Intel® Desktop Board D845GRG Product Supplement Specification Update

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Order Number: A98276-007

The Intel® Desktop Board D845GRG 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 D845GRG 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
June 2002	-001	This document is the first Product Supplement Specification Update for the Intel® Desktop Board D845GRG.
September 2002	-002	Added Erratum 1. Removed Printed Board Assembly (PBA) information from the document, as this reference is no longer valid. Updated Legal Disclaimer Section.
October 2002	-003	Added Specification Change 1. Added Erratum 2.
February 2003	-004	Added Errata 3-5. Added Documentation Change 3.
March 2003	-005	Added Errata 6-8. Added Documentation Changes 4, 5.
April 2003	-006	Added Documentation Change 6.
November 2003	-007	Added Specification Clarification 1.

PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D845GRG Product Supplement Document* (Order number A85837). 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 D845GRG. 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 82845G MCH Controller and that may apply to the desktop board D845GRG. 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 D845GRG. 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 D845GRG'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.

Product Supplement Specification Update for the Intel® Desktop Board D845GRG

GENERAL INFORMATION

Basic Desktop Board D845GRG Identification Information

AA Revision	BIOS Revision	Notes
A84341-203	RG84510A.86A.0006.P01	1-5
A84341-204	RG84510A.86A.0007.P02	1-5
A84341-205	RG84510A.86A.0009.P04	1-5
A84341-300	RG84510A.86A.0009.P04	1-5
A84341-301	RG84510A.86A.0009.P04	1-5
A84341-302	RG84510A.86A.0017.P09	1-5
A84341-303	RG84510A.86A.0017.P09	1-5
A84343-202	RG84510A.86A.0006.P01	1-5
A84343-203	RG84510A.86A.0007.P02	1-5
A84343-204	RG84510A.86A.0009.P04	1-5
A84343-300	RG84510A.86A.0009.P04	1-5
A84343-301	RG84510A.86A.0009.P04	1-5
A84343-302	RG84510A.86A.0017.P09	1-5
A84343-303	RG84510A.86A.0017.P09	1-5
A84534-202	RG84510A.86A.0006.P01	1-5
A84534-203	RG84510A.86A.0007.P02	1-5
A84534-204	RG84510A.86A.0009.P04	1-5
A84534-300	RG84510A.86A.0009.P04	1-5
A84534-301	RG84510A.86A.0009.P04	1-5
A84534-302	RG84510A.86A.0017.P09	1-5
A84534-303	RG84510A.86A.0017.P09	1-5
A84536-202	RG84510A.86A.0006.P01	1-5
A84536-203	RG84510A.86A.0007.P02	1-5
A84536-204	RG84510A.86A.0009.P04	1-5
A84536-300	RG84510A.86A.0009.P04	1-5
A84536-301	RG84510A.86A.0009.P04	1-5
A84536-302	RG84510A.86A.0017.P09	1-5
A84536-303	RG84510A.86A.0017.P09	1-5

NOTES:

1. The AA number is found on a small label on the component side of the board.

2. The 82845G Chipset kit used on this AA revision consists of three components as follows:

Device	Stepping	S-Spec Numbers
RG82845 GMCH	A1	SL66F
82801DB ICH	A1	SL66K
82802AB FWH	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 D845GRG.
4. Refer to the *Intel® 845G/845GL/845GV Chipset Specification Update* (Order Number 298657) for errata related to the 82845G MCH that may apply to the desktop board D845GRG.
5. Refer to the *Intel® 82801DB I/O Controller Hub 4 (ICH4) Specification Update* (Order Number 290745) for errata related to the 82802DB I/O Controller Hub that may apply to the desktop board D845GRG.

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the desktop board D845GRG. 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	Support for faster Intel® Pentium® 4 processors
NO.	**PLANS**	**ERRATA**
1	Fixed	Refer to the *Intel® Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
2	Fixed	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
3	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
4	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
5	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
6	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
7	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
8	PlanFix	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this erratum.
NO.	**PLANS**	**SPECIFICATION CLARIFICATIONS**
1	Doc	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Specification Clarification.
NO.	**PLANS**	**DOCUMENTATION CHANGES**
1	Doc	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Documentation Change.

NO.	PLANS	DOCUMENTATION CHANGES (Cont.)
2	Doc	Refer to the *Intel® Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Documentation Change.
3	Doc	Change to description of Table 4, Section 2.2.2.2, Audio, Power, and Hardware Control Connectors
4	Doc	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Documentation Change.
5	Doc	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Documentation Change.
6	Doc	Refer to the *Intel Desktop Board 845G Chipset Family Specification Update* (Order number (A98271) for this Documentation Change.

SPECIFICATION CHANGES

The Specification Changes listed in this section apply to the *Product Supplement Document for the Intel® Desktop Board D845GRG* (Order Number A85837). All Specification Changes will be incorporated into a future version of that specification.

1. Support For Faster Intel® Pentium® 4 Processors

1.5 Processor Support

⚠ CAUTION

Use only the processors listed below. Use of unsupported processors can damage the Desktop Board, the processor, and the power supply. See the Specification Update for Intel® Desktop Boards using the Intel® 845G Chipset *for the most up-to-date list of supported processors for these boards.*

The Desktop Boards provide a µPGA478 processor socket. Table 1 lists the supported processors. All supported onboard memory can be cached. See the processor's data sheet for cachability limits.

Table 1. Supported Processors

Type/Package	Designation	System Bus	L2 Cache Size
Celeron® processor	1.7, 1.8, and 1.9 GHz	400 MHz	128 KB
Pentium® 4 processor	1.4, 1.5, 1.6, 1.7, 1.8, 1.9, and 2 GHz	400 MHz	256 KB
Pentium 4 processor	1.6A, 1.8A, 2A, 2.20, 2.4, 2.50, and 2.60GHz	400 MHz	512 KB
Pentium 4 processor	2.26, 2.40B, 2.53, 2.66, and 2.80 GHz	533 MHz	512 KB

✎ NOTE

BIOS revision RG84510A.86A.0013.P06 or greater is required to properly support 2.50 GHz Pentium® 4 or greater processors.

INTEGRATOR'S NOTES

- *Use only ATX12V-compliant power supplies with this Desktop Board. ATX12V power supplies have an additional power lead that provides required supplemental power for the processor. Always connect the 20-pin and 4-pin leads of ATX12V power supplies to the corresponding connectors on the Desktop Board, otherwise the Desktop Board will not boot.*
- *Do not use a standard ATX power supply. The Desktop Board will not boot with a standard ATX power supply.*

DOCUMENTATION CHANGES

The Documentation Changes listed in this section apply to the *Product Supplement Document for the Intel® Desktop Board D845GRG* (Order Number A85837). All Documentation Changes will be incorporated into a future version of that specification.

3. Change to Description of Table 4, Section 2.2.2.2, Audio, Power, and Hardware Control Connectors

Table 4, Section 2.2.2.2, Audio, Power, and Hardware Control Connectors in the Product Supplement Document for the Intel Desktop Board D845GRG (order number A85837), will change in its entirety as follows:

Table 4. 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