



JN440BX Motherboard Specification Update

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Order Number: 704522-017

The JN440BX motherboard may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are documented in this Specification Update.

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REVISION HISTORY

Date of Revision	Version	Description
May 1998	-001	This document is the first Specification Update for the Intel® JN440BX motherboard.
June 1998	-002	Added Specification Change 1, Errata 3-6 and Specification Clarification 1.
July 1998	-003	Added Documentation Change 1.
August 1998	-004	Modified Specification Change 1. Added Erratum 7 and Documentation Change 2.
September 1998	-005	Modified Specification Change 1 and Erratum 6. Added Errata 8-9.
October 1998	-006	Updated status of Erratum 7. Added Specification Change 2.
November 1998	-007	Added Erratum 10.
February 1999	-008	Modified Specification Change 1. Added Erratum 11.
March 1999	-009	Added Specification Change 3.
April 1999	-010	Updated Specification Changes 1 & 3. Added Specification Change 4.
May 1999	-011	Added Erratum 12.
June 1999	-012	Added Specification Change 5. Updated Specification Change 3.
July 1999	-013	Added Erratum 13.
August 1999	-014	Added Specification Change 6.
September 1999	-015	Added Specification Change 7.
November 1999	-016	Updated Specification Change 6. Updated status of Errata 1 and 9.
April 2000	-017	Added Specification Changes 8-9.

PREFACE

This document is an update to the specifications contained in the *JN440BX Motherboard Technical Product Specification* (Order number 699414). It is intended for hardware system manufacturers and software developers of applications, operating systems, or tools. It will contain Specification Changes, Errata, Specification Clarifications, and Documentation Changes.

Refer to the *Pentium® II Processor Specification Update* (Order number 243337) for specification updates concerning the Pentium II processor. Items contained in the *Pentium II Processor Specification Update* that either do not apply to the JN440BX motherboard 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 PBA revision(s) associated with that stepping.

Refer to the *82443BX Specification Update* (Order Number 290639) for specification updates concerning the 82443BX PCI A.G.P. Controller. Items contained in the *82443BX Specification Update* that either do not apply to the JN440BX motherboard or have been worked around are noted in this document. Otherwise, it should be assumed that any controller errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82371EB (PIIX4E) Specification Update* (Order Number 290635) for specification updates concerning the 82371EB PIIX4E. Items contained in the *Intel 82371EB (PIIX4E) Specification Update* that either do not apply to the JN440BX motherboard or have been worked around are noted in this document. Otherwise, it should be assumed that any PIIX4E errata for a given stepping are applicable to the Printed Board Assembly (PBA) revision(s) associated with that stepping.

Nomenclature

Specification Changes are modifications to the current published specifications. These changes will be incorporated in the next release of the specifications.

Errata are design defects or errors. Characterized errata may cause the JN440BX motherboard's behavior to deviate from published specifications. Hardware and software designed to be used with any given Printed Board Assembly (PBA) and BIOS revision level must assume that all errata documented for that PBA and BIOS revision level are present on all motherboards.

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.

Specification Update for JN440BX Motherboards

GENERAL INFORMATION

Basic JN440BX Motherboard Identification Information

AA Revision	PBA Revision	440BX AGPSet Stepping	BIOS Revision	Notes
690874-401	690821-401	B1	4J4NB0X1.86A.0008.P02	1-5
690874-402	690821-402	B1	4J4NB0X1.86A.0008.P02	1-5
690874-403	690821-403	B1	4J4NB0X1.86A.0008.P02	1-5
690874-404	690821-404	B1	4J4NB0X1.86A.0008.P02	1-5
690874-405	690821-405	C1	4J4NB0X1.86A.0028.P09	1-5
690874-406	690821-406	C1	4J4NB0X1.86A.0028.P09	1-5
690874-407	690821-407	C1	4J4NB0X1.86A.0035.P12	1-5
690874-408	690821-408	C1	4J4NB0X1.86A.0037.P14	1-5
729002-406	729001-406	C1	4J4NB0X1.86A.0030.P10	1-5
729002-407	729001-407	C1	4J4NB0X1.86A.0035.P12	1-5
729002-408	729001-408	C1	4J4NB0X1.86A.0037.P14	1-5

NOTES:

1. The PBA number or AA number is found on a small label on the component side of the board.
2. The 440BX AGPset kit used on this PBA revision consists of three components as follows:

Device	Stepping	S-Spec Numbers
82443BX	B1	SL2T5 SL2T6
82443BX	C1	SL2VH SL378
82371EB	A0	SL2MY SL2T3 SL37M SL37Z

3. The following errata are contained in the *Pentium® II Processor Specification Update* (Order Number 243337) for the Pentium II processor and either do not apply to the JN440BX motherboard or have been worked-around in this PBA and/or BIOS revision: 3, 10-11, 17, 27-28, 32, 41, 50, 1AP-3AP. All other errata associated with the processor apply to this PBA revision.
4. The following items are contained in the *Intel® 82443BX Specification Update* (Order Number 290639) and either do not apply to the JN440BX motherboard or have been worked around in this PBA and/or BIOS revision: Erratum 3. All other errata associated with the AGPset apply to this PBA revision.
5. The following items are contained in the *Intel® 82371EB (PIIX4E) Specification Update* (Order Number 290635) and either do not apply to the JN440BX motherboard or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the PIIX4E apply to this PBA revision.

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes which apply to the JN440BX motherboard. Intel intends to fix some of the errata in a future revision of the motherboard, and to account for the other outstanding issues through documentation or specification changes as noted. This table uses the following notations:

CODES USED IN SUMMARY TABLE

- Doc: Document change or update that will be implemented.
- Fix: This erratum is intended to be fixed in a future revision of the motherboard or BIOS.
- Fixed: This erratum has been previously fixed.
- NoFix: There are no plans to fix this erratum.
- Shaded: This erratum is either new or modified from the previous version of the document.

NO.	PLANS	SPECIFICATION CHANGES
1	Doc	Support for the Intel® Celeron™ processor
2	Doc	Support for 450 MHz Pentium® II processors
3	Doc	Support for the Intel Pentium III processor
4	Doc	Change to Section 2.1, Memory Map
5	Doc	Support for 550 MHz Pentium III processors
6	Doc	Change to supported memory configurations
7	Doc	Support for 600 MHz Pentium III Processors
8	Doc	Support for 600E, 650, 700, 750 and 800E MHz Intel® Pentium III Processors
9	Doc	Change to description of second level cache
NO.	PLANS	ERRATA
1	Fixed	Serial mouse activity does not wake system after APM shutdown
2	NoFix	Advanced Power Management may suspend system during CD-ROM playback
3	Fix	System BIOS does not detect mouse if unattended start is enabled
4	Fix	System BIOS does not recognize monochrome display adapter if a second adapter is present
5	Fix	User cannot enter BIOS Setup Program after disabling parallel port
6	Fixed	System locks up during reboot if reset button is held
7	Fixed	System using 3-mode floppy drive cannot read XDF format diskettes
8	Fixed	Option to scan user flash area does not work
9	Fixed	System BIOS does not log ECC memory errors
10	Fixed	System will not boot from ISA video adapter if Scan User Flash is enabled
11	Fixed	BIOS Does Not Halt System After Multi-bit ECC Error
12	Fix	Key combination locks keyboard if user password is set

NO.	PLANS	ERRATA
13	NoFix	Onboard audio will not play and record simultaneously
NO.	PLANS	SPECIFICATION CLARIFICATIONS
1	Doc	Hardware monitor reverses reporting of -12 Volt signal
NO.	PLANS	DOCUMENTATION CHANGES
1	Doc	Change to description of keyboard and mouse interface
2	Doc	Change to Section 3.7, Desktop Management Interface

The errata described in this specification update apply to combinations of PBA revision and BIOS revision as shown in the table below. Descriptions of the individual errata referred to by number in the table below are found in the ERRATA section of this document.

PBA Revision	BIOS Revision	Errata That Apply
690821-401	4J4NB0X1.86A.0008.P02	1-13
	4J4NB0X1.86A.0020.P06	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A.0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13
690821-402	4J4NB0X1.86A.0008.P02	1-13
	4J4NB0X1.86A.0020.P06	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13
690821-403	4J4NB0X1.86A.0008.P02	1-13
	4J4NB0X1.86A.0020.P06	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13

PBA Revision	BIOS Revision	Errata That Apply
690821-404	4J4NB0X1.86A.0008.P02	1-13
	4J4NB0X1.86A.0020.P06	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A.0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A.0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A.0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A.0038.P15	2-5, 7, 12-13
690821-405	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A.0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A.0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A.0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A.0038.P15	2-5, 7, 12-13
690821-406	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A.0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A.0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A.0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A.0038.P15	2-5, 7, 12-13
690821-407	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0030.P10 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A.0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A.0038.P15	2-5, 7, 12-13

PBA Revision	BIOS Revision	Errata That Apply
690821-408	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12 [‡]	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13
729001-406	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13
729001-407	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13
729001-408	4J4NB0X1.86A.0008.P02 [‡]	1-13
	4J4NB0X1.86A.0020.P06 [‡]	1-5, 7, 10-13
	4J4NB0X1.86A.0023.P07 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A.0028.P09 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0030.P10 [‡]	2-5, 7, 11-13
	4J4NB0X1.86A,0035.P12 [‡]	2-5, 7, 12-13
	4J4NB0X1.86A,0037.P14	2-5, 7, 12-13
	4J4NB0X1.86A,0038.P15	2-5, 7, 12-13

[‡] Note: This combination of BIOS revision and PBA revision has not undergone regression testing. Use of a PBA with down-revision BIOS is an untested combination and is undertaken at the user's risk.

SPECIFICATION CHANGES

The Specification Changes listed in this section apply to the *JN440BX Motherboard Technical Product Specification* (Order Number 699414). All Specification Changes will be incorporated into a future version of that specification.

1. **Support for the Intel® Celeron™ Processor**

The following will be added to Section 1.1, Overview, as the last bullet under the heading Microprocessor:

- Supports the Intel® Celeron™ processor (see Section 1.5 for details of Celeron processor support)

The following will be added to Section 1.5, Microprocessor:

The motherboard supports the Celeron processor at 266 MHz with BIOS version 4J4NB0X1.86A.0020.P06, or later. Earlier BIOS versions will identify the processor as a Pentium® II processor and will not work reliably with a Celeron processor.

The motherboard supports the Celeron processor at 300, 300A 333, 366 and 400 MHz with BIOS version 4J4NB0X1.86A.0028.P09 or later.

2. **Support for 450 MHz Pentium® II Processors**

The motherboard supports 450 MHz Pentium II processors. Section 4.2, Maintenance Menu, will be replaced in its entirety as follows:

Maintenance Menu

This menu is for setting the processor speed and clearing the Setup passwords. Setup only displays this menu in configure mode. See Section 1.16 for information about setting configure mode.

Table 48. Maintenance Menu

Feature	Options	Description
Processor Speed	<ul style="list-style-type: none"> • 233 • 266 • 300 • 333 • 350 • 400 • 450 	<p>Specifies the processor speed in megahertz. This setup screen will only show speeds up to and including the maximum speed of the processor installed on the motherboard.</p> <ul style="list-style-type: none"> • With a host bus operating at 66 MHz, the board supports processors at the following speeds: 233, 266, 300, and 333 MHz. • With a host bus operating at 100 MHz, the board supports processors at the following speeds: 350, 400 and 450 MHz.
Clear All Passwords	No options	Clears the user and supervisor passwords.

BIOS revision 4J4NB0X1.86A.0023.P07.9808050927 or later is required for the motherboard to properly support a 450 MHz processor.

3. Support for the Intel® Pentium® III Processor

The following will be added to Section 1.1, Overview, as the first bullet under the heading Microprocessor:

- Single Pentium® III processor

The first sentence of the note in section 1.1 will be replaced in its entirety as follows:

Pentium III processors with a 100 MHz host bus or Pentium II processors with a 100 MHz host bus should be paired only with 100 MHz SDRAM.

The following will be added to Section 1.5, Microprocessor:

BIOS version 4J4NB0X1.86A.0035.P12 or later is required to support the Pentium III processor at 450 MHz on all JN440BX motherboard revisions. Earlier BIOS versions will identify the processor as a Pentium II processor and will not work reliably with a Pentium III processor.

The following motherboard revision, or later supports the Pentium III processor at 500 MHz or faster with BIOS version 4J4NB0X1.86A.0035.P12, or later. Earlier BIOS versions will identify the processor as a Pentium II processor and will not work reliably with a 500 MHz Pentium III processor. Earlier motherboard revisions do not support a 500 MHz or faster Pentium III processor.

Product Code	MM#	AA#	PBA#
BJNATCYL4K	821558	729002-406	729001-406

In Section 4.1, Maintenance Menu, Table 37 will add an entry for 500Mhz with a host bus operating at 100 MHz.

In Section 4.2, Main Menu, the following option will be added to Table 37:

Feature	Options	Description
Processor Serial Number	<ul style="list-style-type: none"> • Disabled (default) • Enabled 	Disabled blocks the processor from reporting the processor serial number to the operating system or software.

4. Change to Section 2.1, Memory Map

In Section 2.1, Memory Map, Table 24, System Memory Map will be changed to reflect that the area with hex address E0000-E7FFF is not available as an upper memory block (UMB).

5. Support for 550 MHz Pentium III Processors

The motherboard supports 550 MHz Pentium III processors.

In Section 4.1, Maintenance Menu, Table 37 will add an entry for 550Mhz with a host bus operating at 100 MHz.

BIOS revision 4J4NB0XA.86A.0037.P14 or later is required for the motherboard to properly support a 550 MHz processor.

6. *Change to Supported Memory Configurations*

256 MB DIMMs have been qualified on the JN440BX motherboard. The following changes will be made to the Technical Product Specification:

In Section 1.1, Overview, in the second bullet under Main Memory 384 MB will be replaced with 768 MB.

In Section 1.6, Main Memory, maximum memory size will be changed from 384 MB to 768 MB.

The following line will be added to the table of DIMMs:

DIMM Size	Non-ECC Configuration	ECC Configuration
256 MB	32 Mbit x 64	32 Mbit x 72

Note: 256 MB DIMMs used with this board must be built with 128 Mbit device technology.

In Section 2.1, Memory Map, the first line of Table 24 will be changed to:

Address Range (decimal)	Address Range (hex)	Size	Description
1024 K - 785408 K	100000 - 2FF00000	767 MB	Extended memory

Section 1.5.2, Second Level Cache, will be replaced in its entirety as follows:

The second-level cache is located on the substrate of the S.E.C. cartridge. The cache includes 512 KB of synchronous pipelined burst static RAM (PBSRAM) and tag RAM. All supported onboard memory can be cached, up to the limits of the microprocessor. Refer to the microprocessor data sheet for the amount of memory that your processor can cache.

BIOS revision 4J4NB0X1.86A.0037.P14 or later is required to support 256 MB DIMMs.

7. *Support for 600 MHz Pentium® III Processors*

The motherboard supports 600 MHz Pentium® III processors.

BIOS revision 4J4NB0XA.86A.0038.P15 or later is required for the motherboard to properly support a 600 MHz processor.

8. *Support for 600E, 650, 700, 750 and 800E MHz Intel® Pentium III Processors*

Section 1.5 will be updated to reflect the following processor changes.

1.5 Microprocessor

The motherboard supports a single Pentium® III processor, Pentium II processor or Celeron™ processor. The processor's VID pins automatically program the voltage regulator on the motherboard to the required processor voltage. In addition, the host bus frequency (66 MHz or 100 MHz) is automatically selected. The processor connects to the motherboard through a 242-contact slot connector. The processor must be secured by a retention mechanism attached to the motherboard.

 **CAUTION**

Processors with a 100 MHz host bus should be used only with 100 MHz SDRAM; the motherboard will not operate reliably if a processor with a 100 MHz host bus is paired with 66 MHz SDRAM. However, processors with a 66 MHz host bus can be used with either 66 MHz or 100 MHz SDRAM.

The motherboard supports the following processors:

Processor Type	Processor Speed (in MHz)	Host Bus Frequency (in MHz)	Level 2 Cache (in KB)
Pentium III processor	450	100	512
	500	100	512
	550E	100	256
	550	100	512
	600E	100	256
	600	100	512
	650	100	256
	700	100	256
	750	100	256
	800E	100	256
Pentium II processor	233	66	512
	266	66	512
	300	66	512
	333	66	512
	350	100	512
	400	100	512
	450	100	512
Celeron processor	266	66	0
	300	66	0
	300A	66	128
	333	66	128
	366	66	128
	400	66	128
	433	66	128

NOTE

BIOS Revision 4J4NB0X1.86A.0040.P17 or later is required for the Desktop Board to properly support 550E, 600E, 650,700, 750 and 800E MHz processors.

9. Change to Description of Second Level Cache

Section 1.5.2 will be replaced in its entirety as follows.

1.5.2 SECOND-LEVEL CACHE

The second-level cache is located on the substrate of the S.E.C. cartridge in Celeron processors and on Pentium® II and Pentium III processors with 512 KB of cache. Pentium III processors with 256 KB of cache have second-level cache located on die. The cache includes pipelined burst synchronous static RAM (PBSRAM) and tag RAM. There can be two or four PBSRAM components totaling 512 KB or 1024 KB in size. All supported onboard memory can be cached.

ERRATA

1. ***Serial Mouse Activity Does Not Wake System After APM Shutdown***

PROBLEM: The system BIOS does not recognize activity from a serial mouse as an APM event.

IMPLICATION: The system will not be restored from a power-managed state until keyboard activity occurs.

WORKAROUND: The system BIOS does recognize activity from a PS/2* style mouse.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.0023.P07.

2. ***Advanced Power Management May Suspend System During CD-ROM Playback***

PROBLEM: ATAPI devices (such as CD-ROM and DVD drives) do not reset the inactivity timer that is used by Advanced Power Management to determine when to place the system into suspend mode.

IMPLICATION: When playback of an audio CD or a DVD file is the only system activity, the system will go into suspend mode when the inactivity timer expires.

WORKAROUND: Temporarily disable the Low-power standby and Shut off monitor options on the Display Properties, Screen Saver menu. This menu is available from the Windows* 95 Control Panel.

STATUS: This erratum will not be fixed.

3. ***System BIOS Does Not Detect Mouse if Unattended Start is Enabled***

PROBLEM: If a user password is enabled and the unattended start feature has been enabled in the BIOS Setup program, the system BIOS will not report the presence of a mouse to the operating system.

IMPLICATION: In Windows 95, a warning message that no mouse is available will occur when the operating system loads. The Device Manager entry for the mouse will show an error warning, although the mouse may function normally within the operating system.

WORKAROUND: None.

STATUS: This erratum will be fixed in a future BIOS revision.

4. ***System BIOS Does Not Recognize Monochrome Display Adapter if a Second Adapter is Present***

PROBLEM: In a dual monitor system that includes an AGP or PCI display adapter and a monochrome display adapter (MDA), only the AGP or PCI adapter will be recognized and initialized by the system BIOS.

IMPLICATION: Programmers or others who use this configuration in a dual monitor system will not be able to use the MDA video.

WORKAROUND: None.

STATUS: This erratum will be fixed in a future BIOS revision.

5. *User Cannot Enter BIOS Setup Program After Disabling Parallel Port*

PROBLEM: The BIOS Setup program requires that the parallel port be available in order to support the print screen function. If the user disables the parallel port in BIOS Setup, any subsequent attempt to enter BIOS Setup will cause the system to lock up.

IMPLICATION: If the user disables the parallel port, he will be unable to reenter BIOS Setup to make any additional configuration changes.

WORKAROUND: Enter BIOS Configuration mode using jumper J8A1 and use the F9 key to reset the system configuration to default values. See Section 1.16 for information on using the configuration jumper to enter configuration mode.

STATUS: This erratum will be fixed in a future BIOS revision.

6. *System Locks Up During Reboot If Reset Button is Held*

PROBLEM: If the reset button is held in for longer than four seconds, the system may lock up during the reboot process. Intel has tested a number of system configurations and has found that the lockup is dependent on the configuration of memory in the system.

IMPLICATION: If the system locks up, the user will be required to cycle power to restart the system.

WORKAROUND: Release the reset button as soon as the display screen blanks.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.00120.P06.

7. *System Using 3-Mode Floppy Drive Cannot Read XDF Format Diskettes*

PROBLEM: The buffer area that stores floppy drive parameters does not have room to store the speed information to allow a 3-mode floppy drive to read a diskette in the XDF format.

IMPLICATION: A system that has a 3-mode floppy drive cannot be used to install a program or operating system, such as PC-DOS 7.0, that is distributed on XDF format diskettes.

WORKAROUND: None.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.0013.P06.

8. *Option to Scan User Flash Area Does Not Work*

PROBLEM: The option to scan the user flash area at system boot and execute a binary file stored there is not implemented in the BIOS.

IMPLICATION: The user will not be able to use this function.

WORKAROUND: None.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.0020.P06.

9. ***System BIOS Does Not Log ECC Memory Errors***

PROBLEM: The system BIOS does not write a record to the DMI log stored in non-volatile memory when a single or double bit ECC memory error is identified by the memory controller.

IMPLICATION: For single bit errors, the error will be corrected based on the memory checkbits. The corrected data will be passed to the system by the controller, but the error will not be recorded in the DMI log.

For double-bit errors identified during run time, the system will not be halted. The erroneous data will be passed to the system by the controller. The error will not be recorded in the DMI log.

Because these errors are not recorded in the DMI log, the user will not receive information from this log that could be useful in isolating a failing memory module.

WORKAROUND: None.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.00120.P06.

10. ***System Will Not Boot From ISA Video Adapter if Scan User Flash is Enabled***

PROBLEM: If the option to scan the user flash area during the boot process is enabled in the BIOS setup program, the system will hang when the BIOS attempts to initialize an ISA video adapter. This erratum does not affect PCI video adapters.

IMPLICATION: A user who requires an ISA video adapter will not be able to use the scan user flash area option.

WORKAROUND: None.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.0023.P07.

11. ***BIOS Does Not Halt System After Multi-bit ECC Error***

PROBLEM: When a multi-bit ECC error is detected by the BIOS a record of the error is entered into the management information log but the system is not halted.

IMPLICATION: The erroneous data will be passed to the system by the memory controller.

Single-bit errors are detected and corrected by the memory controller and entered into the management information log.

WORKAROUND: None.

STATUS: This erratum was fixed in BIOS revision 4J4NB0X1.86A.0035.P12.

12. ***Key Combination Locks Keyboard if User Password is Set***

PROBLEM: If a user password has been set in the BIOS Setup program, the <Ctrl><Alt><L> key combination will lock the keyboard. The user password must be entered to unlock the keyboard and resume use of the system.

IMPLICATION: Software that requires that key combination for some other purpose can only be used if the user password feature is turned off.

WORKAROUND: None.

STATUS: This erratum will be fixed in a future BIOS revision.

13. *Onboard Audio Will Not Play and Record Simultaneously*

PROBLEM: Under the Windows NT* 4.0 operating system, if IRQ5 is reserved in the BIOS Setup program for use by another device, the onboard audio will not be given the DMA resources needed to perform full-duplex operation.

IMPLICATION: If IRQ5 must be used by a device other than the onboard audio, the user will not be able to play and record audio simultaneously.

WORKAROUND: None.

STATUS: This erratum will not be fixed.

SPECIFICATION CLARIFICATIONS

The Specification Clarifications listed in this section apply to the *JN440BX Motherboard Technical Product Specification* (Order Number 699414). All Specification Clarifications will be incorporated into a future version of that specification.

1. *Hardware Monitor Reverses Reporting of -12 Volt Signal*

The hardware monitor measures negative voltages by offsetting them into a positive voltage range. Earlier OPSD motherboards with hardware monitors measured negative voltages by inverting them. Monitoring software that expects negative voltages to be inverted will report increases and decreases of negative voltages incorrectly. As the magnitude of the voltage increases, it is reported as a voltage decrease. As the magnitude of the voltage decreases, it is reported as a voltage increase.

Alert actions based on whether the magnitude of the voltage is greater or less than the nominal -12 volts will not take place correctly. Alert actions that are only dependent on notification that the voltage is outside a defined tolerance band will continue to take place as defined.

Version 3.3 of the Intel® LANDesk® Client Manager network monitoring software reports changes in negative voltages correctly.

DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to the *JN440BX Motherboard Technical Product Specification* (Order Number 699414). All Documentation Changes will be incorporated into a future version of that specification.

1. *Change to Description of Keyboard and Mouse Interface*

The following note will be added to Section 1.8.1, Keyboard and Mouse Interface:

Note: In embedded applications, the motherboard can be used without either a keyboard or mouse attached.

2. *Change to Section 3.7, Desktop Management Interface*

In Section 3.7, Desktop Management Interface (DMI), paragraph 2 will be replaced in its entirety as follows:

Intel can provide system manufacturers with a utility that programs system and chassis-related information into the DMI space in Flash memory. The utility is used to program the BIOS during system manufacturing, so that the BIOS can later report this information. Once written, this information cannot be overwritten by the end user.

