



# **Intel® Desktop Board D845GVAD2 Specification Update**

Release Date: November 2003

Order Number: C23203-006

The Intel® Desktop Board D845GVAD2 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 D845GVAD2 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 D845GVAD2.
February 2003	-002	Added Erratum 1. Added Documentation Change 1, 2.
March 2003	-003	Added Erratum 2. Added Documentation Change 3, 4.
April 2003	-004	Added Documentation Change 5.
July 2003	-005	Added Specification Change 1.
November 2003	-006	Added Specification Clarification 1.

## PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D845GVAD2 Technical Product Specification* (Order number C14582). 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 D845GVAD2. 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® 845G/845GL/845GV Chipset Specification Update* (Order Number 298657) for specification updates concerning the 82845GV GMCH Controller and that may apply to the desktop board D845GVAD2. 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 D845GVAD2. 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 D845GVAD2'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 D845GVAD2**





## GENERAL INFORMATION

Basic Desktop Board D845GVAD2 Identification Information

AA Revision	BIOS Revision	Notes
C18467-103	LY84510A.86A.0022.P08	1-5
C18467-104	LY84510A.86A.0023.P09	1-5
C18467-105	LY84510A.86A.0038.P15	1-5
C18472-103	LY84510A.86A.0022.P08	1-5
C18472-104	LY84510A.86A.0023.P09	1-5
C18472-105	LY84510A.86A.0038.P15	1-5
C18931-102	LY84510A.86A.0022.P08	1-5
C18931-103	LY84510A.86A.0023.P09	1-5
C18931-104	LY84510A.86A.0038.P15	1-5
C18934-104	LY84510A.86A.0022.P08	1-5
C18934-105	LY84510A.86A.0023.P09	1-5
C18934-106	LY84510A.86A.0038.P15	1-5

NOTES:

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

Device	Stepping	S-Spec Numbers
RG82845GV GMCH	A1 B1	SL6NR SL6PU
82801DB ICH	A1 B0	SL66K SL6DM
82802AB FWH	A1	SB48

- 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 D845GVAD2.
- Refer to the *Intel® 845 Chipset: 82845 Graphics Memory Controller Hub (GMCH) Specification Update* (Order Number 298657) for errata related to the 82845GV GMCH that may apply to the desktop board D845GVAD2.
- 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 D845GVAD2.

## Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the desktop board D845GVAD2. 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	SPECIFICATION CHANGES
1	Doc	Change to Section 4.3, Main Menu, BIOS Setup Program
NO.	PLANS	ERRATA
1	NoFix	Intel® 82801DB I/O Controller Hub 4 (ICH 4) Erratum 8
2	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 21, Section 2.8.2.2, Audio, Power, and Hardware Control Connectors
2	Doc	Change to Description of Section 1.5 Design Specifications, Table 3: ACPI
3	Doc	Removed note that specifies USB 2.0 support limited to Windows* 2000 and Windows XP from Section 1.8.2, USB
4	Doc	Removed ESCD format reference from Section 3.3.1, PCI Auto configuration
5	Doc	Add Alert Standard Format Specification Version 1.03 Dated June 20, 2001 to Section 1.5, Design Specifications

## SPECIFICATION CHANGES

The Specification Changes listed in this section apply to the *Desktop Board D845GVAD2 Technical Product Specification* (Order Number C14582). All Specification Changes will be incorporated into a future version of that specification.

### 1. Change to Section 4.3, Main Menu, BIOS Setup Program

Section 4.3, Main Menu of the BIOS setup program will change in its entirety as follows:

## 4.3 Main Menu

To access this menu, select Main on the menu bar at the top of the screen.

Maintenance	<b>Main</b>	Advanced	Security	Power	Boot	Exit
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Table 50 describes the Main menu. This menu reports processor, memory, and Desktop Management Interface (DMI) information and is for configuring the system date and system time.

**Table 50. Main Menu**

Feature	Options	Description
BIOS Version	No options	Displays the version of the BIOS.
Processor Type	No options	Displays processor type.
Processor Speed	No options	Displays processor speed.
System Bus Speed	No options	Displays the system bus speed.
System Memory Speed	No options	Displays the system memory speed.
Cache RAM	No options	Displays the size of second-level cache.
Total Memory	No options	Displays the total amount of RAM.
Memory Bank 0 Memory Bank 1	No options	Displays the amount and type of RAM in the memory banks.
Language	<ul style="list-style-type: none"> <li>English (default)</li> <li>Español</li> </ul>	Selects the current default language used by the BIOS.
►Additional System Information	<ul style="list-style-type: none"> <li>No options</li> </ul>	Displays the system DMI Information
System Time	Hour, minute, and second	Specifies the current time.
System Date	Day of week Month/day/year	Specifies the current date.

Note: BIOS revision VA84510A.86A.0014.P05 or later is needed to support the Additional System Information submenu.

## ERRATA

### 1. **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.

### 2. **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 D845GVAD2 Technical Product Specification* (Order Number C14582). 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 Desktop Board has four PCI rev 2.2 compliant local bus slots. The SMBus is routed to PCI bus connector 2.

#### 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](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 Desktop Board. PCI slots are identified as PCI slot #x, starting with the slot closest to the processor. 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 Desktop Board’s silkscreen are opposite and could cause confusion. The ATX numbering convention is made without respect to slot type, but refers to an actual slot location on a chassis. Figure 6 on page 53 illustrates the Desktop Board’s PCI slot numbering.*

## DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to the *Desktop Board D845GVAD2 Technical Product Specification* (Order Number C14582). All Documentation Changes will be incorporated into a future version of that specification.

### 1. ***Change to Description of Table 21, Section 2.8.2.2, Audio, Power, and Hardware Control Connectors***

Table 21, 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. ***Change to Description of Section 1.5 Design Specifications, Table 3: ACPI***

The ACPI specification reference in Section 1.5, Design Specifications, Table 3, will change as follows:

ACPI	<i>Advanced Configuration and Power Interface Specification</i>	Version 1.0b, July 01, 1998, Intel Corporation, Microsoft Corporation, and Toshiba Corporation.	<a href="http://www.acpi.info/spec.htm">http://www.acpi.info/spec.htm</a>
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### 3. ***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.*

#### 4. ***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.

#### 5. ***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 3, 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).	<a href="http://www.dmtf.org/standards/documents/ASF/DSP0114.pdf">http://www.dmtf.org/standards/documents/ASF/DSP0114.pdf</a>