



# **Intel® Desktop Board D845EBG2 Specification Update**

Release Date: April 2003

Order Number: A98324-006

The Intel® Desktop Board D845EBG2 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.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. INTEL PRODUCTS ARE NOT INTENDED FOR USE IN MEDICAL, LIFE SAVING, LIFE SUSTAINING APPLICATIONS.

Intel may make changes to specifications and product descriptions at any time, without notice.

Designers must not rely on the absence or characteristics of any features or instructions marked "reserved" or "undefined". Intel reserves these for future definition and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to them.

The Intel® desktop board D845EBG2 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.

Contact your local Intel sales office or your distributor to obtain the latest specifications before placing your product order.

Copies of documents which have an ordering number and are referenced in this document, or other Intel literature, may be obtained from:

Intel Corporation  
P.O. Box 5937  
Denver, CO 80217-9808

or call in North America 1-800-548-4725, Europe 44-0-1793-431-155, France 44-0-1793-421-777,  
Germany 44-0-1793-421-333, other Countries 708-296-9333

Intel, Pentium, Celeron, and the Intel logo are trademarks or registered trademarks of Intel Corporation or its subsidiaries in the United States and other countries.

\* Other names and brands may be claimed as the property of others.

Copyright © 2002, 2003, Intel Corporation.

# CONTENTS

REVISION HISTORY .....	v
PREFACE .....	vi
<b>Specification Update for the Intel® Desktop Board D845EBG2</b>	
GENERAL INFORMATION .....	3
ERRATA.....	5
SPECIFICATION CHANGES .....	6





## REVISION HISTORY

Date of Revision	Version	Description
June 2002	-001	This document is the first Specification Update for the Intel® Desktop Board D845EBG2.
September 2002	-002	Added Erratum 1. Removed Printed Board Assembly (PBA) information from the document, as this reference is no longer valid. Updated the Legal Disclaimer Section.
October 2002	-003	Added Erratum 2.
February 2003	-004	Added Erratum 3. Added Documentation Change 1.
March 2003	-005	Added Erratum 4. Added Documentation Change 2, 3.
April 2003	-006	Added Documentation Change 4.

## PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D845EBG2 Technical Product Specification* (Order number A84913). 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® Pentium® 4 Processor Specification Update* (Order number 249199) for specification updates concerning the Intel Pentium 4 processor and that may apply to the desktop board D845EBG2. Unless otherwise noted in this document, it should be assumed that any processor errata for a given stepping are applicable to the Altered Assembly (AA) revision(s) associated with that stepping.

Refer to the *Intel® 845 Chipset: 82845 Memory Controller Hub (MCH) for DDR Specification Update* (Order Number 298603) for specification updates concerning the 82845E MCH Controller and that may apply to the desktop board D845EBG2. Unless otherwise noted in this document, it should be assumed that any MCH errata for a given stepping are applicable to the Altered Assembly (AA) revision(s) associated with that stepping.

Refer to the *Intel® 82801DB I/O Controller Hub 4 (ICH4) Specification Update* (Order Number 290745) for specification updates concerning the 82801DB I/O Controller Hub and that may apply to the desktop board D845EBG2. Unless otherwise noted in this document, it should be assumed that any ICH 4 errata for a given stepping are applicable to the Altered Assembly (AA) 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 desktop board D845EBG2's behavior to deviate from published specifications. Hardware and software designed to be used with any given Altered Assembly (AA) and BIOS revision level must assume that all errata documented for that AA 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 the  
Intel® Desktop Board D845EBG2**





## GENERAL INFORMATION

**Basic Desktop Board D845EBG2 Identification Information**

AA Revision	BIOS Revision	Notes
A83973-204	PT84520A.86A.0005.P01	1-5
A83973-205	PT84520A.86A.0006.P02	1-5
A83973-206	PT84520A.86A.0009.P04	1-5
A83973-207	PT84520A.86A.0011.P06	1-5
A83975-204	PT84520A.86A.0005.P01	1-5
A83975-205	PT84520A.86A.0006.P02	1-5
A83975-206	PT84520A.86A.0009.P04	1-5
A83975-207	PT84520A.86A.0011.P06	1-5
A83979-204	PT84520A.86A.0005.P01	1-5
A83979-205	PT84520A.86A.0006.P02	1-5
A83979-206	PT84520A.86A.0009.P04	1-5
A83979-207	PT84520A.86A.0011.P06	1-5

NOTES:

1. The AA number is found on a small label on the component side of the board.
2. The 82845E Chipset kit used on this AA revision consists of three components as follows:

Device	Stepping	S-Spec Numbers
82845E MCH	E0	SL66N
82801BA ICH	A1	SL66K
N82802AB8 4Mbit FWH	A0 A1	SB48

3. Refer to the *Intel® Pentium® 4 Processor Specification Update* (Order Number 249199) for errata related to the Pentium 4 processor and that may apply to the desktop board D845EBG2.
4. Refer to the *Intel® 845 Chipset: 82845 Memory Controller Hub (MCH) for DDR Specification Update* (Order Number 298603) for errata related to the 82845E MCH that may apply to the desktop board D845EBG2.
5. Refer to the *Intel® 82801DB I/O Controller Hub 4 (ICH4) Specification Update* (Order Number 290745) for errata related to the 82801DB I/O Controller Hub that may apply to the desktop board D845EBG2.

## Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the desktop board D845EBG2. 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.
PlanFix:	This erratum is intended to be fixed in a future revision of the desktop board, driver, 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	ERRATA
1.	Fixed	Intel® 82801DB I/O Controller Hub 4 (ICH 4) Erratum 7
2	PlanFix	Wake from an ACPI sleep state using wake methodologies may fail
3	PlanFix	Intel 82801DB I/O Controller Hub 4 (ICH 4) Erratum 8
4	PlanFix	Supervisor Password Cleared When 256MB or Greater System Memory is Used
NO.	PLANS	DOCUMENTATION CHANGES
1	Doc	Change to description of Table 40, Section 2.8.3, External I/O Connectors
2	Doc	Removed Note That Specifies USB 2.0 Support Limited to Windows* 2000 and Windows XP From Section 1.8.2, USB
3	Doc	Removed ESCD Format Reference From Section 3.3.1, PCI Autoconfiguration
4	Doc	Add Alert Standard Format Specification Version 1.03 Dated June 20, 2001 to Section 1.5, Design Specifications.

## ERRATA

### 1. *Intel® 82801DB I/O Controller Hub 4 (ICH 4) Erratum 7*

**PROBLEM:** For a complete description of the ICH 4 erratum 7, see the Intel® 82801DB I/O Controller Hub 4 (ICH 4) Specification Update, order number 290745 found at <http://developer.intel.com/design/chipsets/specupdt>.

**IMPLICATION:** For a complete description of the ICH 4 erratum 7, see the Intel 82801DB I/O Controller Hub 4 (ICH 4) Specification Update, order number 290745 found at <http://developer.intel.com/design/chipsets/specupdt>.

**WORKAROUND:** None.

**STATUS:** This erratum was fixed in the B0 chipset stepping.

### 2. *Wake From an ACPI Sleep State Using Wake Methodologies May Fail*

**PROBLEM:** The desktop board hardware leaves the LAN RESET (LAN\_RST#) signal unasserted before and after the resume well power (VccSus3\_3 and VccSus1\_5) is valid, instead of asserting it for 10 ms after valid power, which is required by the Intel 82801DB I/O Controller Hub 4 (ICH4) Datasheet (order number 290744). The result is that LAN wake attempts may fail.

**NOTE:** Wake from LAN\* using the MagicPacket\* utility will not be affected by this errata.

**IMPLICATION:** Users that take advantage of LAN wake methods to wake systems from an ACPI sleep state may experience some wake failures.

**WORKAROUND:** None.

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

### 3. *Intel 82801DB I/O Controller Hub 4 (ICH 4) Erratum 8*

**PROBLEM:** For a complete description of the ICH 4 erratum 8, see the Intel 82801DB I/O Controller Hub 4 (ICH 4) Specification Update, order number 290745 found at <http://developer.intel.com/design/chipsets/specupdt>.

**IMPLICATION:** For a complete description of the ICH 4 erratum 8, see the Intel 82801DB I/O Controller Hub 4 (ICH 4) Specification Update, order number 290745 found at <http://developer.intel.com/design/chipsets/specupdt>.

**WORKAROUND:** None.

**STATUS:** This erratum may be fixed in a future chipset stepping.



**4. *Supervisor Password Cleared When 256MB or Greater System Memory is Used***

**PROBLEM:** If 256MB or more system memory is added to a system the Supervisor password is cleared.

**IMPLICATION:** Supervisor password cannot be used with 256MB or more of system memory.

**WORKAROUND:** None.

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

## DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to the *Intel® Desktop Board D845EBG2 Technical Product Specification* (Order Number A84913). All Documentation Changes will be incorporated into a future version of that specification.

### 1. **Change to Description of Table 40, Section 2.8.3, External I/O Connectors**

Table 40, Section 2.8.3, External I/O Connectors will change in its entirety as follows:

**Table 1. Front Panel Audio Connector**

Pin	Signal Name	Pin	Signal Name
1	MIC_IN_FP	2	Ground
3	MIC_BIAS	4	V_5P0_AUD_ANALOG
5	R_FNTOUT	6	R_RETIN
7	Not Connected	8	Key
9	L_FNT_OUT	10	L_RETIN

### 2. **Removed Note That Specifies USB 2.0 Support Limited to Windows\* 2000 and Windows XP From Section 1.8.2, USB**

The following note will be removed in its entirety from Section 1.8.2, USB:

**NOTE**

*USB 2.0 support has been tested with Windows 2000 and Windows XP drivers and is not currently supported by any other operating system.*

### 3. **Removed ESCD Format Reference From Section 3.3.1, PCI Autoconfiguration**

Remove the sentence "Autoconfiguration information is stored in ESCD format." from Section 3.3.1, PCI Autoconfiguration.

**4. Add Alert Standard Format Specification Version 1.03 Dated June 20, 2001 to Section 1.5, Design Specifications**

The following specification will be added to table 4, Section 1.5, Design Specifications:

<b>Reference Name</b>	<b>Specification Title</b>	<b>Version, Revision Date, and Ownership</b>	<b>The information is available from...</b>
ASF	<i>Alert Standard Format Specification</i>	Version 1.03, June 20, 2001, Distributed Management Task Force (DMTF).	<a href="http://www.dmtf.org/standards/documents/ASF/DSP0114.pdf">http://www.dmtf.org/standards/documents/ASF/DSP0114.pdf</a>