



INTEL® 845G+ CHIPSET  
PRODUCT BRIEF

**A platform today  
with innovative feature  
integration, exceptional  
user value, and the  
scalability to enable  
tomorrow's technology and  
Internet innovations.**

The Intel® 845G chipset unleashes  
the power in the Intel® Pentium® 4  
processor.



# The Intel® 845G chipset.

The Intel® Pentium® 4 processor with Intel® NetBurst™ microarchitecture delivers incredible performance for both consumer and business users. In combination with the new Intel® 845G chipset, the Pentium 4 processor powers exciting new uses in digital audio, video, photography, and enhanced 3-D performance.

We designed the 845G chipset to support the Intel Pentium 4 processor supporting Hyper-Threading Technology<sup>1</sup>, adding intelligence to help manage and prioritize multiple threads received from the micro-processor. HT Technology is Intel's latest groundbreaking innovation, and allows the processor to execute instruction threads in parallel so that the processor can complete more tasks in a given amount of time. This maximizes the efficiency of the processor, improving system performance and responsiveness.

The combination of an Intel® Pentium® 4 Processor with HT Technology<sup>2</sup>, an Intel® chipset that supports HT Technology, an operating system that includes optimizations for HT Technology, and BIOS that supports HT Technology and has it enabled delivers unmatched system performance. Users can perform multiple complex tasks, such as accessing instant messaging while playing their favorite online game, or downloading music while managing their digital photos.

This highly flexible and scalable solution meets a broad range of demanding computing needs. The 845G chipset offers the available bandwidth of DDR266-MHz main memory, coupled with a 533-MHz or 400-MHz system bus and Hi-Speed USB 2.0<sup>3</sup> connectivity, to ensure performance you expect.

The 845G chipset also features integrated Intel® Extreme Graphics, delivering an intense and realistic visual experience without requiring a separate graphics card. The 82845G Graphics Memory Controller Hub (GMCH) features Intel's Dynamic Video Memory Technology (DVMT) and Zone Rendering Technology (ZRT). This new graphics architecture optimizes system performance by balancing memory usage between graphics and other subsystems.

The 82801DB I/O Controller Hub (ICH4) integrates Hi-Speed USB 2.0\*, offering greater bandwidth for I/O-intensive applications. The Intel® Application Accelerator adds new capabilities in acoustic and power management, as well as support for large disk drives.

The 845G chipset utilizes these features to deliver a compelling solution for both corporate and consumer market segments:

- Innovative architecture enhancements, such as wider data paths and flexible memory refresh technology, enable optimum DDR266/200 and PC133 SDRAM performance.

- Advanced packaging technology and industry-leading electrical design innovations ensure long-term system reliability over a wide range of operating conditions.
- Optimized for systems based on the Intel Pentium 4 Processor with HT Technology<sup>2</sup>, the 845G chipset delivers faster system performance and responsiveness.
- Intel® Stable Image Technology simplifies software image management by highly testing Intel® software drivers from the start.
- Higher memory bandwidth DDR266/200 SDRAM memory support provides exceptional performance across the full range of multimedia and 3-D-intensive applications while offering the cost benefits and reliability of SDRAM architecture.
- Dual independent DMA audio engines enable two separate, simultaneous audio experiences.
- A LAN Connect Interface (LCI) provides flexible network solutions including home phone line, 10/100-Mbps Ethernet, and 10/100-Mbps Ethernet with LAN manageability.
- Intel® SingleDriver™ technology supports all three network options, which simplifies network connectivity and eases deployment.

<sup>1</sup> Hyper-Threading Technology requires a computer system with an Intel® Pentium® 4 processor at 3.06 GHz or higher, a chipset and BIOS that utilize this technology, and an operating system that includes optimizations for HT 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> Look for systems with the Intel® Pentium® 4 Processor with HT Technology logo which your system vendor has verified utilize Hyper-Threading 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>3</sup> Separate license may be required; contact vendor for details.

**F E A T U R E S****B E N E F I T S**

|   |  |
|---|--|
| 533-MHz and 400-MHz System Bus          | Supports platform longevity with the highest CPU frequencies and delivers greater system bandwidth.  |
| Hyper-Threading Technology Support      | Delivers increased system responsiveness and performance.  |
| 478-pin Processor Package Compatibility | Supports the highest performance Intel® desktop processors with the flexibility to support other 478-pin Intel® processors.                                  |
| Intel Extreme Graphics Technology       | Revolutionary third-generation graphics architecture supports the latest APIs, allowing software developers to create real-life environments and characters. |
| Intel® Hub Architecture                 | Dedicated data paths deliver maximum bandwidth for I/O-intensive applications.   |
| DDR266/200 or PC133 SDRAM               | Flexible memory technology allows DDR usage for higher system performance or PC133 for cost-effective systems.   |
| Intel® Dynamic Video Output Interface   | Single motherboard offers maximum display (digital CRT or TV) flexibility through the standard AGP connector.  |
| AGP4X Interface                         | High-bandwidth interface enables upgradability to latest graphics cards.   |
| Alert on LAN* 2.0                       | Emits an alert for software failures or system intrusion, even when the O/S is not present or the system is suspended.                                       |
| Integrated Hi-Speed USB 2.0             | Offers up to 40x greater bandwidth over USB 1.1 for demanding I/O peripherals.   |
| Ultra ATA/100                           | Takes advantage of the latest industry innovations in HDD features and performance.  |
| Intel Application Accelerator           | Software that helps accelerate boot time and application launch times.   |
| AC'97 Controller                        | Supports Dolby* Digital 5.1 surround sound <sup>3</sup> , delivering six channels of enhanced sound quality.   |
| Communications Network Riser Card       | Allows flexibility for multiple configurations on a single card to extend USB, LAN, and audio.   |
| Low-power sleep mode                    | Saves energy.  |

<sup>3</sup> Separate license may be required; contact vendor for details.

| P R O D U C T   |  | P A C K A G E  |  |
|---|--|--|--|
| Intel® Pentium® 4 Processor                           |  | 478 Flip Chip Pin Grid Array (FCPGA)   |  |
| Intel® 82845G GMCH                                    |  | 760 Flip Chip Pin Grid Array (FCBGA)   |  |
| Intel® 82801DB ICH4                                   |  | 421 Micro Ball Grid Array (MBGA)   |  |
| I N T E L A C C E S S                                 |  |  |  |
| Developer's Site                                      |  | <a href="http://developer.intel.com/">http://developer.intel.com/</a>  |  |
| Intel® Chipsets Home Page                             |  | <a href="http://developer.intel.com/design/chipsets/">http://developer.intel.com/design/chipsets/</a>                                    |  |
| Other Intel Support:                                  |  | <a href="http://support.intel.com">http://support.intel.com</a>  |  |
| Intel Literature Center                               |  | (800) 548-4725 7 a.m. to 7 p.m. CST ( <i>U.S. and Canada</i> )<br><i>International locations please contact your local sales office.</i> |  |
| General Information Hotline                           |  | (800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST  |  |
| <b>For more information, visit the Intel Web site</b> |  | <b><a href="http://developer.intel.com">http://developer.intel.com</a></b>   |  |

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\*Other names and brands may be claimed as the property of others.

†The B-1 stepping of the Intel® 845G Chipsets is required to support Hyper-Threading Technology.