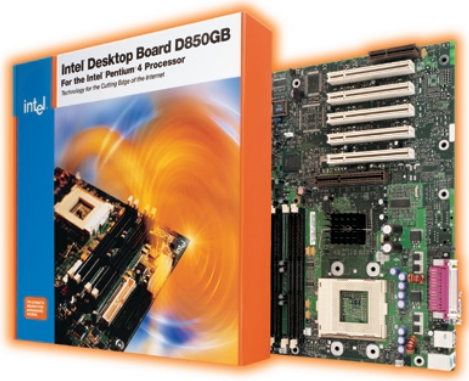
Product Brief

Intel® Desktop Board D850GB for the Intel® Pentium® 4 Processor

Technology for the Cutting Edge of the Internet

The Intel® Desktop Board D850GB harnesses the advanced computing power of the Intel® Pentium® 4 processor. Designed for the new Intel® 850 chipset, the Desktop Board D850GB utilizes the Pentium 4 processor's full bandwidth and performance with dual RAMBUS* channels and support for Intel® NetBurst™ micro-architecture. The Desktop Board D850GB is the newest performance platform solution to provide unprecedented system efficiency and responsiveness to stay on the cutting edge of the Internet.

Advanced Performance



The Desktop Board D850GB supports Intel NetBurst micro-architecture with dual RDRAM* channels, providing 3.2 GB/second memory bus bandwidth to match the Pentium 4 processor's system bus requirements. The new Intel 850 chipset also supports system bus speeds of 400 MHz for performance improvements in high-bandwidth and concurrent applications required for today's emerging Web technologies. The Desktop Board D850GB is also designed to enhance overall system performance with features such as Intel® Rapid BIOS Boot that speeds up the Power on Self Test (POST), Communications and Networking Riser (CNR)* for audio, modem, LAN and HPNA support, Ultra ATA/100 disk support, and four USB ports. This ATX desktop board with five PCI slots, AGP 4X and Instantly Available™ PC (Suspend-to-RAM) is a proven-performance Intel platform for the Pentium 4 processor.

Stay on the Cutting Edge of the Internet Revolution

When combined with the Pentium 4 processor, the Desktop Board D850GB provides businesses with the performance headroom needed for automatic e-Business processes, and helps utilize and manage the information explosion of the Internet. In addition, the increased headroom and scalability maximize the life of the business owner's PC investment, while allowing the enterprise to stay on the cutting edge of the Internet revolution. Consumers and gamers also need the increased headroom as more and more homes access broadband interactive voice, video and games.

Intel® Desktop Board D850GB Features and Benefits

Feature:	Benefit:
Support for the Intel® Pentium® 4 Processor	Supports 423-pin Plastic Pin Grid Array (PPGA), and Intel® NetBurst™ micro-architecture which includes 400-MHz system bus
Intel® 850 Chipset Featuring Dual RDRAM* Channel Support	Latest Intel® chipset to support the new Pentium 4 processor enhanced features. Delivers 3.2 GB/second bandwidth for maximum performance
Intel® Rapid BIOS Boot	Reduced boot time enables faster system availability
AGP 4X 1.5V Connector	Supports the latest graphics technology
Four RDRAM* RIMM* Sockets	Supports fast PC800 and PC600 RDRAM* memory from 128 MB to 2 GB
Ultra ATA/100	Faster disk I/O
Five PCI Slots	Expansion slots for custom system configurations and future add-in card upgrades
Four USB Ports	Dual-stack rear connectors and header for two front panel USB connectors
Communication and Networking Riser (CNR) Support	New technology that supports integrated LAN, HPNA, modem or audio cards for overall system cost savings and customization
ATX Form Factor	Form-factor standard for easy integration
Instantly Available PC (Suspend-to-RAM)	Power-management mode to reduce PC power consumption. Allows PC to behave like consumer electronic appliance
Intel® Express Software Suite	Software designed specifically for Intel desktop boards and ease of integration. Suite includes: • Intel® Express Installer • Intel® Active Monitor • Software Drivers • Product Guide • Norton* Internet Security 2000 • Encryption Plus* Secure Export
Hardware Management ASIC	In coordination with Intel Active Monitor, allows monitoring of system conditions for lower total cost of ownership
Three-year Limited Warranty	Expanded investment protection

Complete Solution within the Box

To easily integrate a high-performance system, the boxed Desktop Board D850GB comes with many required items, such as Ultra ATA/66/100 and floppy cables, I/O shield, AGP retention mechanism, continuity RIMM modules, product documentation and a CD-ROM containing the Intel® Express Software Suite of Intel® Active Monitor and Norton* Internet Security 2000 applications—software designed specifically for Intel desktop boards and ease of integration. System integrators will benefit from Intel's extensive compatibility and limited validation testing that helps ensure consistent and reliable performance. Every Intel desktop board comes with a three-year limited warranty and the comprehensive support and engineering that only Intel can provide.

The Boxed Intel® Desktop Board D850GB Solution includes:

- Desktop Board D850GB
- ATX compliant I/O shield
- Cables: one Ultra ATA/33, one Ultra ATA/100 and one floppy cable
- AGP Retention Mechanism (recommended for AGP 4X support)
- Two Continuity RIMM Modules
- Quick Start Guide
- Configuration label, stickers, back-panel label and a battery-warning label
- CD-ROM with software drivers, warranty, Product Guide and value-added software applications
- Processor Retention Mechanism

Intel® Desktop Board D850GB Technical Specifications

Processor

Processors Supported (via PPGA423 connector)	Intel® Pentium® 4 processors with Intel® NetBurst™ micro-architecture which includes 400-MHz system bus in the PPGA package supports speeds starting at 1.4 GHz

Chipset

Intel® 850 Chipset	Intel® 82850 Memory Controller Hub (MCH) with AHA (Accelerated Hub Architecture) bus Intel® 82801BA I/O Controller Hub (ICH2) with AHA bus Intel® 82802AB Firmware Hub (FWH)

Memory Controller Hub (MCH)

	Integrated dual Direct RAMBUS memory technology Support for 128 MB to 2 GB main system memory

I/O Controller Hub (ICH2)

ICH2 I/O Controller Hub	Ultra ATA/66/100 Ultra DMA/33 Six PCI request-grant pairs for support of six PCI Bus Masters
I/O Features	Integrated Super I/O LPC bus controller Five PCI Local Bus slots Communication and Networking Riser (CNR)* (optional), shared with PCI slot 5 Power Management support for both ACPI 1.0 and APM 1.2 PC 99 and PC 99A Compliance
USB	Two USB controllers with four USB ports • Two-port stacked rear connector • Header for cabling two ports to the front panel

Firmware Hub

System BIOS	4-Mb Flash EEPROM with Intel/AMI* BIOS featuring Plug and Play, IDE drive auto-configure Advanced Power Management (APM) 1.2, ACPI 1.0, DMI 2.0, Multilingual support
Intel® Rapid BIOS Boot	Optimized POST delivers faster access to PC from power-on

System Memory

Memory Capacity	Four 168-pin unbuffered RIMM sockets for 128 MB (min) to 2 GB (max) RDRAM
Memory Type	PC600 or PC800 Dual-channel RDRAM
Memory Voltage	2.5V

Hardware Management Features

	Voltage sense to detect out of range values Fan-sensor inputs used to monitor fan activity Fan-speed control with temperature

Enhanced Diagnostics

	Four dual-color LEDs on back panel for hardware diagnostic decoding during power-on self-test

Wake-Up From Network

	Wired for Management (WfM) 2.0 compliant Support for system wake up using an add-in network interface card with remote wake-up capability or PCI

Expansion Capabilities

	Five PCI bus add-in card connectors (PCI Local Bus Specification Revision 2.2) One Communication and Networking Riser (CNR) connector shared with PCI slot 5 One 1.5V 4X/2X AGP Port connector

Jumpers and Front Panel Connectors

Jumpers	Three-pin jumper block to set configuration mode for the BIOS Setup program CNR configuration jumper (optional)
Front Panel Connector	Reset, HD LED, Power LEDs, Power On/Off, Standby header, IR Port, Aux LED

Mechanical

Board Style	ATX 2.03 compliant board size
Board Size	(12.0"x9.6")
Baseboard Power Requirements	Utilizes new ATX12V spec with these requirements: +3.3V 20A +5V 25A +12V 13A -12V .8A +5VSB 1.5A -5V .3A

Environment

Operating Temp.	0° C to +55° C
Storage Temp.	-40° C to +70° C

Safety Regulations

U.S. and Canada	UL 1950—CSA 950-95, U.S. and Canadian recognition component marks
Europe	UL Classified to IEC 950
EMI/RFI Regulations	***Intended for use in systems meeting the following EMI/RFI regulations:***
U.S.	FCC Class B (DofC—Cover off testing)
Canada	IC Class B
Europe	EU Class B (Res, Com, Light Industry)
Japan	VCCI, Class B (ITE)
	Power requirements vary. Complies with US CRF via EN55022 + 6db in with system configuration an open chassis and EU Directive 89/336/EEC and use via EN55022 and EN50082-1 in a representative chassis.

Ordering Information—See Intel's Web site at www.intel.com

For the most current product information, visit Intel's Web site at: channel.intel.com/business/ibp/boards/d850gb.htm

0900/TB/RN
Order number: 283462-001