Intel® Desktop Board D102GGC2 Specification Update

Release Date: November 2006

Order Number: D59474-003US

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Specification Update for the Intel® Desktop Board D102GGC2

REVISION HISTORY

Date of Revision	Version	Description
May 8, 2006	-001	This document is the first Specification Update for the Intel® Desktop Board D102GGC2.
September 2006	-002	Updated AA numbers listed in General Information Table. Added Specification Change 1.
November 2006	-003	Added Specification Changes 2 and 3.

PREFACE

This document is an update to the specifications contained in the *Intel® Desktop Board D102GGC2 Technical Product Specification* (Order number D44278). 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 D102GGC2. 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 ATI website for product advisories for specification updates concerning the Radeon Xpress 200 that may apply to the desktop board D101GGC2 . Unless otherwise noted in this document, it should be assumed that any northbridge or southbridge 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 D102GGC2'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 D102GGC2

GENERAL INFORMATION

Basic Desktop Board D102GGC2 Identification Information

AA Revision	BIOS Revision	Notes
D42788-201	GC11020M.86A.1058	1-2
D42788-202	GC11020M.86A.1065	1-2
D42788-203	GC11020M.86A.1065	1-2
D42789-201	GC11020M.86A.1058	1-2
D42789-202	GC11020M.86A.1065	1-2
D42789-203	GC11020M.86A.1065	1-2

NOTES:
1. The AA number is found on a small label on the component side of the board.
2. The ATi Radeon Xpress 200 Chipset kit used on this AA revision consists of two components as follows:

Device	Stepping	S-Spec Numbers
RC410 Northbridge	A13	N/A
IXP450 Southbridge	A13	N/A

Summary Table of Changes

The following table indicates the Specification Changes, Errata, Specification Clarifications, or Documentation Changes that apply to the Intel® Desktop Board D102GGC2. 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 Section 1.5.4.1, Parallel ATA IDE Interface
2	Doc	Change Section 2.7.1 Back Panel Connectors
3	Doc	Change Section 3.3.2 PCI IDE Support
NO.	PLANS	ERRATA
		There is not characterized erratum for this product.

SPECIFICATION CHANGES

The Specification Changes listed in this section apply to the Intel® Desktop Board D102GGC2 Technical Product Specification (Order Number D44278). All Specification Changes will be incorporated into a future version of that specification.

1. *Change to Section 1.5.4.1, Parallel ATA IDE Interface*

Section 1.5.4.1, Parallel ATA IDE Interface will change in its entirety to remove support for ATA-133 interface as follows:

1.5.4.1 Parallel ATE IDE Interface

The IXP 450's Parallel ATA IDE controller has two bus-mastering Parallel ATA IDE interfaces. The Parallel ATA IDE interfaces support the following modes:

- Programmed I/O (PIO): processor controls data transfer.
- 8237-style DMA: DMA offloads the processor, supporting transfer rates of up to 16 MB/sec.
- Ultra DMA: DMA protocol on IDE bus supporting host and target throttling and transfer rates of up to 33 MB/sec.
- ATA-66: DMA protocol on IDE bus supporting host and target throttling and transfer rates of up to 66 MB/sec.
- ATA-66 protocol is similar to Ultra DMA and is device driver compatible.
- ATA-100: DMA protocol on IDE bus allows host and target throttling.
- The IXP 450's ATA-100 logic can achieve read transfer rates up to 100 MB/sec and write transfer rates up to 88 MB/sec.

✏️ NOTE

> *ATA-66 and ATA-100are faster timings and require a specialized cable to reduce reflections, noise, and inductive coupling.*

The Parallel ATA IDE interfaces also support ATAPI devices (such as CD-ROM drives) and ATA devices using the transfer modes.

For information about	Refer to
The location of the Parallel ATA IDE connectors	Figure 7, page 44

2.	**The following note will be added to the Technical Product Specification in Section 2.7.1 Back Panel Connectors:**

✘ INTEGRATOR'S NOTES

Electrostatic discharge (ESD) can damage desktop board components. Front-panel connectors should provide sufficient protection to prevent ESD damage to components inside the chassis enclosure.

3.	**Reference to support for second-generation SATA drives is being removed. Section 3.3.2 PCI IDE Support will change its entirety as follows:**

3.3.2   PCI IDE Support

If you select Auto in the BIOS Setup program, the BIOS automatically sets up the PCI IDE connector with independent I/O channel support. The IDE interface supports hard drives up to ATA-66/100 and recognizes any ATAPI compliant devices, including CD-ROM drives, tape drives, and Ultra DMA drives. The interface also supports SATA drives. The BIOS determines the capabilities of each drive and configures them to optimize capacity and performance. To take advantage of the high capacities typically available today, hard drives are automatically configured for Logical Block Addressing (LBA) and to PIO Mode 3 or 4, depending on the capability of the drive. You can override the auto-configuration options by specifying manual configuration in the BIOS Setup program.

To use ATA-66/100 features the following items are required:
- An ATA-66/100 peripheral device
- An ATA-66/100 compatible cable
- ATA-66/100 operating system device drivers

➡ NOTE

Do not connect an ATA device as a slave on the same IDE cable as an ATAPI master device. For example, do not connect an ATA hard drive as a slave to an ATAPI CD-ROM drive.