



Intel® Desktop Board D845GLVA Specification Update

Release Date: November 2003

Order Number: C33040-005

The Intel® Desktop Board D845GLVA 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 D845GLVA 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 HISTORYv

PREFACEvi

Specification Update for the Intel® Desktop Board D845GLVA

GENERAL INFORMATION3

SPECIFICATION CHANGES5

ERRATA.....6

SPECIFICATION CLARIFICATIONS.....7

DOCUMENTATION CHANGES9

REVISION HISTORY

| Date of Revision | Version | Description |
|------------------|---------|--|
| March 2003 | -001 | This document is the first Specification Update for the Intel® Desktop Board D845GLVA. |
| April 2003 | -002 | Added Documentation Change 1. |
| May 2003 | -003 | Added Specification Change 1. |
| October 2003 | -004 | Added Errata 1, 2. |
| November 2003 | -005 | Updated Erratum 1, 2. Added Erratum 3. Added Specification Clarification 1. |

PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D845GLVA Technical Product Specification* (Order number C30525). 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 D845GLVA. 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 SDR Specification Update* (Order Number 298589) for specification updates concerning the 82845GL MCH Controller and that may apply to the desktop board D845GLVA. 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 D845GLVA. 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 D845GLVA'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 D845GLVA

GENERAL INFORMATION

Basic Desktop Board D845GLVA Identification Information

| AA Revision | BIOS Revision | Notes |
|-------------|-----------------------|-------|
| C28827-202 | VA84510A.86A.0006.P02 | 1-5 |
| C28827-203 | VA84510A.86A.0008.P03 | 1-5 |
| C28827-204 | VA84510A.86A.0008.P03 | 1-5 |

NOTES:

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

| Device | Stepping | S-Spec Numbers |
|--------------|----------|----------------|
| 82845GL GMCH | B1 | SL6PT |
| 82801DB ICH | B0 | 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 D845GLVA.
- Refer to the *Intel® 845 Chipset: 82845 Memory Controller Hub (MCH) Specification Update* (Order Number 298589) for errata related to the 82850/82850E MCH that may apply to the desktop board D845GLVA.
- 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 D845GLVA.

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the desktop board D845GLVA. 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. |
| Plan Fix: | This erratum may be fixed in a future revision of the desktop board, driver, or BIOS. |
| Fixed: | This erratum has been previously fixed. |
| No Fix: | 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 | Fixed | Some UDMA 6 hard disk drives may not operate properly |
| 2 | Fixed | PCI add-In video cards will not function as the primary video adapter |
| 3 | Fixed | PCI Video add-in cards will not display video when used as a stand alone video solution |
| NO. | PLANS | SPECIFICATION CLARIFICATIONS |
| 1 | Doc | Clarification of SMBus routing |
| NO. | PLANS | DOCUMENTATION CHANGES |
| 1 | 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 D845GLVA Technical Product Specification* (Order Number C30525). 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 | Main | Advanced | Security | Power | Boot | Exit |
|-------------|-------------|----------|----------|-------|------|------|

Table 49 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 49. 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"> English (default) Español | Selects the current default language used by the BIOS. |
| ► Additional System Information | <ul style="list-style-type: none"> No options | 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. *Some UDMA 6 Hard Disk Drives May Not Operate Properly*

PROBLEM: Some ATA-133 (UDMA 6) hard disk drives may not be properly recognized by the system BIOS to set the proper drive setting for ATA-100 (UDMA 5) operation that is supported by the Intel® D845GEBV2 desktop board.

IMPLICATION: If the ATA-133 hard disk drive is not properly set to UDMA 5 in the BIOS Setup/Advanced/IDE Configuration submenu, the user may experience failed operating system installation or other data corruption issues.

WORKAROUND: In the BIOS Setup/Advanced/IDE Configuration sub menu, the UDMA setting can be manually changed to UDMA 5.

STATUS: This issue was fixed in BIOS revision VA84510A.86A.0023.P08.

2. *PCI Add-In Video Cards Will Not Function as the Primary Video Adapter*

PROBLEM: If PCI is chosen as the primary video adapter option in the Advanced/Video Configuration submenu of BIOS Setup, the video adapter will not function.

IMPLICATION: Users that desire to have either PCI only video adapters or have multiple video adapters such as a PCI video adapter in conjunction with the onboard AGP video, cannot set the PCI adapter as the primary video adapter in BIOS setup.

WORKAROUND: Ensure that the Primary Video Adapter is set to "Integrated" in BIOS setup.

STATUS: This issue was fixed in BIOS revision VA84510A.86A.0023.P08.

3. *PCI Video Add-in Cards Will Not Display Video When Used as a Stand Alone Video Solution*

PROBLEM: If an add-in PCI video card is used without an AGP video adapter and PCI is selected as primary video in the BIOS configuration menu, no video will be displayed.

IMPLICATION: Users who intend to utilize a PCI add-in video card as the sole device will not have video capability.

WORKAROUND: None

STATUS: This issue was fixed in BIOS revision VA84510A.86A.0023.P08.

SPECIFICATION CLARIFICATIONS

The Specification Clarifications listed in this section apply to the *Desktop Board D845GLVA Technical Product Specification* (Order Number C30525). 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 three 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

INTEGRATOR’S 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 D845GLVA Technical Product Specification* (Order Number C30525). All Documentation Changes will be incorporated into a future version of that specification.

1 *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). | http://www.dmtf.org/standards/documents/ASF/DSP0114.pdf |