



# **Desktop Board BP810 Specification Update**

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The Intel® Desktop Board BP810 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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The BP810 desktop board may contain design defects or errors known as errata which may cause the product to deviate from published specifications. Current characterized errata are available on request.

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**REVISION HISTORY**

<b>Date of Revision</b>	<b>Version</b>	<b>Description</b>
October 1999	-001	This document is the first Specification Update for the Intel® Desktop Board BP810.
November 1999	-002	Added Errata 1-3 and Documentation Changes 1-2.
December 1999	-003	Added Erratum 4 and updated Erratum 1.
January 2000	-004	Added Erratum 5 and Specification Change 1.
June 2000	-005	Added Errata 6-7.
July 2000	-006	Added Erratum 8.

## PREFACE

This document is an update to the specifications contained in the Intel® Desktop Board BP810 Technical Product Specification (Order number 751306). 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 *Intel® Celeron™ Processor Specification Update* (Order number 243748) for specification updates concerning the Intel Celeron processor. Items contained in the *Intel Celeron Processor Specification Update* that either do not apply to the BP810 desktop board 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 *Intel® 82810 Chipset: 82810/82810-DC100 Graphics and Memory Controller Hub (GMCH) Specification Update* (Order Number 290659) for specification updates concerning the 82810 GMCH Controller. Items contained in the *82810 GMCH Specification Update* that either do not apply to the BP810 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any GMCH errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82801 I/O Controller Hub (ICH) Specification Update* (Order Number 290677) for specification updates concerning the 82801 I/O Controller Hub. Items contained in the *Intel 82801 ICH Specification Update* that either do not apply to the BP810 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH errata for a given stepping are applicable to the Printed Board Assembly (PBA) revision(s) associated with that stepping.

Refer to the *Intel® 82802 Firmware Hub (FWH) Specification Update* (Order Number TBD) for specification updates concerning the 82802 Firmware Hub. Items contained in the *Intel 82802 FWH Specification Update* that either do not apply to the BP810 desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH 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 BP810 desktop board'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 desktop boards.

**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  
Intel® Desktop Boards BP810**





## GENERAL INFORMATION

**Basic Intel® Desktop Board BP810 Identification Information**

AA Revision	PBA Revision	BIOS Revision	Notes
748389-204	748398-204	BP81010A.86A.0007.P04	1-6
753187-202	753188-202	BP81010A.86A.0004.P01	1-6
753187-203	753188-203	BP81010A.86A.0006.P03	1-6
753187-204	753188-204	BP81010A.86A.0006.P03	1-6
753187-205	753188-205	BP81010A.86A.0007.P04	1-6
753187-206	753188-206	BP81010A.86A.0009.P05	1-6
753187-207	753188-207	BP81010A.86A.0009.P05	1-6

NOTES:

1. The PBA number or AA number is found on a small label on the component side of the board.
2. The 82810 Chipset kit used on this PBA revision consists of three components as follows:

Device	Stepping	S-Spec Numbers
82810 GMCH	A2	SL35X
82801AA/AB ICH	B0	SL38J
82802AB FWH	A0	SB48

3. The following errata are contained in the *Intel® Celeron™ Processor Specification Update* (Order Number 243748) for the Celeron processor and either do not apply to the BP810 desktop board or have been worked-around in this PBA and/or BIOS revision: None. All other errata associated with the processor apply to this PBA revision.
4. The following items are contained in the *Intel® 82810/82810-DC100 Graphics and Memory Controller Hub (GMCH) Specification Update* (Order Number 290659) and either do not apply to the BP810 desktop board or have been worked around in this PBA and/or BIOS revision: 1, 12. All other errata associated with the GMCH apply to this PBA revision.
5. The following items are contained in the *Intel® 82801 I/O Controller Hub Specification Update* (Order Number 290677) and either do not apply to the BP810 desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the ICH apply to this PBA revision.
6. The following items are contained in the *Intel® 82802 Firmware Hub Specification Update* (Order Number TBD) and either do not apply to the BP810 desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the FWH 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 BP810 desktop board. Intel intends to fix some of the errata in a future revision of the desktop board, 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 desktop board 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	Add telecommunications regulatory information
NO.	PLANS	ERRATA
1	Fixed	BIOS does not generate a warning for non-SPD memory
2	NoFix	Hardware monitor component does not monitor 3.3V standby current
3	NoFix	Real time clock and LAN do not wake computer from S5 state
4	Fixed	Keyboard inoperative after waking from ACPI S3 mode
5	Fixed	40 conductor cable will cause performance degradation with ATA-66 drives
6	NoFix	System BIOS will not report an error during power on self test when the diskette drive is disconnected
7	Fixed	System incorrectly reports the drive letter when a ZIP* drive is configured as a floppy drive
8	NoFix	User access limitations not accessible when supervisor password is set in BIOS
NO.	PLANS	DOCUMENTATION CHANGES
1	Doc	Remove reference to PCI bus connectors
2	Doc	Change to description of BIOS beep codes

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 erratum referred to by number in the table below are found in the ERRATA section of this document.

PBA Revision	BIOS Revision	Errata That Apply
748398-204	BP81010A.86A.0004.P01 <sup>†</sup>	1-8
	BP81010A.86A.0005.P02 <sup>†</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>†</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8
753188-202	BP81010A.86A.0004.P01 <sup>†</sup>	1-8
	BP81010A.86A.0005.P02 <sup>†</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>†</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8
753188-203	BP81010A.86A.0004.P01 <sup>†</sup>	1-8
	BP81010A.86A.0005.P02 <sup>†</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>†</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8
753188-204	BP81010A.86A.0004.P01 <sup>†</sup>	1-8
	BP81010A.86A.0005.P02 <sup>†</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>†</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8
753188-205	BP81010A.86A.0004.P01 <sup>†</sup>	1-8
	BP81010A.86A.0005.P02 <sup>†</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>†</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8

PBA Revision	BIOS Revision	Errata That Apply
753188-206	BP81010A.86A.0004.P01 <sup>‡</sup>	1-8
	BP81010A.86A.0005.P02 <sup>‡</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>‡</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8
753188-207	BP81010A.86A.0004.P01 <sup>‡</sup>	1-8
	BP81010A.86A.0005.P02 <sup>‡</sup>	1-3, 6-8
	BP81010A.86A.0006.P03 <sup>‡</sup>	2-3, 6-8
	BP81010A.86A.0007.P04	2-3, 6-8
	BP81010A.86A.0009.P05	2-3, 6-8
	BP81010A.86A.0010.P06	2-3, 6, 8

<sup>‡</sup> 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

### 1. Add Telecommunications Regulatory Information

#### 2.15.4 TELECOMMUNICATIONS REGULATORY INFORMATION

##### 2.15.4.1 Safety



#### WARNING

*To reduce the risk of fire, use only No. 26 AWG or larger telecommunication line cord.*

- Middle Path is the main construction option, developed to address the needs of the computer segment of the ITE/Telecom Industry. It allows basic construction features, which have a proven record of safety for the protection against over-voltage.
- Lithium Battery:



#### WARNING

*Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.*

##### 2.15.4.2 FCC Regulatory Information

- The BP810 desktop board complies with Part 68 of the Federal Communications Commission Rules. The BP810 desktop board has a label that contains, among other information, the FCC registration number, Facility Interface Code (FIC), ringer equivalence number (REN), and Service Order Code (SOC). This information must be provided to the telephone company.

FCC Registration No:	<u>EJMUSA-27678-M5-E</u>
FIC:	<u>TBD</u>
REN:	<u>0.0B</u>
SOC:	<u>TBD</u>
USOC Jack:	RJ-11 C Jack

- An FCC-compliant telephone cord and modular plug must be provided with the BP810 desktop board. The BP810 desktop board is designed to be connected to the telephone network or premises wiring using a compatible modular jack which is Part 68 compliant. See installation instructions for details.
- If the BP810 desktop board causes harm to the telephone network, the telephone company will notify you in advance that temporary discontinuance of service may be required. But, if advance notice is not practical, the telephone company will notify the customer as soon as possible. Also, you will be advised of your right to file a complaint with the FCC if you believe it is necessary.
- The telephone company may make changes in its facilities, equipment, operations, or procedures that could affect the operation of the BP810 desktop board. If this happens, the telephone company will provide advance notice in order for you to make necessary modifications in order to maintain uninterrupted service.
- If trouble is experienced with the BP810 desktop board please contact Customer Support at 800-628-8086. If the BP810 desktop board is causing harm to the network, the telephone company may request you to remove the BP810 desktop board from the network until the problem is resolved.
- No repairs are to be made by you. Repairs are to be made only by Intel Corporation or its licensees. Unauthorized repairs void registration and warranty.
- The BP810 desktop board cannot be used on public coin service provided by the telephone company. Connection to Party Line Service is subject to state tariffs. (Contact the state public utility commission, public service commission or corporation commission for information.)
- We suggest the customer install an AC surge arrestor in the AC outlet to which the BP810 desktop board is connected. Telephone companies report that electrical surges, typically lightning transients, are very destructive to customer terminal equipment connected to AC power sources and that this is a major nationwide problem.

### 2.15.4.3 Canadian Equipment Attachment Limitations

#### ⇒ NOTE

*The Industry Canada label identifies certified equipment. This certification means that the equipment meets telecommunications network protective, operational and safety requirements as prescribed in the appropriate Terminal Equipment Technical Requirements document(s). The department does not guarantee the equipment will operate to the user's satisfaction.*

- Before installing the BP810 desktop board, users should ensure that it is permissible to be connected to the facilities of the local telecommunications company. The BP810 desktop board must also be installed using an acceptable method of connection. The customer should be aware that compliance with the above conditions may not prevent degradation of service in some situations.
- Repairs to certified equipment should be coordinated by a representative designated by the supplier. Any repairs or alterations made by the user to this equipment, or equipment malfunctions, may give the telecommunications company cause to request the user to disconnect the equipment.
- Users should ensure for their own protection that the electrical ground connections of the power utility, telephone lines and internal metallic water pipe system, if present, are connected together. This precaution may be particularly important in rural areas.



#### WARNING

*Users should not attempt to make such connections themselves, but should contact the appropriate electric inspection authority, or electrician, as appropriate.*

#### ⇒ NOTE

*The ringer equivalence number (REN) assigned to each terminal device provides an indication of the maximum number of terminals allowed to be connected to a telephone interface. The termination on an interface may consist of any combination of devices subject only to the requirement that the sum of the ringer equivalence numbers of all the devices does not exceed 5.*

#### 2.15.4.4 New Zealand Requirements

##### 2.15.4.4.1 General Warning

The grant of a Telepermit for any item of terminal equipment indicates only that Telecom has accepted that the item complies with minimum conditions for connection to its network. It indicates no endorsement of the product by Telecom, nor does it provide any sort of warranty. Above all, it provides no assurance that any item will work correctly in all respects with another item of Telepermitted equipment of a different make or model, nor does it imply that any product is compatible with all of Telecom's network services.

The BP810 desktop board shall not be set up to make automatic calls to the Telecom '111' Emergency Service.

#### ⇒ NOTE

*Under power failure conditions, this telephone may not operate. Please ensure that a separate telephone, not dependent on local power, is available for emergency use.*

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. The associated equipment shall be set to operate within the following limits for compliance with Telecom's specifications:

- (a) There shall be no more than 10 calls to the same number within any 30 minute period for any single manual call initiation, and
- (b) The equipment shall go on-hook for a period of not less than 30 seconds between the end of one attempt and the beginning of the next attempt.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. In order to operate within the limits for compliance with Telecom's specifications, the associated equipment shall be set to ensure that automatic calls to different numbers are spaced such that there is no less than 5 seconds between the end of one call attempt and the beginning of another.

Some parameters required for compliance with Telecom's Telepermit requirements are dependent on the equipment (PC) associated with this device. In order to operate within the limits for compliance with Telecom's specifications, the associated equipment shall be set to ensure that calls are answered between 3 and 30 seconds of receipt of ringing.

##### 2.15.4.4.2 Compliance Testing (6) and (7) (Functional Tests)

This equipment is not capable, under all operating conditions, of correct operation at the higher speeds for which it is designed. Telecom will accept no responsibility should difficulties arise in such circumstances.

Note that the following sections will be renumbered accordingly.



## ERRATA

### 1. ***BIOS Does Not Generate a Warning for Non-SPD Memory***

**PROBLEM:** The BIOS does not generate a warning that non-SPD memory has been detected during the boot process.

**IMPLICATION:** A user may see less than optimal performance from a system using non-SPD DIMMs without being given the information needed to troubleshoot the problem.

**WORKAROUND:** None.

**STATUS:** This erratum was fixed in BIOS revision BP81010A.86A.0006.P03.

### 2. ***Hardware Monitor Component Does Not Monitor 3.3V Standby Current***

**PROBLEM:** The 3.3V standby level from the power supply is not monitored by the onboard hardware monitor component.

**IMPLICATION:** Actions that depend on the level of the 3.3V standby signal will not occur.

**WORKAROUND:** None.

**STATUS:** This erratum will not be fixed.

### 3. ***Real Time Clock and LAN Do Not Wake Computer From S5 State***

**PROBLEM:** The real time clock (RTC) and LAN components are not able to wake the computer from the ACPI S5 power state.

**IMPLICATION:** System applications that are dependent on the ability to wake the computer from an ACPI S5 power state will not function.

**WORKAROUND:** None.

**STATUS:** This erratum will not be fixed.

### 4. ***Keyboard Inoperative After Waking From ACPI S3 Mode***

**PROBLEM:** If the system goes into the S3 ACPI power state and then wakes from that state and the system is restarted in DOS mode, the keyboard will not be operative. PBA 753188 is not subject to this erratum.

**IMPLICATION:** Users who require ACPI S3 power management may not be able to enter DOS mode.

**WORKAROUND:** None.

**STATUS:** This erratum was fixed in BIOS revision BP81010A.86A.0005.P02.

### **5. *40 Conductor Cable Will Cause Performance Degradation with ATA66 Drives***

**PROBLEM:** If an ATA-66 hard drive is connected with a 40 conductor cable and DMA enabled in the Device Manager, performance degradation will occur.

**IMPLICATION:** Users will experience less than optimal performance if using a 40 conductor cable with an ATA-66 hard drive.

**WORKAROUND:** None.

**STATUS:** This erratum was fixed in BIOS revision BP81010A.86A.0005.P02.

### **6. *System BIOS will Not Report an Error During Power On Self Test When The Diskette Drive Is Disconnected***

**PROBLEM:** If the diskette drive is disconnected from the board, the system BIOS will not generate an error during POST and the system will continue to boot to the operating system.

**IMPLICATION:** The user will not be prompted to press F1 to continue the boot process during POST if the diskette drive is disconnected.

**WORKAROUND:** None.

**STATUS:** This erratum will not be fixed.

### **7. *System Incorrectly Reports The Drive Letter When a ZIP\* Drive is Configured as a Floppy Drive***

**PROBLEM:** If a ZIP\* drive is configured as a ARMD-FDD in the system BIOS Boot menu, the system will report the drive as Floppy drive D:. The system should report this as Floppy drive B:

**IMPLICATION:** If the user desires to use a ZIP drive as an ARMD-FDD, the incorrect Floppy drive will be displayed.

**WORKAROUND:** None.

**STATUS:** This erratum was fixed in BIOS revision BP81010A.86A.0010.P06.

### **8. *User Access Limitations Not Accessible When Supervisor Password is Set in BIOS***

**PROBLEM:** If the supervisor password is set, the User Access Level field in BIOS is inaccessible.

**IMPLICATION:** User access limitations may not be set if the supervisor password is used.

**WORKAROUND:** None.

**STATUS:** This erratum will not be fixed.

## DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to *the Intel® Desktop Board BP810 Technical Product Specification* (Order number 751306). All Documentation Changes will be incorporated into a future version of that specification.

### **1. Remove Reference to PCI Bus Connectors**

The desktop board BP810 does not include onboard PCI bus connectors. The reference to PCI bus connectors in Section 2.7 will be removed.

### **2. Change to Description of BIOS Beep Codes**

In Section 5.4, BIOS Beep Codes, paragraph 2 will be removed in its entirety.

