Intel® RAID Controller SRCSAS18E Memory List

Test Report Summary

Revision 4.0

December 2008

Revision History

Date	Rev	Modifications
January 2007	1.0	Initial release.
June 2007	2.0	Add 512 MB DIMM module.
September 2007	3.0	Add more supported 256 MB DIMM-Battery Units.
December 2008	4.0	Add more supported DIMM modules.

Disclaimers

INTEL DISCLAIMS ALL LIABILITY FOR THESE DEVICES, INCLUDING LIABILITY FOR INFRINGEMENT OF ANY PROPRIETARY RIGHTS RELATING TO THESE DEVICES OR THE IMPLEMENTATION OF INFORMATION IN THIS DOCUMENT. INTEL DOES NOT WARRANT OR REPRESENT THAT SUCH DEVICES OR IMPLEMENTATION WILL NOT INFRINGE SUCH RIGHTS. INTEL IS NOT OBLIGATED TO PROVIDE ANY SUPPORT, INSTALLATION, OR OTHER ASSISTANCE WITH REGARD TO THESE DEVICES.

THE INTEL PRODUCT REFERRED TO IN THIS DOCUMENT IS INTENDED FOR STANDARD COMMERCIAL USE ONLY. CUSTOMERS ARE SOLELY RESPONSIBLE FOR ASSESSING THE SUITABILITY OF THE PRODUCT AND/OR DEVICES FOR USE IN PARTICULAR APPLICATIONS. THE REFERENCED INTEL PRODUCT IS NOT INTENDED FOR USE IN CRITICAL CONTROL OR SAFETY SYSTEMS OR IN NUCLEAR FACILITY APPLICATIONS.

Information in this document is provided in connection with Intel products. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by the sale of Intel products. Except as provided in Intel's Terms and Conditions of Sale for such products, Intel assumes no liability whatsoever, and Intel disclaims any express or implied warranty, relating to sale and/or use of Intel products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right. Intel products are not intended for use in medical, life saving, or life sustaining applications. Intel retains the right to make changes to its test specifications and memory list at any time, without notice.

The hardware vendor remains solely responsible for the design, sale and functionality of its product, including any liability arising from product infringement or product warranty. Only approved software drivers and accessories that are recommended for the revision number of the boards and system being operated should be used with Intel products. Please note that, as a result of warranty repairs or replacements, alternate software and firmware versions may be required for proper operation of the equipment.

The Intel® RAID Controller SRCSAS18E 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.

Table of Contents

< This page intentionally left blank. >

1. Overview of Memory Testing

Caution: *DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts and vice-versa. Mixing dissimilar metal contact types results in unreliable memory operation.*

The following process qualifies Dual In-Line Memory Modules (DIMMs) for use with the Intel® RAID Controller SRCSAS18E. Intel requires strict guidelines to be met before a DIMM vendor is included in the qualified memory list. To be acknowledged on the list as a fully functional DIMM, the memory must undergo rigorous tests to ensure that the product will perform the intended product functions.

Memory qualification for Intel's RAID controller products is performed in Intel labs and/or external test laboratories.

The qualified memory lists for Intel's RAID Controller products categorize memory modules as Advanced Tested. The Advanced Testing process involves:

- **Paper qualification**: This qualification ensures that the DIMM meets Intel's memory specifications. It involves a review of critical timings, electrical characteristics, timing requirements, environmental requirements, and packaging requirements.
- **Standard voltage and room temperature functional test**: The memory module is tested on the target RAID controller for at least 24 hours using a custom test software operating under Microsoft Windows*.
- **Voltage and temperature margin functional test**: The memory module is tested on the Intel's RAID controller product with test softwares and operating systems. This is a 24-hour test that uses various voltage and temperature margin conditions.

DIMMs 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 were utilized during the test procedure.

2. Qualified DDR SDRAM DIMMs

The Intel® RAID Controller SRCSAS18E is an eight-port SAS RAID controller for high-performance / high-security server applications. It supports RAID 0, 1, 5, 10, and 50 array drives and private / pool hot-fix drives. It includes an on-board Intel® IOP80333 Intelligent I/O Processor (500 MHz) XOR-engine and an on-board LSI* 1068 eight-port SAS I/O controller that provides 1.5 and 3 Gb/s data transfer rates per port. With 8-bit to 10-bit encoding, this translates to about 150 MB/s and 300 MB/s. Standard DDR2-400 and standard DDR2-533 compatible ECC registered DIMMs are supported. The controller is PCI Express* compliant and includes a BIOS (X-ROM) firmware tool for array configuration and management.

The controller can utilize DDR2-400 (PC2-3200) ECC registered SDRAM memory modules for caching and is compatible with memory modules that meet these specifications:

- 240-pin gold-plated SDRAM DIMMs
- Registered PC2-3200 ECC SDRAM Memory Modules
- 256 MB, and 512 MB capacities
- 1.8 V memory only
- Single rank DIMMs

The controller can utilize DDR2-533 (PC2-4200) ECC registered SDRAM memory modules for caching and is compatible with memory modules that meet these specifications:

- 240-pin gold-plated SDRAM DIMMs
- Registered PC2-4200 ECC SDRAM Memory Modules
- 256 MB, and 512 MB capacities
- 1.8 V memory only
- Single rank DIMMs

The following tables list DIMM devices tested to be compatible with the Intel® RAID Controller SRCSAS18E. This document will be updated when additional DIMMs are added as qualified memory during the life of the Intel® RAID Controller SRCSAS18E.

Only memory modules that are listed in the following tables have been tested for compatibility with the Intel® RAID Controller SRCSAS18E. Other memory modules may result in unpredictable operation and data loss.

***Note**: This list is not all-inclusive. It is provided as a convenience to Intel's customers, but Intel does not make any representations or warranties whatsoever regarding the quality, reliability, functionality, or compatibility of these memory modules.*

2.1 Registered ECC DDR2 SDRAM DIMMs, 256 MB

Manufacturer	Part Number	DIMM-Battery Unit	Lead Free
Intel Corporation	AXXRPCM2	Yes	Yes
Southland	40001941-02	Yes	Yes
PNY	69001877INA	Yes	No
PNY	69001877INA-T	Yes	Yes
PNY	69001877MTA-T	Yes	Yes
PNY	69001877INB-T	Yes	Yes
PNY	69001877SMC-T	Yes	Yes
Southland	40001941-07	Yes	Yes
Southland	40001941-08	Yes	Yes
Virtium	VLL393T3354CCMD	Yes	Yes
PNY	69001935SMF	No	No
PNY	69001946INA-T	No	Yes
PNY	69001946SMC-T	No	Yes
Southland	40001943-04	No	Yes
Southland	40001943-05	No	Yes
Virtium	VL393T3354-CCSC	No	Yes
Micron	MT9HTF3272Y-53EB2	No	Yes

2.2 Registered ECC DDR2 SDRAM DIMMs, 512 MB

Manufacturer	Part Number	DIMM-Battery Unit	Lead Free
Southland	40001960-01	No	Yes
Micron	MT9HTF6472Y-53ED4	No	Yes
Qimonda	HYS72T64000HR-3.7-B	No	Yes

3. Sales Information

Vendor Name	Web URL	Vendor Direct Sales Info
PNY Technologies	http://www.pny.com	sales@avedmemory.com Tel: 1-714-573-5000
Dataram	http://www.dataram.com	phenke@dataram.com Tel: 800-328-2726 x2239
ATP Electronics	http://www.atpusa.com	sales@atpusa.com Tel: 1-408-732-5831
Micron	http://www.micron.com	Tel: 1-208-368-3900
TRS	http://www.trs-space.de	pgaeng@trs-space.de Tel: +49-7249-910-380
Virtium	http://www.virtium.com	sales@virtium.com Tel: +1-949-888-2444x120
Southland	http://www.southlandmicro.com	oemsales@southlandmicro.com Tel: +1-949-380-1958
Qimonda	http://www.qimonda.com	

4. Intel Product Dealers and Product Integrators

Intel's Product Dealer program was designed in North America to support system integrators who are building and selling a limited number of systems per year. More information on this program is available through the Intel web site at http://channel.intel.com. Similar programs exist in European, Middle Eastern, African, Asia-Pacific, and the South American regions.

5. Notes and Cautions

5.1 Cautions

- DIMM devices with gold contacts should NOT be placed into DIMM sockets with tin-lead contacts and vice-versa. Mixing dissimilar metal contact types results in unreliable memory operation.
- Intel recommends using DIMMs from the same manufacturer and with similar speeds in each bank on the memory module. Mixing of DIMMs from different memory manufacturers or with dissimilar memory device speeds is not recommended.

5.2 Important Notes

- This document contains information that is the proprietary property of Intel Corporation. Nothing in this document constitutes a guaranty, warranty, or license, express or implied.
- Intel has tested the DIMMs listed in this document for minimum electrical and functional compatibility with the noted Intel® RAID Controller(s). This listing is not all inclusive; it only represents the DIMMs that Intel or CMTL has tested. Users should check with the DIMM manufacturer or distributor to ensure that a particular DIMM model is adequate for the intended purpose on the Intel® RAID Controller.
- 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® RAID Controller product, including without limitation to: fitness for a particular purpose; merchantability; non-infringement 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 that 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.