



Intel® Desktop Board D845PESV Specification Update

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The Intel® Desktop Board D845PESV 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 Intel® desktop board D845PESV 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

Date of Revision	Version	Description
November 2002	-001	This document is the first Specification Update for the Intel® Desktop Board D845PESV.
December 2002	-002	Added Erratum 1.
February 2003	-003	Added Erratum 2. Added Documentation Change 1.
March 2003	-004	Added Erratum 3. Added Documentation Change 2, 3.
April 2003	-005	Added Documentation Change 4.
May 2003	-006	Added Specification Clarification 1.

PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D845PESV Technical Product Specification* (Order Number C14583). 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 D845PESV. 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® 845GE/845PE Chipset Specification Update* (Order Number 251955) for specification updates concerning the 82845PE MCH Controller and that may apply to the desktop board D845PESV. 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 D845PESV. Unless otherwise noted in this document, it should be assumed that any ICH 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 D845PESV'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 D845PEV**

GENERAL INFORMATION

Basic Desktop Board D845PESV Identification Information

AA Revision	BIOS Revision	Notes
A97654-104	SV84510A.86A.0006.P02	1-5
A97654-105	SV84510A.86A.0010.P06	1-5
A97654-106	SV84510A.86A.0013.P08	1-5
A97654-107	SV84510A.86A.0013.P08	1-5
A97669-105	SV84510A.86A.0006.P02	1-5
A97669-106	SV84510A.86A.0008.P04	1-5
A97669-107	SV84510A.86A.0008.P04	1-5
A97669-108	SV84510A.86A.0013.P08	1-5
A97669-109	SV84510A.86A.0013.P08	1-5
A97671-104	SV84510A.86A.0006.P02	1-5
A97671-105	SV84510A.86A.0008.P04	1-5
A97671-106	SV84510A.86A.0008.P04	1-5
A97671-107	SV84510A.86A.0013.P08	1-5
A97671-108	SV84510A.86A.0013.P08	1-5

NOTES:

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

Device	Stepping	S-Spec Numbers
82845PE MCH	A0	SL6H5
82801DB ICH	B0	SL6DM
82802AB 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 D845PESV
4. Refer to the *Intel® 845GE/845PE Chipset: Specification Update* (Order Number 251955) for errata related to the 82845PE MCH that may apply to the desktop board D845PESV
5. Refer to the *Intel® 82801DB I/O Controller Hub 4 (ICH) Specification Update* (Order Number 290745) for errata related to the 82801DB I/O Controller Hub that may apply to the desktop board D845PESV

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the desktop board D845PESV. 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 may 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	Fan control defaults incorrectly set in BIOS for onboard hardware management ASIC
2	PlanFix	Intel® 82801DB I/O Controller Hub 4 (ICH 4) Erratum 8
3	PlanFix	Supervisor password cleared when 256MB or greater system memory is used
NO.	PLANS	SPECIFICATION CLARIFICATIONS
1	Doc	Clarification of SMBus routing
NO.	PLANS	DOCUMENTATION CHANGES
1	Doc	Change to description of Table 20, Section 2.8.2.2, Audio, Power, and Hardware Control 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. ***Fan Control Defaults Incorrectly Set in BIOS for Onboard Hardware Management ASIC***

PROBLEM: Default BIOS settings on desktop boards that implement the Intel® Precision Cooling Technology fan control are incorrect, which could result in improper system cooling.

IMPLICATION: The maximum front and rear system chassis fan speeds are limited to 30% of maximum, irrespective of the actual chassis temperature. Under certain circumstances, this fan speed limitation may not provide adequate system cooling.

NOTE: The CPU fan is not controllable by the desktop board and is not directly impacted.

WORKAROUND: Disable fan control by changing the 'FAN CONTROL' setting to "Disabled" in the BIOS setup menu under the 'ADVANCED' tab, 'FAN CONFIGURATION' menu. This will allow the system fans to run at full speed, which will allow maximum system cooling.

STATUS: This erratum was fixed in BIOS revision SV84510A.86A.0009.P05.

2. ***Intel® 82801DB I/O Controller Hub 4 (ICH4) 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.

3. ***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.

SPECIFICATION CLARIFICATIONS

The Specification Clarifications listed in this section apply to the *Desktop Board D845PESV Technical Product Specification* (Order Number C14583). All Specification Clarifications will be incorporated into a future version of that specification.

1. Clarification of SMBus Routing

Section 2.8.2.1 will change in its entirety as follows:

2.8.2.1 Expansion Slots

The board has the following expansion slots:

- One AGP connector. The AGP connector is keyed for 1.5 V AGP cards only. Do not install a legacy 3.3 V AGP card. The AGP connector is not mechanically compatible with legacy 3.3 V AGP cards.
- PCI rev 2.2 compliant local bus slots (six on the Desktop Board D845PESV, three on the Desktop Board D845PECE). The SMBus is routed to PCI bus connector 2 only (ATX expansion slot 6). PCI add-in cards with SMBus support can access sensor data and other information residing on the Desktop Board.
- One CNR (optional), shared with PCI bus connector 6 (ATX expansion slot 1) on the Desktop Board D845PESV, or with PCI bus connector 3 (ATX expansion slot 1) on the Desktop Board D845PECE.

NOTE

The SMBus routing to the PCI bus connectors does not conform to the PCI Engineering Change Notice (ECN) “Addition of the SMBus to the PCI Connector ECN”, dated October 5th, 2000. The ECN specifies that SMBus signals must be routed to all PCI bus connectors. On this board, SMBus signals are routed to PCI bus connector 2 only.

Add-in cards that implement PCI bus connector pins A40 and A41 for any purpose other than SMBCLK (SMBus clock) and SMBDAT (SMBus data) should not be installed in PCI bus connector 2.

For information about

Addition of the SMBus to the PCI Connector ECN

Refer to

http://www.pcisig.com/data/specifications/smb_ecn_040501.pdf

 **NOTE**

This document references back-panel slot numbering with respect to processor location on the board. The AGP slot is not numbered. PCI slots are identified as PCI slot #x, starting with the slot closest to the processor. The CNR slot shares an ATX expansion; slot 6 on the D845PESV board and slot 3 on the D845PECE board. The ATX/MicroATX specifications identify expansion slot locations with respect to the far edge of a full-sized ATX chassis. The ATX specification and the board's silkscreen are opposite and could cause confusion. The ATX numbering convention is made without respect to slot type (PCI vs. AGP), but refers to an actual slot location on a chassis. Figure 13 (page 61) and Figure 12 (page 60) illustrate the board's PCI slot numbering.

DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to the *Desktop Board D845PESV Technical Product Specification* (Order Number C14583). All Documentation Changes will be incorporated into a future version of that specification.

1. ***Change to Description of Table 20, Section 2.8.2.2, Audio, Power, and Hardware Control Connectors***

Table 20, Section 2.8.2.2, Audio, Power, and Hardware Control Connectors will change in its entirety as follows:

Table 21. Front Panel Audio Connector

Pin	Signal Name	Pin	Signal Name
1	MIC_IN	2	Ground
3	MIC_BIAS	4	+5 V
5	RIGHT_OUT	6	RIGHT_IN
7	Not Connected	8	Key
9	LEFT_OUT	10	LEFT_IN

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:

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