



# **D850GB Desktop Board Specification Update**

Release Date: November 2000

Order Number: A47761-001

The D850GB desktop board 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 D850GB desktop board 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**

<b>Date of Revision</b>	<b>Version</b>	<b>Description</b>
November 2000	-001	This document is the first Specification Update for the Intel® D850GB desktop board. Added Errata 1-2 and Document Change 1-3.

## PREFACE

This document is an update to the specifications contained in the D850GB Desktop board Technical Product Specification (Order number *A26080*). 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® Celeron™ Processor Specification Update* (Order number 243748) for specification updates concerning the Intel Celeron processor. Items contained in the *Intel Celeron Processor Specification Update* that either do not apply to the D850GB desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any processor errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82850 Chipset: 82850 Graphics and Memory Controller Hub (GMCH) Specification Update* (Order Number TBD) for specification updates concerning the 82850 GMCH Controller. Items contained in the *82850 GMCH Specification Update* that either do not apply to the D850GB desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any GMCH errata for a given stepping are applicable to the PBA revision(s) associated with that stepping.

Refer to the *Intel® 82801 I/O Controller Hub (ICH) Specification Update* (Order Number 290677) for specification updates concerning the 82801 I/O Controller Hub. Items contained in the *Intel 82801 ICH Specification Update* that either do not apply to the D850GB desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH errata for a given stepping are applicable to the Printed Board Assembly (PBA) revision(s) associated with that stepping.

Refer to the *Intel® 82802 Firmware Hub (FWH) Specification Update* (Order Number TBD) for specification updates concerning the 82802 Firmware Hub. Items contained in the *Intel 82802 FWH Specification Update* that either do not apply to the D850GB desktop board or have been worked around are noted in this document. Otherwise, it should be assumed that any ICH errata for a given stepping are applicable to the Printed Board Assembly (PBA) 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 D850GB desktop board's behavior to deviate from published specifications. Hardware and software designed to be used with any given Printed Board Assembly (PBA) and BIOS revision level must assume that all errata documented for that PBA 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 D850GB Desktop boards**



## GENERAL INFORMATION

**Basic D850GB Desktop board Identification Information**

AA Revision	PBA Revision	BIOS Revision	Notes
A22917-306	A22920-306	GB85010A.86A.0040.P03	1-6

NOTES:

1. The PBA number or AA number is found on a small label on the component side of the board.
2. The 82850 Chipset kit used on this PBA revision consists of three components as follows:

Device	Stepping	S-Spec Numbers
82850 GMCH	A2	SL4NG
82801BA ICH	B1'	SL4YG
82802AB FWH	A1	SB48

3. The following errata are contained in the *Intel® Celeron™ Processor Specification Update* (Order Number 243748) for the Celeron processor and either do not apply to the D850GB desktop board or have been worked-around in this PBA and/or BIOS revision: None. All other errata associated with the processor apply to this PBA revision.
4. The following items are contained in the *Intel® 82850 Graphics and Memory Controller Hub (GMCH) Specification Update* (Order Number 290659) and either do not apply to the D850GB desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the GMCH apply to this PBA revision.
5. The following items are contained in the *Intel® 82801 I/O Controller Hub Specification Update* (Order Number 290677) and either do not apply to the D850GB desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the ICH apply to this PBA revision.
6. The following items are contained in the *Intel® 82802 Firmware Hub Specification Update* (Order Number TBD) and either do not apply to the D850GB desktop board or have been worked around in this PBA and/or BIOS revision: None. All other errata associated with the FWH apply to this PBA revision.

## Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes which apply to the D850GB desktop board. 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.
Fix:	This erratum is intended to be fixed in a future revision of the desktop board 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	Fix	Some SCSI host bus adapters may not boot to the hard disk drive with a bootable CD-ROM drive attached
2	Fix	System may freeze when user password is enabled
NO.	PLANS	DOCUMENTATION CHANGES
1	Doc	Change to description of Section 1.3, Table 3, Design Specifications
2	Doc	Change to description of Section 2.11.1, Power Consumption
3	Doc	Change to description of Section 2.8.2.2, Audio Connectors

The errata described in this specification update apply to combinations of PBA revision and BIOS revision as shown in the table below. Descriptions of the individual erratum referred to by number in the table below are found in the ERRATA section of this document.

<b>PBA Revision</b>	<b>BIOS Revision</b>	<b>Errata That Apply</b>
A22920-306	GB85010A.86A.0040.P03	1-2

† Note: This combination of BIOS revision and PBA revision has not undergone regression testing. Use of a PBA with down-revision BIOS is an untested combination and is undertaken at the user's risk.



## **SPECIFICATION CHANGES**

The Specification Changes listed in this section apply to the *D850GB Desktop Board Technical Product Specification* (Order Number A26080). All Specification Changes will be incorporated into a future version of that specification.

## ERRATA

### 1. ***Some SCSI Host Bus Adapters May Not Boot to The Hard Disk Drive With a Bootable CD-ROM Drive Attached***

**PROBLEM:** If a bootable CD-ROM is attached to the SCSI host bus adapter (HBA) and set as bootable in the setup menu of the SCSI HBA without bootable media installed, the system may not boot to the attached hard drive.

**IMPLICATION:** Users who wish to utilize a bootable SCSI CD-ROM in conjunction with a bootable hard drive on an add-in SCSI host bus adapter may not be able to boot to the hard drive if the SCSI adapter is set to recognize the CD-ROM as a bootable device.

**WORKAROUND:** Enable the CD-ROM as a bootable SCSI device only when using bootable media.

**STATUS:** This erratum is planned to be fixed in a future BIOS revision.

### 2. ***System May Freeze When User Password is Enabled***

**PROBLEM:** If both User Password and Unattended Start are enabled in the BIOS Setup program with a PS/2\* keyboard and mouse attached, the system may freeze after start-up in Windows\* 2000.

**IMPLICATION:** With a PS/2 keyboard and mouse attached to the system and if the user has the User password and Unattended start option enabled in the BIOS setup menu, the user may experience a system lock up after booting into Windows 2000.

**WORKAROUND:** This behavior is not exhibited when a USB keyboard and mouse are utilized in lieu of the PS/2 keyboard and mouse.

**STATUS:** This erratum is intended to be fixed in a future BIOS revision.

## DOCUMENTATION CHANGES

### 1. Change to Description of Section 1.3, Table 3, Design Specifications

Table 3, Section 1.3 will be changed in its entirety as follows:

**Table 1. Specifications**

Reference Name	Specification Title	Version, Revision Date, and Ownership	The information is available from...
AC '97	<i>Audio Codec '97</i>	Version 2.1, May 1998, Intel Corporation	<a href="ftp://download.intel.com/pc-supp/platform/ac97">ftp://download.intel.com/pc-supp/platform/ac97</a>
ACPI	<i>Advanced Configuration and Power Interface Specification</i>	Version 2.0, July 27, 2000, Compaq Computer Corp., Intel Corporation, Microsoft Corporation, and Toshiba Corporation	<a href="http://www.teleport.com/~acpi/">http://www.teleport.com/~acpi/</a>
AGP	<i>Accelerated Graphics Port Interface Specification</i>	Version 2.0, May 4, 1998, Intel Corporation	The Accelerated Graphics Implementers Forum at: <a href="http://www.agpforum.org/">http://www.agpforum.org/</a>
AMI BIOS	<i>American Megatrends BIOS Specification</i>	AMIBIOS 99, 1999 American Megatrends, Inc.	<a href="http://www.amibios.com">http://www.amibios.com</a> , or <a href="http://www.ami.com/download/amibios99.pdf">http://www.ami.com/download/amibios99.pdf</a>
APM	<i>Advanced Power Management BIOS Interface Specification</i>	Version 1.2, February 1996, Intel Corporation, Microsoft Corporation	<a href="http://www.microsoft.com/hwdev/busbios/amp_12.htm">http://www.microsoft.com/hwdev/busbios/amp_12.htm</a>
ATA-3	<i>Information Technology - AT Attachment-3 Interface, X3T10/2008D</i>	Version 6, October 1995, ASC X3T10 Technical Committee	ATA Anonymous FTP Site: <a href="ftp://www.dt.wdc.com/ata/ata-3/">ftp://www.dt.wdc.com/ata/ata-3/</a>
ATAPI	<i>Information Technology AT Attachment with Packet Interface Extensions T13/1153D</i>	Version 18, August 19, 1998, Contact: T13 Chair, Seagate Technology	T13 Anonymous FTP Site: <a href="ftp://fission.dt.wdc.com/x3t13/project/d1153r18.pdf">ftp://fission.dt.wdc.com/x3t13/project/d1153r18.pdf</a>

continued

**Table 1. Specifications (continued)**

Reference Name	Specification Title	Version, Revision Date and Ownership	The information is available from...
ATX	<i>ATX Specification</i>	Version 2.01, February 1997, Intel Corporation	<a href="http://developer.intel.com/design/motherbd/atx.htm">http://developer.intel.com/design/motherbd/atx.htm</a>
ATX12V	ATX / ATX12V Power Supply Design Guide Version 1.1	Version 1.1, August 2000, Intel Corporation	<a href="http://www.teleport.com/~ffsupprt/spec/ATX_ATX12V_PS_1_1.pdf">http://www.teleport.com/~ffsupprt/spec/ATX_ATX12V_PS_1_1.pdf</a>
BIS	Boot Integrity Services	Version 1.0 for WfM 2.0 August 1999, Intel Corporation	<a href="http://developer.intel.com/design/security/bis/bisfaq.htm">http://developer.intel.com/design/security/bis/bisfaq.htm</a>
CNR	<i>Communication and Network Riser (CNR) Specification</i>	Version 1.0, February 7, 2000, Intel Corporation	<a href="http://developer.intel.com/technology/cnr/index.htm">http://developer.intel.com/technology/cnr/index.htm</a>
EPP	<i>Enhanced Parallel Port IEEE std 1284.1-1997</i>	Version 1.7, 1997, Institute of Electrical and Electronic Engineers	<a href="http://standards.ieee.org/reading/ieee/std_public/description/busarch/1284.1-1997_desc.html">http://standards.ieee.org/reading/ieee/std_public/description/busarch/1284.1-1997_desc.html</a>
EI Torito	<i>Bootable CD-ROM format specification</i>	Version 1.0, January 25, 1995, Phoenix Technologies Ltd., and IBM Corporation	the Phoenix Web site at: <a href="http://www.ptltd.com/techs/specs.html">http://www.ptltd.com/techs/specs.html</a>
LPC	<i>Low Pin Count Interface Specification</i>	Version 1.0, September 29, 1997, Intel Corporation	<a href="http://www.intel.com/design/chipsets/industry/lpc.htm">http://www.intel.com/design/chipsets/industry/lpc.htm</a>
PCI	<i>PCI Local Bus Specification</i>	Version 2.2, December 18, 1998, PCI Special Interest Group	<a href="http://www.pcisig.com/">http://www.pcisig.com/</a>
	<i>PCI Bus Power Management Interface Specification</i>	Version 1.1, December 18, 1998, PCI Special Interest Group	<a href="http://www.pcisig.com/">http://www.pcisig.com/</a>
Plug and Play	<i>Plug and Play BIOS Specification</i>	Version 1.0a, May 5, 1994, Compaq Computer Corp., Phoenix Technologies Ltd., and Intel Corporation	<a href="http://www.microsoft.com/hwdev/respec/pnpspecs.htm">http://www.microsoft.com/hwdev/respec/pnpspecs.htm</a>

continued

**Table 1. Specifications** (continued)

Reference Name	Specification Title	Version, Revision Date and Ownership	The information is available from...
PXE	<i>Preboot Execution Environment</i>	Version 2.1, September 1999, Intel Corporation	<a href="http://developer.intel.com/ial/WfM/wfm20/design/mapxe/index.htm">http://developer.intel.com/ial/WfM/wfm20/design/mapxe/index.htm</a>
RIMM	<i>Rambus Serial Presence Detect (SPD) Specification</i>	Version 1.0, March 1999, Rambus Corp.	<a href="http://www.rambus.com/developer/support_rimm.html">http://www.rambus.com/developer/support_rimm.html</a>
	<i>Rambus RIMM Specification</i>	Version 1.0, February 1999, Rambus Corp.	<a href="http://www.rambus.com/developer/development_support.html">http://www.rambus.com/developer/development_support.html</a>
SMBIOS	<i>System Management BIOS</i>	Version 2.3, August 12, 1998, Award Software International Inc., Dell Computer Corporation, Hewlett-Packard Company, Intel Corporation, International Business Machines Corporation, Phoenix Technologies Limited, American Megatrends Inc., and SystemSoft Corporation	<a href="http://developer.intel.com/ial/wfm20/design/smbios">http://developer.intel.com/ial/wfm20/design/smbios</a>
UHCI	<i>Universal Host Controller Interface Design Guide</i>	Version 1.1, March 1996, Intel Corporation	<a href="http://www.usb.org/developers">http://www.usb.org/developers</a>
USB	<i>Universal Serial Bus Specification</i>	Version 1.1, September 23, 1998, Compaq Computer Corporation, Intel Corporation, Microsoft Corporation, and NEC	<a href="http://www.usb.org/developers">http://www.usb.org/developers</a>
WfM	<i>Wired for Management Baseline</i>	Version 2.0, December 18, 1998, Intel Corporation	<a href="http://developer.intel.com/ial/WfM/wfmspecs.htm">http://developer.intel.com/ial/WfM/wfmspecs.htm</a>

## 2. Change to Description of Section 2.11.1, Power Consumption

Note in Section 2.11.1, Power Consumption will be changed in its entirety as follows:

### ⇒ NOTE

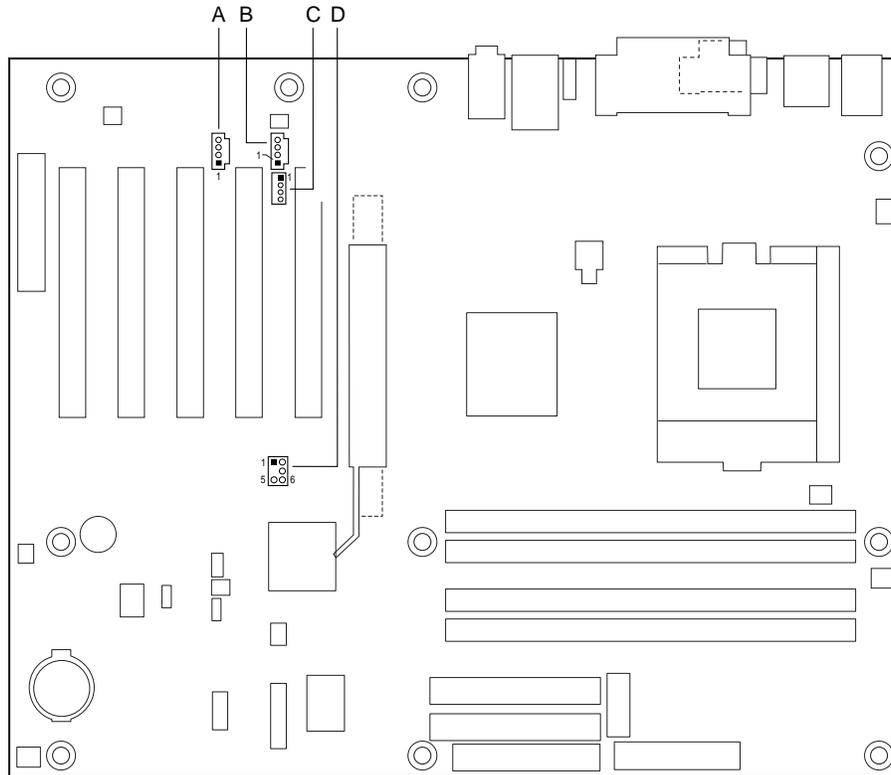
*Actual system power consumption depends upon system configuration. The power supply should comply with the recommendations found in the ATX / ATX12V Power Supply Design Guide Version 1.1 (see Table 1 on page 8 for specification information).*

### 3. Change to Description of Section 2.8.2.2, Audio Connectors

Figure 9, Section 2.8.2.2, Audio Connectors will be changed in its entirety as follows:

#### 2.8.2.2 Audio Connectors

Figure 1 shows the location of the audio connectors.



OM10444

Item	Description	Color	Reference Designator	For more information see:
A	Auxiliary line in, ATAPI style (Optional)	White	J2C1	Table 25
B	ATAPI CD-ROM (Optional)	Black	J2D1	Table 26
C	CD-ROM, Legacy style, 2 mm (Optional)	White	J2D2	Table 27
D	PC/PCI	N/A	J6D1	Table 28

**Figure 1. Audio Connectors**