



# **SKA4, SPKA4, SRKA4**

## ***Specification Update***

*Intel Order Number 248754-012*

**August, 2002**



**Enterprise Platforms and Services Marketing**

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## Revision History

Date	Modifications
June, 2000	Original Document.
July, 2000	Added system boards, new BIOS and updated the errata entries. Corrected top assembly part numbers, MM#'s and PBA part numbers.
August, 2000	Revision for August publication
November, 2000	Revision for November publication. Updated tables in the GENERAL INFORMATION section and added 'Change Description (PCN #)' columns to the tables. Updated the 'Plans/Status' column of the SUMMARY TABLE OF CHANGES, and added new ERRATA items 27 - 29 to the table. Updated and clarified some of the error descriptions in the ERRATA section.
January, 2001	Revision for publication
February, 2001	Revision for publication
March, 2001	Revision for publication
April, 2001	Revision for publication
June, 2001	Revision for publication for May/June
July, 2001	Revision for publication
August, 2001	Revised for publication updated MM#s
September, 2001	Revised for publication added adapter anomalies
October, 2001	Revised for publication added adapter anomalies
November, 2001	Moved Errata to Baseboard and Memory Module TPS, Removed "Fixed" items. Added 900 MHz processors to supported Processor List.
December, 2001	Added Errata Items 3 & 4 added baseboard PCN
January, 2002	Added data to errata item #4
February, 2002	Added Current MM #'s to systems, MM#'s for 900MHz Processors.
March, 2002	Revised for publication
April, 2002	Revised for publication
May, 2002	Revised for publication, added new MM #'s
June 2002	Revised for publication
July 2002	Revised for publication
August, 2002	Revised for publication – No New Issues to Report

## ***Disclaimers***

The SKA4, SPKA4, SRKA4 Server System may contain design defects or errors known as errata that may cause the product to deviate from the published specifications. Current characterized errata are documented in this Specification Update.

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# 1. Preface

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This document is an update to the specifications contained in the *SKA4 Server Board and Memory Module Technical Product Specification*, the *SPKA4 Server Technical Product Specification*. It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain specification changes, specification clarifications, errata, and document changes.

Refer to the *Intel® Pentium® III Xeon™ Processor Specification Update* for specification updates concerning the Pentium® Xeon™ III processor. Items contained in the *Pentium® III Xeon™ Processor Specification Update* that either do not apply to the [product] or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the Printed Board Assembly (PBA) revisions(s) associated with that stepping.

## Nomenclature

- **Specification Changes** are modifications to the current published specifications for the SKA4 server boards. These changes will be incorporated in the next release of the specifications.
- **Specification Clarifications** describe a specification in greater detail or further highlight a specification's impact to a complex design situation. These clarifications will be incorporated in the next release of the specifications.
- **Documentation Changes** include typos, errors, or omissions from the current published specifications. These changes will be incorporated in the next release of the specifications.
- **Errata** are design defects or errors. Errata may cause the SKA4 server board's behavior to deviate from published specifications. Hardware and software designed to be used with any given processor stepping must assume that all errata documented for that processor stepping are present on all devices.

## 2. Product Scope

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Below are the specific boards, BIOS and components covered by this update.

### BK02HE BASE SERVER BOARD (SKA4)

MM#	Baseboard TA #	Baseboard PBA#	BIOS Revision	BMC Firmware Revision	Change Description (PCN #)
825463	734985-507	751519-507	30	0.21	101267
825463	734985-508	751519-508	30	0.21	101306
825463	734985-509	751519-509	30	0.21	101410
825463	734985-510	751519-510	30	0.26	101493
825463	734985-603	751519-603	50.2	1.13	101495
833098	734985-605	751519-605	52.1	1.16	101736
833998	7345985-701	751519-701	52.4	1.18	101849

### BKOSDMEM SKA4 SDRAM MEMORY MODULE

MM#	Baseboard TA #	Baseboard PBA#	Change Description (PCN #)
821678	751548-204	751533-204	
821678	751548-301	751533-301	101434
821678	751548-205	751533-205	

### SKA4 SYSTEM BOARDS AND COMPONENTS

Product Code	MM#	Chassis Supported: SPKA4 & SRKA4/ISP4400	Description	TA Number	PBA Number
BKOC2HPIB	822834	Either Chassis	Hot Plug Indicator PBA	738699-402	729360-402
BKOC2ICMB	822103	Either Chassis	ICMB PBA	A06220-202	748873-202
FC2SAFTE	829863	Either Chassis	SAF-TE Module PBA for Hot Swap Backplane	A26588-407	732398-407
AKORETENTION	821617	Either Chassis	Dual Retention Module for Processor	734809-001	711906-001
AKORETENTION	821617	Either Chassis	Dual Retention Module for Processor	734809-002	711906-003
AKOTERMASSTY	821644	Either Chassis	Termination PBA Assembly for Processor Slot	734808-001	720405-001
FHDSCSBRD	823388	Either Chassis	Hot Swap Backplane PBA for 5 X 1.0" Drives	743496-001	732396-502
FHDSCSBRD16	825464		Either Chassis	751587-201	751568-201
BKOC2FP	821675	SPKA4	Front Panel	732965-501	740106-501
FC2FANDISTBRD	826123	SPKA4	Hot Swap Fan Distribution PBA	A01622-402	A01621-402

Product Code	MM#	Chassis Supported: SPKA4 & SRKA4/ISP4400	Description	TA Number	PBA Number
BKOC2PDB	822833	SPKA4	PWR Distribution PBA for 3 PWR Supplies	738697-602	729362-602
BKODVFP	830731	SRKA4/ISP4400	Front Panel PBA	A28860-001	737889-002
FDVHSFANBD	827819	SRKA4/ISP4400	Hot Swap Fan Distribution PBA)	A16429-400	745778-400

**SKOC2HI SERVER SYSTEM (SPKA4)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
821616	730438-001	751519-507	30	V0.10	0.21	
821616	730438-002	751519-508	30	V0.10	0.21	
821616	730438-003	751519-508	37	V0.10	0.21	
821616	730438-004	751519-509	37	V0.10	0.21	101418
821616	730438-005	751519-510	37	V0.10	0.26	101496
832593	730438-007	751519-603	50.3	V0.13	1.13	101508
833107	730438-008	751519-605	52.1	V0.13	1.13	101738
839576	730438-011	751519-701	52.4	V0.13	1.18	102010

**SKOC2BS SERVER SYSTEM (SPKA4)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
821615	730435-002	751519-507	30	V0.10	0.21	
821615	730435-003	751519-508	30	V0.10	0.21	
830994	730435-004	751519-508	30	V0.10	0.21	
830994	730435-005	751519-509	30	V0.10	0.21	101418
830994	730435-006	751519-510	30	V0.10	0.26	101496
832593	730435-007	751519-603	50.3	V0.13	4.3.6	101508
833109	730435-008	751519-605	52.1	V0.13	4.3.6	101738
839570	730435-011	751519-701	52.4	V0.13	4.307	102010

**SKODVHI & SKODVBKHI SERVER SYSTEM (SRKA4)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
827640	A04124-002	751519-507	30	V0.10	0.21	101323
827640	A04124-003	751519-508	30	V0.10	0.21	101330

831247	A04124-004	751519-508	37	V0.10	0.21	101380 Also TA 0285
831247	A04124-005	751519-509	37	V0.10	0.21	101328
831247	A04124-006	751519-510	37	V0.10	0.26	101496
832608	A04124-008	751519-603	50.3	V0.13	1.13	101508
833114	A04124-011	751519-605	52.1	V0.13	1.13	101738
839567	A04124-012	751519-701	52.4	V0.13	1.18	102010

**SKODVBK SERVER SYSTEM (SRKA4/ISP4400)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
828735	A14484-005	751519-507	30	V0.10	0.21	101323
828735	A14484-005	751519-508	30	V0.10	0.21	101330
830996	A14484-006	751519-509	30	V0.10	0.21	101428
830996	A14484-007	751519-510	30	V0.10	0.26	101496
832610	A14484-009	751519-603	50.3	V0.13	1.13	101508
833106	A014484-012	751519-605	52.1	V0.13	1.13	101738
839569	A014484-013	751519-701	52.4	V0.13	1.18	102010

**SKODVBS SERVER SYSTEM (SRKA4/ISP4400)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
827642	A04124-002	751519-507	30	V0.10	0.21	101323
830997	A04124-004	751519-508	30	V0.10	0.21	101330
830997	A04124-005	751519-509	30	V0.10	0.21	101428
830997	A04125-006	751519-510	30	V0.10	0.26	101496
832609	A04125-008	751519-603	50.3	V0.13	1.13	101508
833105	A04125-012	751519-605	52.1	V0.13	1.13	101738
839568	A04125-013	751519-701	52.4	V0.13	1.18	102010

**SKOC2BS07 SERVER SYSTEM (SPKA4)**

MM#	Server TA #	Server Board PBA#	BIOS Revision	Hot Swap Controller Version	BMC Firmware Revision	Change Description (PCN #)
829389	A16838-002	751519-507	30	V0.10	0.21	
830993	A16838-004	751519-508	30	V0.10	0.21	101352
830993	A16838-005	751519-509	30	V0.10	0.21	101418
830993	A16838-006	751519-510	30	V0.10	0.26	101496
832591	A16838-008	751519-603	50.3	V0.13	1.13	101508
833108	A16838-011	751519-605	52.1	V0.13	1.18	101738



839578	A16838-013	751519-702	52.7	V0.13	1.19	102425
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## PENTIUM® III XEON™ PROCESSOR IDENTIFICATION AND PACKAGE INFORMATION

### PROCESSOR IDENTIFICATION

S-Spec Number	Core Stepping	CPUID	Speed Core/FSB Mhz	L2 Cache Size Kbytes	Notes
SL2XU	B0	0672h	500/100	512	1, 2, 4, 5
SL2XV	B0	0672h	500/100	1024	1, 2, 4, 5
SL2XW	B0	0672h	500/100	2048	1, 2, 4, 5
SL3C9	B0	0672h	500/100	512	1, 2, 4, 5
SL3CA	B0	0672h	500/100	1024	1, 2, 4, 5
SL3CB	B0	0672h	500/100	2048	1, 2, 4, 5
SL3FK	C0	0673h	500/100	512	1, 2, 4, 5
SL3D9	C0	0673h	500/100	512	1, 2, 4, 5
SL3DA	C0	0673h	500/100	1024	1, 2, 4, 5
SL3DB	C0	0673h	500/100	2048	1, 2, 4, 5
SL3AJ	C0	0673h	550/100	512	2, 4, 5
SL3CE	C0	0673h	550/100	1024	2, 4, 5
SL3CF	C0	0673h	550/100	2048	2, 4, 5
SL3TW	C0	0673h	550/100	1024	2, 4, 5
SL3Y4	C0	0673h	550/100	512	2, 4, 5
SL3FR	C0	0673h	550/100	512	2, 4, 5
SL385	C0	0673h	500/100	512	1, 2, 4, 5
SL386	C0	0673h	500/100	1024	1, 2, 4, 5
SL387	C0	0673h	500/100	2048	1, 2, 4, 5
SL3LM	C0	0673h	550/100	512	2, 4, 5
SL3LN	C0	0673h	550/100	1024	2, 4, 5
SL3LP	C0	0673h	550/100	2048	2, 4, 5
SL3U4	A0	6A0h	700/100	1024	1, 2, 3, 4, 5
SL3WZ	A0	6A0h	700/100	2048	1, 2, 3, 4, 5
SL4GD	A0	6A0h	700/100	1024	1, 2, 3, 4, 5
SL4GF	A0	6A0h	700/100	2048	1, 2, 3, 4, 5
SLD53	B0	06A4h	900/100	2048	1,2,3,4,5,6
SL4XZ	B0	06A4h	900/100	2048	1,2,3,4,5,6

#### Notes:

1. PBA [751519-507](#) supports only 500mhz and 700mhz processor speeds.
2. PBA [751519-508](#) supports all 500mhz, 550mhz and 700mhz processor speeds.
3. SKA4 server boards supports only 2.8 volt processors
4. Production Release BIOS build 30 supports these processors.
5. Production Release BIOS build 37 supports these processors.
6. Production Release BIOS build 50 Supports these processors

## Summary Tables of Changes

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The following tables indicate the errata and the document changes that apply to the SKA4, SPKA4, SRKA4. Intel intends to fix some of the errata in a future stepping of components, and to account for the other outstanding issues through documentation or specification changes as noted. The tables use the following notations:

**Doc:** Intel intends to update the appropriate documentation in a future revision.

**Fix:** Intel intends to fix this erratum in a future release of the component.

**Fixed:** This erratum has been previously fixed.

**NoFix:** There are no plans to fix this erratum.

**Shaded:** This erratum is either new or has been modified from the previous specification update.

**Table 1. Errata Summary**

No.	Plans	Description of Errata
1.	No Fix	System fails to boot with first processor when second processor has bad VRM
2.	Fixed	Adaptec 2100 S hangs when Intel quiet boot screen is enabled.
3.	Fixed	Mylex Gam Software recording false fan errors.
4.	Fixed	Power issues, with BMC 1.16 –1.8
5.	Fixed	SMBIOS reports erroneous processor speeds to ISC 3.1

**Table 2. Documentation Changes**

No.	Plans	Description of Documentation Change
1.		None at this time

Following are in-depth descriptions of each erratum / documentation change indicated in the tables above. The errata and documentation change numbers below correspond to the numbers in the tables.

## Errata

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### 1. System fails to boot with first processor when second processor has bad VRM

**Problem** When a system has two processors installed, the system will not boot from the first processor when the second processor has a defective VRM.

**Workaround** Replace defective VRM.

**Status** No Fix.

### 2. Adaptec 2100S hangs when Intel quiet boot screen is enabled.

**Problem** When the Intel quiet boot screen is enabled the adapters option rom times out when looking for attached disk drives. When this occurs the system hangs, and requires a front panel CMOS clear and the configuration has to be reset.

**Workaround** Disable the quiet boot screen by entering BIOS setup/BOOT/enable Boot – time diagnostic screen.

**Status** Fixed in BIOS 5.2.4

### 3. Mylex GAM software reporting false fan errors.

**Problem** The Mylex GAM software reports two fans in the system, with only one fan operational (HSBP backplane). This actually occurs because there are two fan connectors on the baseboard, and only fan connector is being used to provide power to the fan distribution board. GAM only looks at the baseboard and does not recognize the fan distribution board. Adding a second HSBP backplane to the system fixes the issue.

**Workaround** Add a second HSBP when using GAM software or ignore the error.

**Status** Fixed

### 4. Power issues with BMC 1.16

**Problem** Updating the BMC causes the customers power distribution board to cease to function when a processor is in slot 1 and the power is powered off or

unplugged. The issue is that a power fault was fixed in BMC 1.13 which broke the customers power distribution system which was develop to exploit this power fault. KOA BMC 1.16 and KOA BMC 1.18 work as designed and comply with the Intel BMC /IPMI specifications for Intel chassis/powersupplies. This issue is under QAN and is being worked daily until a fix is identified.

Workaround Use BMC 1.13

Status Fixed – Issue will be fixed with the cut-in of BMC 1.19 in the factory

## 5. SMBIOS reports erroneous processor speeds to ISC 3.1

Problem When ISC 3.1 server manager queries the for processor speed it looks at the SMBIOS tables for that information. The SMBIOS tables do not contain the correct processor speeds. The BIOS routine that creates the SMBIOS tables has been broken for quite some time. I,e; 900 MHz processors get reported out to ISC 3.1 as 700 MHz processors. This confuses customers.

Workaround None

Status Fixed – Issue will be fixed in BIOS 52.7 which will be cut-in at the factory.

## Documentation Changes

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SRKA4-TPS will be changed to include the TEAC slim CD specifications.

SRKA4-TPS will be changed to include the slim floppy specifications.