Samsung	KMM374S1623ATL-G0	Level 1	682413-003	16Mx72	128MB

M440 LX DP Server RPX Module Tested Memory List

The M440LX DP Server RPX module uses SIMM memory modules.

Intel Approved and Qualified SIMM Modules					
Manufacturer	Part Number	Qualification Level	Intel Part #	DIMM Type	Size
4 MB Memory					
Samsung	KMM5361203BW-60	Level 1	681911-005	1Mx36	4MB
Samsung	KMM5361205BW-60	Level 1	681911-001	1Mx36	4MB
8 MB Memory					
Samsung	KMM5362205BW-60U	Level 1	681911-002	2Mx36	8MB
TI	TM248NBK36R-60	Level 1	681911-006	2Mx36	8MB
Samsung	KMM5362203BW-60U	Level 1	681911-006	2Mx36	8MB
16 MB Memory					
Samsung	KMM5364105BK-60U	Level 1	681911-003	4Mx36	16MB
Micron	MT12D436M-60	Level 1	681911-007	4Mx36	16MB
Samsung	KMM5364103BK-60U	Level 1	681911-007	4Mx36	16MB
Samsung	KMM5364105CK-6	Level 1	681911-003	4Mx36	16MB
32 MB Memory					
Samsung	KMM5368103BK-60U	Level 1	681911-008	8Mx36	32MB
Samsung	KMM5368105BK-60U	Level 1	681911-004	8Mx36	32MB
Micron	MT24D836M-60	Level 1	681911-008	8Mx36	32MB
Samsung	KMM5368105CK-6	Level 1	681911-004	8Mx36	32MB
Samsung	KMM5368103CK-6	Level 1	681911-005	8Mx36	32MB

COMPUTER MEMORY TEST LABS (CMTL) MEMORY TESTING

CMTL is a leading 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. Stringent standards with regard to manufacturing procedures and quality must be met to pass the exacting tests required for qualification through CMTL. Testing is performed with equipment and procedures that are defined by Intel's various functional testing level descriptions.

The list of memory modules that have undergone testing through the CMTL should be referenced when considering modules for integration into this Intel server product. This list is updated weekly and therefore is best viewed online at the CMTL web site to ensure that customers receive the most recent information available.

Access the link below to check the CMTL web site for a list of memory modules that have been tested and found to be compatible with this Intel server product.

<http://www.cmtlabs.com/>

Intel® Product Dealers

The Intel Product Dealer program was designed to support system integrators worldwide building and selling a limited number of systems per year. More information on this program is available through the Intel web site at <http://channel.intel.com/business/america/ipd/>.

In order to facilitate participants of the Intel Product Dealer program, there is an additional list of tested memory comprised from the Intel tested list, CMTL tested memory, and a self-certification by third-parties of memory. This list and information on the memory vendor self-certification process is available at the following web site location:

<http://support.intel.com/support/motherboards/server/mb440lx/compat.htm>