AB440ZX Motherboard Specification Update

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The AB440ZX 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
March 1999	-001	This document is the first Specification Update for the Intel® AB440ZX motherboard.
April 1999	-002	Added Specification Change 1 and Erratum 3.
May 1999	-003	Added Specification Change 2 and Erratum 4.
August 1999	-004	Updated status of Erratum 4. Added Erratum 5.

PREFACE

This document is an update to the specifications contained in the AB440ZX Motherboard Technical Product Specification (Order number 728041). 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 AB440ZX 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 *82443ZX Specification Update* (Order Number TBD) for specification updates concerning the 82443ZX PCI A.G.P. Controller. Items contained in the *82443ZX Specification Update* that either do not apply to the AB440ZX 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 AB440ZX 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 AB440ZX 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 AB440ZX Motherboards

GENERAL INFORMATION

Basic AB440ZX Motherboard Identification Information

AA Revision	PBA Revision	440ZX AGPSet Stepping	BIOS Revision	Notes
727158-205	727159-205	A1	4A4BZ0X0.86A.0013.P04	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 440ZX AGPset kit used on this PBA revision consists of two components as follows:

Device	Stepping	S-Spec Numbers
82443ZX	A1	SL33W
82371EB	A0	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 AB440ZX 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® 82443ZX Specification Update* (Order Number TBD) and either do not apply to the AB440ZX 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 AB440ZX 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 AB440ZX 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	Added feature to control processor serial number reporting
2	Doc	Change to description of power LED
NO.	**PLANS**	**ERRATA**
1	NoFix	Advanced Power Management may suspend system during CD-ROM playback
2	Fix	System BIOS does not release IRQ when no mouse is attached
3	Fix	Real mode DOS drivers may cause modem to disconnect
4	Fixed	Key combination locks keyboard if user password is set
5	NoFix	BIOS does not implement S4BIOS power state

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
727159-205	4A4BZ0X0.86A.0013.P04	1-4
	4A4BZ0X0.86A.0019.P06	1-4
	4A4BZ0X0.86A.0021.P07	1-3
	4A4BZ0X0.86A.0022.P08	1-3

‡ 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 *AB440ZX Motherboard Technical Product Specification* (Order Number 728041). All Specification Changes will be incorporated into a future version of that specification.

1. Added Feature to Control Processor Serial Number Reporting

In Section 4.2, Main Menu, the following option will be added to Table 51:

Feature	Options	Description
Processor Serial Number	• **Disabled (default)** • Enabled	Disabled blocks the processor from reporting the processor serial number to the operating system or software.

2. Change to Description of Power LED

In Section 1.10.3.3, Power LED/Sleep/Message Waiting Connector, Tables 28 and 29 will be replaced in their entirety as follows:

Table 281. States for a Single-colored Power LED

LED State	Description
Off	Power off/suspend/sleep
Steady	Running
Blinking	Running/message waiting

Table 29. States for a Dual-colored Power LED

LED State	Description
Off	Power off
Steady Green	Running
Blinking Green	Running/message waiting[1]
Steady Yellow	Sleeping
Blinking Yellow	Sleeping/message waiting[1]

Note: To use the message waiting function, APCI must be enabled in the operating system and a message-capturing application must be invoked.

ERRATA

1. 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.

2. System BIOS Does Not Release IRQ When No Mouse Is Attached

PROBLEM: The system BIOS does not release IRQ12 to be reserved for use by an ISA legacy device when no PS/2 mouse is detected at system boot.

IMPLICATION: It may not be possible to install an ISA legacy device in the system if no other IRQ is available. IRQ12 is available for assignment to another device in the Windows 95 or Windows 98 Device Manager.

WORKAROUND: None.

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

3. Real Mode DOS Drivers May Cause Modem to Disconnect

PROBLEM: In a system with a PCI add in card that loads real mode DOS drivers, an internal modem may disconnect or stop responding during data transmission.

IMPLICATION: The user will not be able to use an internal modem reliably while real mode DOS drivers are loaded.

WORKAROUND: Unload real mode drivers before connecting with an internal modem.

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

4. 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 was fixed in BIOS revision 4A4BZ0X0.86A.0021.P07.

5. BIOS Does Not Implement S4BIOS Power State

Problem: The S4BIOS (Suspend to Disk) power state has not been implemented in the motherboard BIOS.

Implication: The user will not be able to suspend the system to a state that includes saved context information.

Workaround: None.

Status: This erratum will not be fixed.