digital

Prioris HX Servers
Product Change Information

Initial release:	**May 1997**
Current Release	**Jun 1998**

This document details the following for the Prioris HX Server 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 impact to daily customer operations. The evaluation includes, but is not limited to such items as; safety, emission requirements, functionality, compatibility, reliability, and the manufacturing process. Recommendations are then made to customer on whether such action needs to be taken. On occasion, emergency changes will be released before they are reflected in this document.

Product Change Summary

The Product Change Summary provides a 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 critical salable 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 or user in understanding what has changed and whether they need to take any action. The change descriptions include a change, solution if applicable, and a customer impact statement.

BIOS Release Notes

The BIOS Release Notes provide more detailed change information on each BIOS release. This information includes a three sections: problem fixed, new features, and compatibility.

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 will incorporate information for other critical system components. Moving forward, 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 change will be independent and not affect the MLB revision.

Systems Supported

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

System Variant	Description
590	Pentium 90MHZ
5133	Pentium 133MHZ
5166	Pentium 166 MHZ
590 DP	Pentium 90MHZ Dual Processor
5133 DP	Pentium 133MHZ Dual Processor
5166 DP	Pentium 166MHZ Dual Processor

Product Change Summary

Part Number	Part	Old Rev	New Rev	ECO Number	Date	Customer Impact	Change Description
54-23600-02	MLB	C01	C01	5423600-TA005	Apr-95	Medium	BIOS Release V1.05
54-23600-02	MLB	C01	D01	5423600-TA006	Apr-95	Low	Video jitter problem fix
54-23600-02	MLB	D01	E01	5423600-TA007	Jul-95	Low	Mitsubishi floppy errors fix
54-23600-02	MLB	E01	F01	5423600-TA008	Aug-95	Low	New revision of PCI Bridge chip
54-23600-02	MLB	F01	H01	5423600-TA009	Aug-95	Medium	BIOS Release V1.07/New VGA BIOS
54-23600-02	MLB	H01	J01	5423600-TA010	Sep-95	High	BIOS Release V1.08
54-23600-02	MLB	J01	K01	5423600-TA011	Dec-95	High	BIOS Release V1.09
54-23600-02	MLB	K01	K02	5423600-TA012	Mar-96	None	Resistor part substitution
54-23600-02	MLB	K02	L01	5423600-TA013	Apr-96	Medium	BIOS Release V1.10
54-23600-02	MLB	L01	L02	5423600-TA015	Jun-96	Low	Real Time Clock Fix
54-23600-02	MLB	L02	L03	5423600-TA016	Jun-96	None	Memory Part substitution
54-23600-02	MLB	L03	L03	5423600-TA017	Nov-96	Low	Part substitution
54-23600-02	MLB	L03	L04	5423600-TA018	Dec-96	Low	VGA 5428 EOL
54-23600-02	MLB	L04	L04	5423600-TA019	Jan-97	Medium	BIOS Release V1.11
54-23600-02	MLB	L04	L04	5423600-TA020	Sept-97	High	BIOS Release V1.12

BIOS Release Summary

BIOS Revision	MLB Revision	ECO Number	Date	Customer Impact	Change Description
1.05	C01	5423600-TA005	Apr-95	Medium	Maintenance Release
1.07	H01	5423600-TA009	Aug-95	Medium	Support for Pentium 133/166mhz CPUs and Maintenance release
1.08	J01	5423600-TA010	Sep-95	High	Incorrect condition reported on power supply
1,09	K01	5423600-TA011	Dec-95	High	Maintenance release
1.10	L01	5423600-TA013	Apr-96	Medium	Maintenance release
1.11	L04	5423600-TA019	Jan-97	Medium	Maintenance release
1.12	L04	5423600-TA020	Sept-97	High	Configuration correction

ECO Number: 5423600-TA005

Part	Motherboard
Revision	B01 to C01
Component	BIOS
Severity	High
ECO Issue Date	April 1995
Type of Notification	Customer Action required
Change Description	BIOS Release V1.05

Description

1. System hang when booting Novell NetWare 4.10 SMP.
    System will hang when trying to boot Novell NetWare 4.10. High customer impact for users using NetWare 4.10 SMP in a multiple processor configuration.

2. Slow boot performance during system diagnostics
    The system performs slowly during the system boot diagnostics. The solution was to speed up the execution of Test Point E5h in the boot block. The delay in this area was impacting performance. Minor impact since it does not impact functionality.

New Features

No new features added in this release.

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your motherboard to BIOS V1.05, using the BIOS Flash Utility

Customer Impact/Recommendations:

It is recommended that you upgrade to this BIOS if you are using NetWare 4.10 SMC.

ECO Number: 5423600-TA006

Part	Motherboard
Revision	C01 to D01
Component	Multiple
Severity	Low
ECO Issue Date	April 1995
Type of Notification	Action not required
Change Description	Change for jitter problem with video

Description

An incorrect video output level would cause a jitter problem on the video screen. The video output level was out of specification.

Solution

The solution was to replace components on the Main Logic Board (MLB). The components replaced were the FCT244T with a Cypress part only (part 21-39010-62) and a 357 ohm resistor in location R20 with a 274 ohm resistor.

Customer Impact/Recommendations

No customer impact since the change was implemented during the manufacturing process.

ECO Number: 5423600-TA007

Part	Motherboard
Revision	D01 to E01
Component	Terminators
Severity	Medium
ECO Issue Date	July 1995
Type of Notification	Customer action may be required
Change Description	Mitsubishi floppy error fix

Description

Write errors would occur on some of the Mitsubishi 2.88MB floppy disk devices. The problem was found to be that the 150 ohm terminating resistor on the floppy interface was not adequate. This was causing ringing on the rising edge of the data and clock signals on the floppy interface.

Solution

The solution was to improve the signal quality on the floppy disk interface on the Main Logic Board. This required the replacement of terminator Z11, Digital Part Number 13-21767-0B with Digital Part Number 13-16254-0C.

Customer Impact/Recommendations

This change was implemented in the manufacturing process at the factory. Customer may be affected if using Mitsubishi floppy disk.

ECO Number: 5423600-TA008

Part	Motherboard
Revision	E01 to F01
Component	Digital 21050
Severity	Medium
ECO Issue Date	Aug 1995
Type of Notification	Action not required
Change Description	New revision of Digital PCI-to-PCI Bridge Chip

Description

Revision C of the Digital 21050 PCI to PCI Bridge chip was released. Revision B required an external workaround on the Main Logic Board for a boundary disconnect problem that had been found. Revision C of this chip resolved this issue and no longer required the external work.

Solution

The solution was to phase-in a new version of this Digital 21050 (REV C). The change was to replace E111, Digital Part Number 21-40594-02 with Digital Part Number 21-40594-03.

Customer Impact/Recommendations

No customer impact since the change was implemented during the manufacturing process. No performance impact to the customer.

ECO Number: 5423600-TA009

Part	Motherboard
Revision	F01 to H01
Component	BIOS
Severity	Medium
ECO Issue Date	Aug 95
Type of Notification	Action may be required
Change Description	Part substitutions, BIOS Release V1.07, and VGA BIOS Release V1.41.03

Description

This changes include the following three changes:

Part Substitutions:

1. A new keyboard controller part Intel 82c42pe was implemented since the older revision would stop shipping from Intel.

2. Intel PCI-EISA chipset S823874EB and SB2375EB revision A2 was implemented since there was a availability problem with the B0 revision.

VGA BIOS Release V1.41.03:

1. The addition of a sign-on message "Prioris HX CL-GD5428 VGA BIOS Version 1.41.03".

2. Modification of the memory sizing routine to write 16 bytes instead of only one word.

System BIOS Release V1.07 Problems Fixed:

1. System will fail to reboot after warm start under Windows 3.11.
   The system would fail to boot after a warm start or reboot under Windows 3.11. This failure was intermittent and would not occur every time. The fix was to remove the "Clear Screen after warmstart" action during the boot process. Minor customer impact for all Prioris HX5xxx systems under Windows 3.11.

2. Warm Reboot will fail with the Western Digital WD90C30 Video Card.
   The system would fail to reboot after a warm start or reboot. A workaround was implemented. The workaround was to re-map the video card ROM image from address FFFA0000h to BIOS E and F segment. Customer impact for all Prioris HX5xxx systems using the Western Digital WD90C30 Video Card

3. Boot failure in a dual processor configuration using Intel CPU C2 chip.
   The system would fail to boot in a dual processor configuration using the Intel CPU C2 chip version. This was found during the qualification of this chip version prior to release to manufacturing. This failure would occur under Windows NT V3.5J. The issue was that a timer (IRQ0) was being disabled during a spurious interrupt. The resolution was not allow disabling of this timer during this condition. No customer impact since this problem was resolved prior to the Intel CPU C2 version release.

4. Boot time for floppy disk is slow.
   The boot time using a floppy disk was exceptionally slow. A change was made to shorten the time-out counter value (WaitForInterrupt) for the floppy from 1000h to 500h. This sped up

the floppy access time. Minimal customer impact since this only occurs while trying to boot off of floppy.

5. System hang while using Remote Server Management (RSM) Card.
    An error would occur when Remote Server Management (RSM) would attempt to access the system NVRAM during a PCI bus master cycle. Incorrect data would be obtained which would result in a system hang. The resolution was to access the NVRAM twice to verify the data received is correct. High customer impact on all Prioris HX5xxx using RSM cards.

6. Incorrect port addresses assigned in Setup or SCU.
    If the Super I/O port addresses were assigned to 3E8h and 2E8h, the SCU would incorrectly select them to be 338h and 238h. Customer is impacted only if user can not use the other port addresses and is required to use 3E8h and 2E8h.

New Features

Support was added for Pentium 133/166 MHz CPU variants. The support was to include these versions in the sign on message during boot.

Compatibility

This release is backwards compatible on all system variants.

Solution

1. Upgrade your VGA to BIOS V1.41.03, using PHLASH2 utility.

2. Upgrade your motherboard to BIOS V1.07, using the BIOS Flash Utility

Customer Impact/Recommendations

It is recommended that you upgrade to this BIOS.

ECO Number: 5423600-TA010

Part	Motherboard
Revision	H01 to J01
Component	BIOS
Severity	High
ECO Issue Date	Sep 95
Type of Notification	Action required
Change Description	BIOS Release V1.08

Description

Problems Fixed:

1. The system Operator Control Panel (OCP) will not display that the primary power supply has failed.

2. High customer impact since a customer will not be aware of a primary power supply failure in a redundant power supply configuration.

New Features

No new features in this release

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your Main Logic Board (MLB) to BIOS V1.08, using the BIOS Flash Utility.

Customer Impact/Recommendations

High customer impact since a customer will not be aware of a primary power supply failure in a redundant power supply configuration. It is recommended that you upgrade to this BIOS revision.

ECO Number: 5423600-TA011

Part	Motherboard
Revision	J01 to K01
Component	BIOS
Severity	High
ECO Issue Date	Dec 95
Type of Notification	Action may be required
Change Description	BIOS Release V1.09

Description

The following three problems were addressed by BIOS Release V1.09

1. System hang with Adaptec 2940 PCI RAID Controller.
    A system hang would occur on a system configured with an Adaptec AHA2940 with BIOS V1.22S. This hang would occur during the CPU card scan only on multiple processor systems This failure would not occur under all Operating system environments but most frequently under Windows NT. The problem was the result of corruption of the multi-processor table or MP table in the BIOS. To solve this problem, a workaround was put into place in which the header of the MP table was changed from the EDDA to F segment. This would allow the MP table to be preserved during boot.

2. Hang with Intel PRO 100 Ethernet Controller.
    A hang condition during system boot would occur on a system configured with an Intel PRO 100 ethernet adapter. The cause of this was an unexpected interrupt being issued from the Intel card during power-on selftests (POST). This was resolved by disabling the SERR# posting by a PCI device.

3. Incorrect reporting of power supply error.
    An incorrect power supply error was being reported by the 8031 controller chip. The 8031 chip performs the system management monitoring for the MLB. The impact of this issue is that you may not be notified of a system power supply failure in a redundant power configuration.

New Features

No new features in this release

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your motherboard to BIOS V1.09, using the BIOS Flash Utility

Customer Impact/Recommendations

It is recommended that you upgrade your system to this revision of BIOS.

If using Adaptec AHA2940 with BIOS V1.22s and an MP system, an upgrade to this BIOS is mandatory. Later version of BIOS on the AHA2940, do not have this issue.

If using the Intel PRO 100 card, it is mandatory that you upgrade to this version of BIOS.

ECO Number: 5423600-TA012

Part	Motherboard
Revision	K01 to K02
Component	Resistor
Severity	None
ECO Issue Date	Mar 96
Type of Notification	Action not required
Change Description	Resistor part substitution

Description

A resistor component, R1, has the risk of not being properly soldered to the Main Logic Board during the manufacturing wave solder process.

Solution

This component, resistor R1, Digital Part Number 13-26688-01 was replaced with Digital part number 13-26688-0B. The replacement part had special kinked leads on which the solder would consistently adhere.

Customer Impact/Recommendations

No customer impact since this was a manufacturing yield improvement.

ECO Number: 5423600-TA013

Part	Motherboard
Revision	K02 to L01
Component	BIOS
Severity	Medium
ECO Issue Date	Apr 96
Type of Notification	Action may be required
Change Description	BIOS Release V1.10

Description

1. Support for the Adaptec 3985 RAID Controller.
   System will not boot with Adaptec 3985 PCI RAID Controller installed. Customer is impacted only if they are using an Adaptec 3985 RAID controller. The Adaptec 3985 RAID Controller is not at this time a supported option but may be used by customers.

2. System Hang after reboot under SCO Unix with Dual Processors.
   The system will hang after a reboot during POST searching for the second CPU. This happens with a dual processor configuration and under SCO Unix. Customer impact only if using a dual processor system under SCO Unix.

3. Quicklaunch will not boot on a cold start.
   Quicklaunch would not boot after a system cold start. The resolution was to clear CMOS addresses 7Eh and 7Fh in the BIOS during a cold boot. These locations are used to store Quicklaunch information. Customer impact only if trying to boot Quicklaunch.

4. Incorrect messages on Summary Screen.
   Incorrect messages would be displayed on the summary screen. Minor impact to customer since no functionality is affected.

New Features

No new features added in this release.

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your Main Logic Board (MLB) to BIOS V1.10, using the BIOS Flash Utility

Customer Impact/Recommendations

If you are using the an Adaptec 3985 PCI RAID Controller, it is recommended that you upgrade to this BIOS.

If you are using a 166Mhz Pentium CPU, it is recommended that you upgrade the EISA Configuration Utility (ECU) to revisions later than V1.06 as well. If you do not, the CPU clock may be displayed incorrectly in the System Configuration Utility (SCU) CPU clock location.

ECO Number: 5423600-TA015

Part	Motherboard
Revision	L01 to L02
Component	Capacitor
Severity	Medium
ECO Issue Date	Jun 96
Type of Notification	Action may be required
Change Description	System time is incorrect after power on

Description

The system time would be incorrect after a power-on. The Real-Time-Clock (RTC) built-in battery would discharge prematurely resulting in the system time being reset or loss.

Solution

To resolve this issue, the capacitor at location C224 was removed. This change allowed the RTC clock to properly discharge.

Customer Impact/Recommendations

Customer impact is low since only a few isolated incidences of this problem were reported.

ECO Number: 5423600-TA016

Part	Motherboard
Revision	L02 to L03
Component	Multiple
Severity	None
ECO Issue Date	Jun 96
Type of Notification	Action not required
Change Description	Memory part substitutions

Description

1. The Motorola SRAM, 32kx8, 15ns part (part number 21-26307-75) has been disqualified as a supported part. The UMC SRAM, 32kx8 15ns part (part number 21-40684-66) has been substituted.

2. The Hitachi DRAM 256kx16 part (part number 21-4055136) was added as a supported memory substitution.

Solution

None required.

Customer Impact/Recommendations

No customer impact since these are manufacturing part substitution.

ECO Number: 5423600-TA017

Part	Motherboard
Revision	L03
Component	Benchmarq BQ4287MT
Severity	None
ECO Issue Date	11/26/96
Type of Notification	Action not required
Change Description	Component substitution of Benchmarq BQ4287MT with Dallas DS14287

Description

Not applicable.

Solution

Not applicable.

Customer Impact/Recommendations

None

ECO Number: 5423600-TA018

Part	Motherboard
Revision	L04
Component	Cirrus 5428 Video Controller
Severity	None
ECO Issue Date	12/6/96
Type of Notification	Action not required
Change Description	Change Cirrus 5428 to Cirrus 5429 video controller. Add a capacitor on VVcas3-L line. Update Video BIOS to V1.00a.11 to support 5429 chip.

Description

Not applicable.

Solution

Update BIOS to V1.00a.11 using FLASH utility.

Customer Impact/Recommendations

None.

ECO Number: 5423600-TA019

Part	Motherboard
Revision	L04
Component	BIOS
Severity	Medium
ECO Issue Date	Jan 97
Type of Notification	Action may be required
Change Description	BIOS Release V1.11

Description

Severity: Low
The user may now disable the internal cache of the 2nd CPU.
Customer impact: The AMI diagnostic would incorrectly show the speed of the 2nd CPU during the "Multi Processor Test" prior to this BIOS change.

New Features

Severity: Medium
Add SCU/BIOS version string for Quick Launch

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your Main Logic Board (MLB) to BIOS V1.11 using the BIOS Flash Utility.

Customer Impact/Recommendations

It is recommended to upgrade to this release of BIOS for full support of the Quick Launch installation software.

ECO Number: 5423600-TA020

Part	Motherboard
Revision	L04
Component	BIOS
Severity	Medium
ECO Issue Date	Sept 97
Type of Notification	Action may be required
Change Description	BIOS Release V1.12

Description

Severity: High

1. Problem: 64 bit addressing mode of PB is not supported.
   Symptom: PCI card with DEC PPB 21152 is not configured correctly.
   Solution: Add codes to support 64 bit addressing mode.

2. Problem: PPBs of the other vendors are not configured correctly because of patch code for DEC PPB 21050. The patched PPB is not identified as 21050.
   Symptom: PPB on i960RP is not configured correctly.
   Solution: Add codes to identify if the patched PPB is 21050.

3. Problem: The combination of: Mylex rev. E card, the new device drive, and Windows NT 4.0 does not work properly.
   Symptom: Using this configuration, the system does not reboot again when the system tries to boot after a warmboot. Windows NT reports "DISK I/O ERROR".
   Solution: Add codes to correct this problem.

Compatibility

This release is backwards compatible on all system variants.

Solution

Upgrade your BIOS to V1.12.

Customer Impact/Recommendations

It is strongly recommended to upgrade to this release of BIOS for those using the devices mentioned above.