



Prioris ZX 6000 Servers

Product Change Information

Initial Release:	May 1997
Current Release	Jun 1998

This document details the following for the Prioris ZX 6000 Server Series product change information:

- Introduction
- Product Change Summary
- BIOS Release Summary
- Product Change Release Notes
- BIOS Change Release Notes
- Customer Impact Ratings
- Future Releases

Introduction

This document is meant to provide customers with a synopsis of product changes. The change information will enable customers to evaluate the impact any change has on their environment. All proposed product changes are appraised for their potential impact to daily customer operations. This evaluation includes, but is not limited to such items as safety, emission requirements, functionality, compatibility, reliability, and manufacturing process. Recommendations are then made to customers on whether any action needs to be taken. On occasion, emergency changes may be implemented before they are reflected in this document.

Product Change Summary

The Product Change Summary provides an overview of the "Engineering Change Orders" or ECOs that have been released. This matrix provided the part number, part description, date of release, customer impact, and brief description of the change. At this time, this document only covers Main Logic Board (MLB) and system BIOS changes. Future releases of this document will include ECO information for other major components.

BIOS Release Summary

The BIOS Release Summary is a subset of information from the Product Change Summary. It is meant to provide an overview of just the BIOS Release history. This matrix provides the BIOS release number, date of release, customer impact, and brief description. The brief description either denotes a specific change, maintenance release, and/or new feature support. A maintenance release implies that a series of changes or problem fixes were put in place.

Product Change Release Notes

The Product Change Release Notes provide information on each specific change. This information is meant to aid the customer in understanding in more detail what has changed and whether they need to take any action. The change descriptions include a change, solution if applicable, and a customer recommendation.

Customer Impact Rating

For each product change a customer impact rating is given. The customer impact rating can be one of four ratings: High, Medium, Low, or None.

- HIGH** A "HIGH" rating indicates that this change has some or significant customer impact. This change may affect safety, functionality, compatibility, or reliability
- MEDIUM** A "MEDIUM" rating indicates that this change may impact some customers or customers using certain configurations. This change will have a minor effect on reliability, functionality, or compatibility.
- LOW** A "LOW" rating indicates that this change will have a minor impact on customers. This change is typically a product improvement and/or enhancement.
- NONE** A "NONE" rating indicates that this change has no customer impact. This type of change can range from a part substitution, documentation change, or yield enhancement.

Future Releases

Future releases of this document will incorporate information for other major system components. BIOS changes will be separated from the Main Logic Board (MLB) changes. Historically, BIOS releases were tied to MLB revision therefore a change in BIOS version would change the MLB revision. In the future, a BIOS changes will be released independently and not affect the MLB revision.

Systems Supported

The information outlined in this document covers the following system variants:

System Variant	Description
6166	Pentium Pro 166MHz
6200	Pentium Pro 200 MHz
6166 MP	Pentium Pro 166 MHz Multiple Processor
6200 MP	Pentium Pro 200 MHz Multiple Processor

Product Change Summary

Part Number	Part	OLD Rev	New Rev	ECO Number	Date	Customer Impact	Change Description
54-24480-01	MLB	D01	D01	5424480-TA003	Sep-96	High	BIOS Release V1.03
54-24480-01	MLB	D01	D01	5424480-TA004	Nov-96	Low	Component Substitution
54-24480-01	MLB	D01	D01	5424480-TA005	Jan-97	Low	Component Substitution
54-24480-01	MLB	D01	E01	5424480-TA006	Jan-97	High	BIOS Release V1.04
54-24480-01	MLB	E01	F01	5424480-TA010	June 97	High	BIOS Release V1.05
54-24480-01 upgrade to -- 54-24480-02	MLB	F01	A01	5424480-TA011	Aug 97	None	New MLB Variation of A01
54-24480-01/02	MLB	F01/A01	F01/A01	5424480-TA012	Aug 97	High	Upgrade MLB to BIOS V2.0
54-24480-02	MLB	A01	A01	5424480-TA011A	Aug 97	Low	Document change only
FR930WW-0 FR930WW-DBP	MLB	C D	D E	FR930WW-TA004	Aug 97	High	Change MLB part number in docs
FR930WW-A9	Krnl	D02	E02	FR930WW-TA005	Dec 97	High	Phase in BCIQ
54-24480-01/02	MLB	F01 A01	H01 B01	5424480-TA013	Dec 97	High	OCP back light problem for Limerock
54-23954-01	OCP Mod	B02	C02	5423594-TA003	Feb	High	Adding components to OCP
54-24480-02	MLB	B02	B03	5424480-TA016	Mar 98	Medium	Modify locating holes in MLB

BIOS Release Summary

BIOS Revision	MLB Revision	ECO Number	Date	Customer Impact	Change Description
1.03	C01	5423600-TA003	Sep-96	High	Maintenance Release
1.04	E01	5424480-TA006	Jan-97	High	Orion C-step chip support
1.05	F01	5424580-TA010	June 97	High	Product fix
2.00	F01/A01	5424480-TA012	Aug 97	High	Upgrade

ECO Number: 5424480-TA003

Part	Motherboard
Revision	C01 to D01
Component	BIOS and 8031 Chip
Severity	High
ECO Issue Date	September 1996
Type of Notification	Action May be Required
Change Description	BIOS Release V1.03

Description

The following issues are corrected in BIOS V1.03:

1. 70 ns DRAMs are not properly detected and configured.
2. System will wait for the <F1> or <F2> key to be pressed if POST errors occur, regardless of whether keyboard is connected.
3. Remove the BIST error and CPU test error report by Phoenix code for the CPU APIC ID wrong.
4. Fix the problem that CPU4(APIC ID 0) failure will make the system hang.
5. Fix the bug that some type of CMOS will make the system hang in d2.

The following issues are corrected in 8031 Controller chip Firmware V1.01: The 8031 controller chip performs system management functions for the system.

1. An incorrect status for the primary power supply will get reported when an error is detected on secondary power supply.
2. If an over-temperature condition is reported by a CPU's internal sensor, the system may not shutdown
3. An incorrect CPU voltage identification (VID) may be reported
4. The 8031 default voltage limit values are not consistent with the H/W specification .
5. 8031 cannot set up watch dog timer function when hardware errors have not been detected by 8031.
6. An incorrect temperature may get logged upon system shutdown in the event log.
7. 8031 does not properly swap CPU BSP.

Solution

- Upgrade the motherboard to BIOS V1.03 using the BIOS Flash Utility.
- Upgrade the 8031 Firmware to V1.01.

Customer Impact/Recommendations

- It is recommended that customers upgrade to this version of BIOS.

- If using Server Management Software, customers should upgrade the motherboard 8031 firmware to V1.01.

ECO Number: 5424480-TA004

Part	Motherboard
Revision	D01
Component	MIC Chip (21-39219-37)
Severity	None
ECO Issue Date	11/26/96
Type of Notification	Action not required
Change Description	Component Substitution MIC (21-39219-37) to HYU (21-43685-37) or NPNX (21-43926-37)

Problem Description

Not applicable.

Solution

Not applicable.

Customer Impact/Recommendations

None.

ECO Number: 5424480-TA005

Part	Motherboard
Revision	D01
Component	Benchmark BQ4287MT
Severity	None
ECO Issue Date	11/26/96
Type of Notification	Action not required
Change Description	Real-time clock W/NVRAM part substitution.

Description

The 21-39151-01 (Benchmark BQ4287MT) is hard to procure and for the sake of cost saving, we add 21-39151-02 (Dallas DS14287) for substitution

Solution

Update the documentation.

Customer Impact/Recommendations

No customer impact since these are manufacturing part substitutions.

ECO Number: 5424480-TA006

Part	Motherboard
Revision	E01
Component	Multiple and BIOS
Severity	High
ECO Issue Date	Jan 97
Type of Notification	Action Required
Change Description	Phase in c0 stepping of Intel 450GX chipset to support GAT mode. New BIOS release V1.04.

Description

1. *Severity:* High
System may hang at NT blue screen after rebooting from NT shutdown. A CPUx failed appears on the OCP.
2. *Severity:* Medium
System hangs at NT blue screen with Digimotion option cards.
System hangs at the NT blue screen if Digimotion option cards are installed.
3. *Severity:* Low
"Subtractive Decoding Sample Point" is always set to "Slow sample point".
Customer impact: Not applicable.

New features

1. *Severity:* High
Description: Support for B0/C0 stepping of Intel 450EX chip set in the same BIOS.
Customer impact: None.
2. *Severity:* Low
Add string for Quick Launch installation software.
This string allows the Quick Launch installation software to install the correct version of the SCU.
3. *Severity:* Low
Support for displaying larger than 512KB L2 cache sizes during POST and through the OCP.
Customer impact: None.
4. *Severity:* Low
Enable memory write and invalidation for secondary PCI bus.
May see some performance improvement if enabled.
5. *Severity:* High
BIOS update code for Pentium PRO CPU with stepping CPUID=619
This BIOS revision required with Pentium PRO CPUs with stepping CPUID=619.

Hardware Compatibility

1. Hardware: BIOS 1.04 is required to support C0 stepping of Intel 450GX chip set. It is also required to support Pentium PRO CPU with stepping CPUID=619.
BIOS: This release is backwards compatible on all system variants.

Solution

Upgrade your Main Logic Board (MLB) to BIOS V1.04 with Flash Utility.

Customer Impact/Recommendations

BIOS: It is strongly recommended to upgrade to this version of BIOS for B0 and C0 steppings of the Intel 450 GX chip set.

ECO Number: 5424480-TA010

Part	Motherboard
Revision	F01
Component	BIOS
Severity	High
ECO Issue Date	June 97
Type of Notification	Action may be required
Change Description	BIOS Release V1.05

Description

Severity: High

Description: Monitor flickering problem.

Symptom: Monitors flicker when connected to onboard Trio32 VGA chip.

Customer Impact: Customers' monitors will not function normally.

Solution

Upgrade System BIOS to Version V1.05

Compatibility

This release is backwards compatible on all system variants.

Customer Impact/Recommendations:

It is **STRONGLY** recommended to upgrade to this version of BIOS if the onboard VGA chip is S3 Trio32.

ECO Number: 5424480-TA011

Part	Motherboard
Revision	A01
Component	MLB
Severity	High
ECO Issue Date	August 97
Type of Notification	Action required
Change Description	Add new MLB variation 54-24480-02

Description

Severity: High

Description: Add a new variation of the MLB (from 54-24480-01 to 54-24480-02)

Symptom: N/A

Customer Impact: None.

Solution

- Add new MLB variation 54-24480-02.
- 54-24480-02 variation must use BIOS V2.0
- PCB 50-24479-01 revision must be changed from F02 to H01.
- 54-24480-01 must use 50-24479-01 revision F02.
- 54-24480-02 must use 50-24479-01 revision H01.

Customer Impact/Recommendations:

None

ECO Number: 5424480-TA011A

Part	Motherboard
Revision	A01
Component	MLB
Severity	High
ECO Issue Date	Sept 97
Type of Notification	Action not required
Change Description	Document Change Only

Description

Severity: Low

Description: This is a supplemental ECR for ECO 5424480-TA011. The description is as follows:

1. Since 54-24480-02 must use 50-24479-01 revision H01, the following changes must be made to the document.
 - Document change only. Component location misspelling for 13-37155-01
 - Remove resistor from insert to not insert (set VGA chip at GX).

Symptom: N/A

Customer Impact: Action not required

Solution

1. Create an additional document for 54-24480-02.
 - Delete 13-37155-01 R753 (wrong location)
 - Add 13-37155-01 R573 (correct location)
 - Delete 13-42645-65 R724
 - CS at page 51 and 52 indicates Insert, now is Not Insert

Customer Impact/Recommendations:

Action not required

ECO Number: 5424480-TA012

Part	Motherboard
Revision	F01/A01
Component	MLB
Severity	High
ECO Issue Date	August 97
Type of Notification	Action required
Change Description	Phase in BIOS V2.00

Description

Severity: High

- **Description:** 4GB DRAM is reported as (4096-256)MB
Symptom: Total DRAM size will be only (4096-256)MB when 4GB DRAM is installed.
Solution: Support 4GB DRAM in BIOS
- **Description:** Two DAC960PDs with firmware version 3.50.25 makes NT installation fail.
Symptom: During POST the OPROM Checksum Fail and NT installation fail.
Solution: Clear the unused OPROM as FF.
- **Description:** System hangs after shutdown from the NT Wolfpack test.
Symptom: System displays CPU X, X Ok and hangs before OPROM init. After shutdown from the NT Wolfpack certification.
Solution: Resel PCI devices after shutdown
- **Problem:** Mylex (i960RP) hangs during POST.
Symptom: Mylex (i960RP) hangs in PCI initialization.
Solution: Check process bridge to see if it is 21050, and if it is, then add original patch code.
- **Problem:** DAC960PG (Mylex i960RP) beeps and displays Memory Parity Failure.
Symptom: The OPROM will beep and display Memory Parity Failure.
Solution: BIOS change will fix.
- **Problem:** No support for new onboard Trio64V2/GX.
Symptom: Would not run new drive enhancements.
Solution: Support onboard BGA Trio64V2/GX
- **Problem:** If the CPU BIOS Update Code is incorrect, the BIOS will patch code without error checking.
Symptom: CPU Errata may not be fixed.
Solution: Add code to verify the checksum of CPU patch code and display warning message when error occurs in loading CPU patch code.
- **Problem:** Error DIMM location won't be displayed correctly if DIMM error exists.
Symptom: Error DIMM location is displayed as SIMM location.
Solution: Differentiate the SIMMs and DIMMs if ECC error occurred.

- **Problem:** Customer cannot see the L2 cache size and CPUID of each CPU.
Symptom: Users can see only CPU 01 02 03 04 Present.
Solution: Display L2 cache size and CPU ID of each CPU.

Customer Impact: High

Solution

Upgrade your MLB to BIOS V2.00 with Flash Utility.

Customer Impact/Recommendations:

It is strongly recommended to upgrade to this version of BIOS, for both the 01 and 02 versions.

ECO Number: FR930WW-TA004

Part	Kernel
Revision	E/D
Component	MLB
Severity	High
ECO Issue Date	August 97
Type of Notification	Action required
Change Description	Change MLB part number in docs

Description

Severity: High

Description: Change MLB part number from 54-24480-01 to 54-24480-02.

Symptom: N/A

Solution

upgrade to this version of BIOS for both the 01 and 02 versions of the MLB.

Customer Impact/Recommendations:

It is strongly recommended to upgrade to this version of BIOS for both the 01 and 02 versions of the MLB.

ECO Number: FR930WW-TA005

Part	Kernel
Revision	E02
Component	Kernel
Severity	High
ECO Issue Date	Dec 97
Type of Notification	Action not required
Change Description	Phase in BCIQ

Description

Severity: High

Description: Phase in BCIQ on January 13, 1998

Symptom: N/A

Solution

Change 36-44177-11 min rev. from A to B.

Customer Impact/Recommendations:

No customer impact due to implementation in manufacturing.

ECO Number: 5424480-TA013

Part	MLB
Revision	F01 to H01, A01 to B01
Component	MLB
Severity	High
ECO Issue Date	Dec 97
Type of Notification	Action not required
Change Description	OCP back light problem for Limerock

Description

Severity: High

Description: The OCP back light does not go out on some systems. This is caused from a problem of E23 (8242 keyboard controller chip) on the MLB.

Symptom: N/A

Solution

Built with 21-40582-63 (8242-PE) and not 21-3902-64 (8242-PC) on MLB, and delete "120
NOTE: 21-40582-63 can be substituted by 21-39002-64 on KPL.

Compatibility

N/A

Customer Impact/Recommendations:

No customer impact, it will be implemented in the manufacturing side.

ECO Number: 5423594-TA003

Part	OPC
Revision	C02
Component	OCP
Severity	High
ECO Issue Date	Feb 98
Type of Notification	Customer action not required
Change Description	Add components to OCP

Description

Noise from OCP to LCD module which makes unit critical to meet Digital EMI requirement of under 3 dB

Severity: High

Problem: N/A.

Solution

Add 10 pieces of 16-35517-01 (BEAD) on J3 and change E4 from F132 to HCT132.

Compatibility:

N/A

Customer Impact/Recommendations:

No customer impact since this was a manufacturing yield improvement.

ECO Number: 54-24480-TA016

Part	MLB
Revision	B03
Component	MLB
Severity	Medium
ECO Issue Date	Mar 98
Type of Notification	Action not required
Change Description	Modify MLB locating holes

Description

The locating holes can be scratched by the locating pin during the manufacturing process which may cause a short between +5V and Gnd.

Severity: Medium

Problem: N/A

Solution

1. Enlarge the etch-free area in the inner layers around the locating hole to guarantee that no short circuit will occur between any two layers, even when the locating hole is scratched by the locating pin during the production process.
2. Recommend to enlarge the ring space of locating holes from 20 mil to 70 mil.

Compatibility:

N/A

Customer Impact/Recommendations:

No customer impact since this will be implemented by the PCB vendor.