



# Can next-generation performance be found in desktop boards today?



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**Yes. Intel® Desktop Boards D865GBF and D865GLC for the Intel® Pentium® 4 Processor**

# Intel® Desktop Boards D865GBF and D865GLC



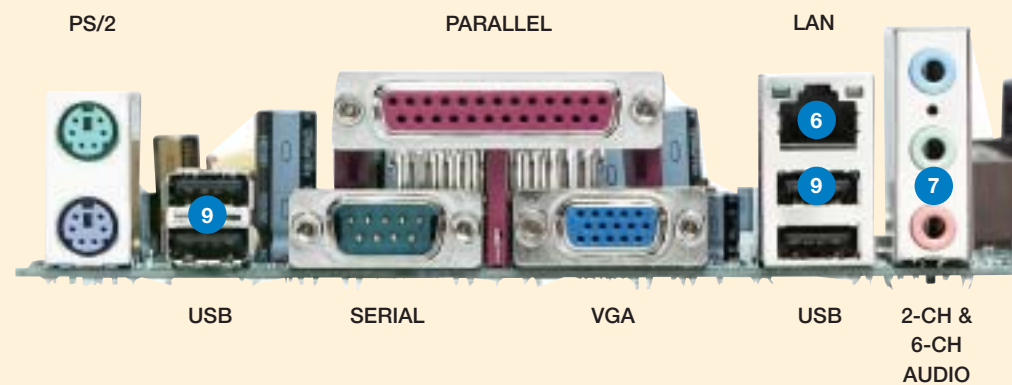
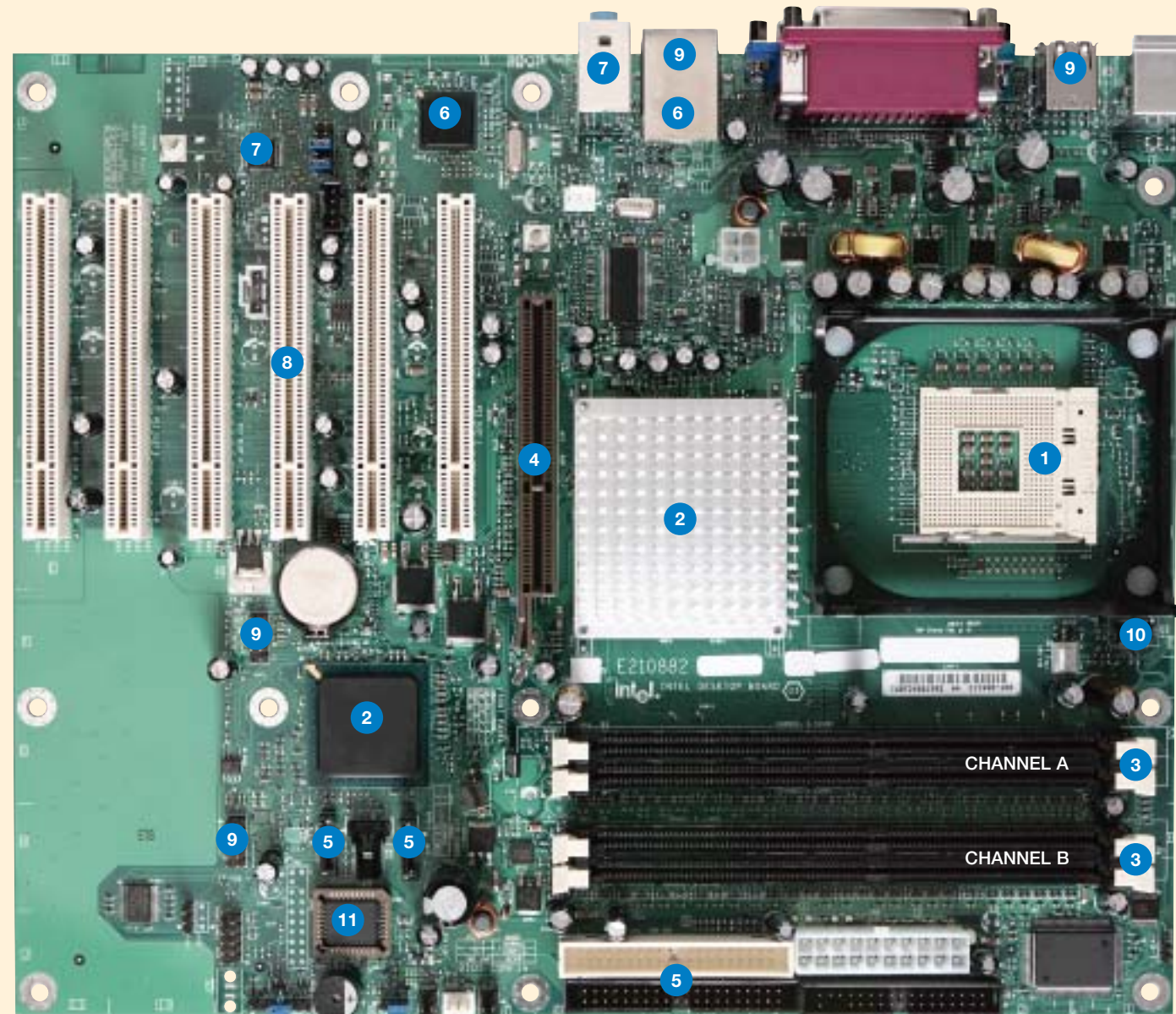
Prepare for the future with Intel® products that truly are a generation ahead.

The Intel® Desktop Boards D865GBF and D865GLC feature next-generation processor and dual-channel DDR400 memory support, Intel® Extreme Graphics 2, a Gigabit Ethernet connection, and next-generation storage device support.



## FEATURES AND BENEFITS

- 1 Support for the Intel® Pentium® 4 processors featuring Hyper-Threading Technology<sup>1</sup> and 800-MHz system bus in the mPGA478-pin package.** Also supports the Intel® Pentium® 4 processors (1.60a, 1.80a, 2a, 2.20 GHz or higher) with 533-MHz or 400-MHz system bus in the mPGA478 package.
- 2 Intel® 865G Chipset featuring Intel® Extreme Graphics 2 using Dynamic Video Memory Technology (DVMT).** Low-cost, high-performance graphics solution.
- 3 Dual-Channel DDR400<sup>2</sup> SDRAM support:** Four DIMM sockets designed to support up to 4 GB<sup>3</sup> of DDR400 SDRAM memory (also supports DDR333<sup>4/5</sup> and DDR266). Flexible support for either single- or dual-channel operation.
- 4 AGP 8X/4X graphics interface:** Flexibility to upgrade via a high-end AGP graphics card.
- 5 SATA150 and Ultra ATA100 connectors:** Flexible support of new-generation SATA150 (2 ports) and current generation ATA (2 channels) storage devices.
- 6 Integrated Intel® 10/100/1000 CT Desktop Connection or Intel® PRO 10/100 LAN (optional):** On-board Gigabit Ethernet LAN connectivity using the Communication Streaming Architecture (CSA) interface or 10/100-Mbps LAN.
- 7 AC'97 6-channel Audio:** SoundMAX<sup>®</sup> 4 XL AudioESP (Audio Enumeration and Sensing Process) enabling either 6-channel or 2-channel audio.
- 8 Six PCI slots (Desktop Board D865GBF) or three PCI slots (Desktop Board D865GLC):** Expansion slots for custom system configurations and future add-in card upgrades.
- 9 Eight Hi-Speed USB 2.0 ports:** Four rear ports and headers for four front-panel USB ports.
- 10 Intel® Precision Cooling Technology:** Advanced management ASIC supports temperature-based fan control. Fan speeds adjust real time according to system temperatures to help reduce unnecessary noise and energy consumption.
- 11 Intel® Rapid BIOS Boot:** Accelerates Power on Self Test (POST) for faster system access.
- 12 Instantly-Available PC (suspend-to-RAM):** Enables advanced power savings (not pictured).



## BOXED INTEL® DESKTOP BOARDS D865GBF AND D865GLC SOLUTION INCLUDES:

- Desktop Board
- ATX- and MicroATX-compliant I/O shield
- Floppy, SATA and IDE cables
- Board and back-panel I/O layout stickers
- Quick Start Guide
- Desktop Board three-year limited warranty
- Intel® Express Installer CD, including:
  - Norton Internet<sup>®</sup> Security<sup>\*</sup>
  - Intel® Active Monitor
  - SoundMAX<sup>®</sup> 4 XL
  - RealOne<sup>®</sup> Player
  - NTI CD-Maker<sup>\*</sup>
  - Diskeeper<sup>\*</sup> Lite
  - WinDVR<sup>\*</sup> Lite
  - Sonic Focus<sup>\*</sup>
  - RestoreIT!<sup>\*</sup> Lite
  - Software Drivers, with easy Web updates
  - Product Guide

## Intel® Desktop Boards D865GBF and D865GLC

### Processor

<b>Processors Supported</b>	<ul style="list-style-type: none"> <li>Intel® Pentium® 4 processors supporting Hyper-Threading Technology<sup>1</sup> with 800-MHz or 533-MHz system bus in the mPGA478-pin package</li> <li>Intel® Pentium® 4 processors (1.60a, 1.80a, 2a, 2.20 GHz or higher) with 533-MHz or 400-MHz system bus in the mPGA478-pin package</li> <li>Intel® Celeron® processors (2 GHz or higher) in the mPGA478-pin package</li> </ul>
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<b>Intel® 865G Chipset</b>	<ul style="list-style-type: none"> <li>Intel® 82865G Graphics Memory Controller Hub (GMCH) with Accelerated Hub Architecture bus</li> <li>Intel® 82801EB I/O Controller Hub (ICH5) with Accelerated Hub Architecture bus</li> </ul>
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<b>Graphics Memory Controller Hub (GMCH)</b>	Designed to support up to 4 GB <sup>3</sup> of system memory using DDR400 <sup>2</sup> /333 <sup>4,5</sup> /266 SDRAM memory
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<b>Intel® ICH5 I/O Controller Hub</b>	<ul style="list-style-type: none"> <li>Ultra ATA 100/66</li> <li>Six PCI request-grant pairs for support of six PCI bus masters</li> <li>Two SATA150 (1.5 Gbps) ports</li> <li>Intel® PRO 10/100/1000 CT network connection (optional)</li> <li>Intel® PRO 10/100 network connection (optional)</li> </ul>
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<b>I/O Features</b>	Integrated super I/O LPC bus controller <ul style="list-style-type: none"> <li>Six (Desktop Board D865GBF) or three (Desktop Board D865GLC) PCI local bus slots</li> <li>Designed for PC2001</li> </ul>
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<b>USB 2.0</b>	Integrated Intel® ICH5 controllers: <ul style="list-style-type: none"> <li>Four back-panel ports (two dual stack)</li> <li>Four front-panel ports (via 2-headers requiring cabling to front panel)</li> </ul>
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### Firmware Hub

<b>System BIOS</b>	<ul style="list-style-type: none"> <li>4 Mb Flash EEPROM with Intel/AMI* BIOS featuring Plug and Play, IDE drive auto-configure</li> <li>Advanced configuration and power interface V1.0b, DMI 2.0, multi-lingual support</li> </ul>
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<b>Intel® Rapid BIOS Boot</b>	<ul style="list-style-type: none"> <li>Optimized POST for faster access to PC from power-on</li> </ul>
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### System Memory

<b>Memory Capacity</b>	<ul style="list-style-type: none"> <li>Four 184-pin DIMM connectors supporting up to four double-sided DIMMs</li> </ul>
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<b>Memory Types</b>	<ul style="list-style-type: none"> <li>DDR400 SDRAM Memory (when used with Intel® processor with 800-MHz system bus)</li> <li>DDR333 SDRAM Memory (when used with Intel processor with 800-MHz or 533-MHz system bus)</li> <li>DDR266 SDRAM Memory</li> <li>Non-ECC RAM (ECC memory will run in non-ECC mode)</li> </ul>
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<b>Memory Modes</b>	<ul style="list-style-type: none"> <li>Dual- and single-channel operation support</li> </ul>
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<b>Memory Voltage</b>	<ul style="list-style-type: none"> <li>2.5V</li> </ul>
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### Hardware Management Features

- System chassis fan speed control
- Voltage and temperature sensing
- Fan sensor inputs used to monitor fan activity
- Power management support for ACPI 1.0b

### Wake-Up From Network

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

### Expansion Capabilities

- Six (Desktop Board D865GBF) or three (Desktop Board D865GLC) PCI bus add-in card connectors
- One universal 1.5V AGP 3.0 connector supporting up to AGP 8X

### Jumpers and Front-Panel Connectors

<b>Jumpers</b>	<ul style="list-style-type: none"> <li>Single configuration jumper design</li> <li>Jumper access for BIOS configuration mode</li> </ul>
<b>Front-Panel Connectors</b>	<ul style="list-style-type: none"> <li>Reset, HD LED, Power LEDs, power on/off, standby header</li> <li>Two front-panel USB headers</li> <li>Front-panel audio header</li> </ul>

### Mechanical

<b>Board Style</b>	Desktop Board D865GBF—ATX 2.03-compliant Desktop Board D865GLC—MicroATX 1.0-compliant
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<b>Board Size</b>	Desktop Board D865GBF—11.6" x 9.6" Desktop Board D865GLC—9.6" x 9.6"
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### Baseboard Power

<b>Requirements</b>	Desktop Board D865GBF—ATX12V Desktop Board D865GLC—ATX12V or SFX12V
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### Environment

<b>Operating Temperature</b>	0° C to +55° C
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<b>Storage Temperature</b>	-40° C to +70° C
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### Regulations

<b>Safety Regulations</b>	UL 1950, Third edition—CAN/CSA C22.2 No. 950-95 with recognized U.S. and Canadian component marks
<i>U.S. and Canada</i>	
<i>Europe International</i>	Nemko certified to EN 60950 Nemko certified to IEC 60950 (CB report with CB certificate)

### EMC regulations (tested in representative chassis)

<i>U.S.</i>	FCC Part 15, Class B
<i>U.S.</i>	FCC Part 15, Class B open-chassis (cover off) testing
<i>Canada</i>	ICES-003, Class B
<i>Europe</i>	EMC directive 89/336/EEC; EN 55022:1998 Class B; EN 55024:1998
<i>Australia/New Zealand</i>	AS/NZS 3548, Class B
<i>Taiwan</i>	CNS 13438, Class B
<i>International</i>	CISPR 22:1997, Class B

Power requirements vary. Complies with US CRF via EN55022 +6 db in system configurations with 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](http://www.intel.com)

For the most current product information available, visit Intel's Web site at: [developer.intel.com/design/motherbd/](http://developer.intel.com/design/motherbd/)

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The Intel® Desktop Boards D865GBF and D865GLC 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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<sup>1</sup> Hyper-Threading requires a computer system with an Intel® Pentium® 4 processor supporting this technology, a chipset and BIOS that utilize this technology, and an operating system that includes optimizations for this technology. Performance will vary depending on the specific hardware and software you use. See [www.intel.com/info/hyperthreading](http://www.intel.com/info/hyperthreading) for information.

<sup>2</sup> DDR400 memory only supported in combination with Intel® Pentium® 4 processor with 800-MHz system bus.

<sup>3</sup> Desktop Boards D865GBF and D865GLC were designed to support up to 4 GB total system memory using DIMMs based on 512-Mbit technology, but this technology has not been validated on these Intel® desktop boards. For more information about the latest list of tested memory, refer to the Intel World Wide Web site at: <http://support.intel.com/support/motherboards/desktop/>

<sup>4</sup> When using an 800-MHz FSB CPU, DDR333 memory is clocked at 320 MHz. This minimizes system latencies to optimize system performance.

<sup>5</sup> DDR333 memory not supported in combination with Intel® Pentium® 4 processor with 400-MHz system bus.

