intel®

An integrated graphics chipset deliver a stunning visual experience and great system performance.

Intel® 845GE chipset-based systems unleash the power of the Intel® Pentium® 4 processor with next-generation integrated graphics and outstanding system performance.

Intel® 845GE
C H I P S E T
Supporting
Hyper-Threading Technology

The Intel® 845GE chipset.

When it comes to transferring data to and from the processor, memory, and I/O peripherals, choosing the right chipset is critical. Intel designs chipsets to complement our processors and deliver on our promise of completeness, stability, and innovation.

COMPLETENESS **Our chipset solutions are complete, with a comprehensive set of drivers. You can be sure the industry devices you need are fully enabled to take advantage of new features, such as memory modules or USB peripherals.**

STABILITY **We dedicate more than 2,500 people and $300 million per year to platform validation to ensure that the processor, chipset and core software work together seamlessly.**

INNOVATION **With more than 20 years' experience in chipset technology, Intel® chipsets deliver new, stream-lined features like integrated Hi-Speed USB 2.0[1] connectivity and the latest integrated graphics.**

Leading-edge Chipset Innovations

The Intel® 845GE chipset has been designed and optimized to support the Intel® Pentium® 4 processor supporting Hyper-Threading Technology[2], adding intelligence to help manage and prioritize multiple threads received from the processor. HT Technology is Intel's latest ground breaking innovation, and allows the processor to complete more tasks in a given amount of time and maximize processor efficiency. The combination of an Intel Pentium 4 processor supporting Hyper-Threading Technology[2], an Intel® chipset that supports HT Technology, an operating system that includes optimizations for HT Technology, and a BIOS that supports HT Technology and has it enabled delivers unmatched system performance.

The Intel 845GE chipset-based platform also offers integrated Hi-Speed USB 2.0 capabilities and an enhanced AC'97 audio implementation with dual independent DMA audio engines for improved sound quality and new audio usage models. The Intel 845GE chipset ensures that tomorrow's most advanced applications will run best on Pentium 4 processor-based platforms.

Next-generation Graphics for the Intel® Pentium® 4 Processor

The Intel 845GE chipset, with an even faster version of the revolutionary new Intel® Extreme Graphics core, is a great choice for users wanting both superb graphics quality and outstanding performance overall. Systems based on the 845GE chipset deliver the latest digital entertainment without the complexity and cost of an add-in graphics card.

The fast 533-MHz and 400-MHz system bus and DDR333 memory support delivers optimal system performance, while DDR266 SDRAM memory support enables a broad range of price-performance options. An AGP4x slot supports digital displays and TV-out technology, and makes it easier to provide the most advanced graphics capabilities by upgrading to the latest graphics cards.

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[1] Separate license may be required; contact vendor for details.

[2] 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 this technology. Performance will vary depending on the specific hardware and software you use. See www.intel.com/info/hyperthreading for information.

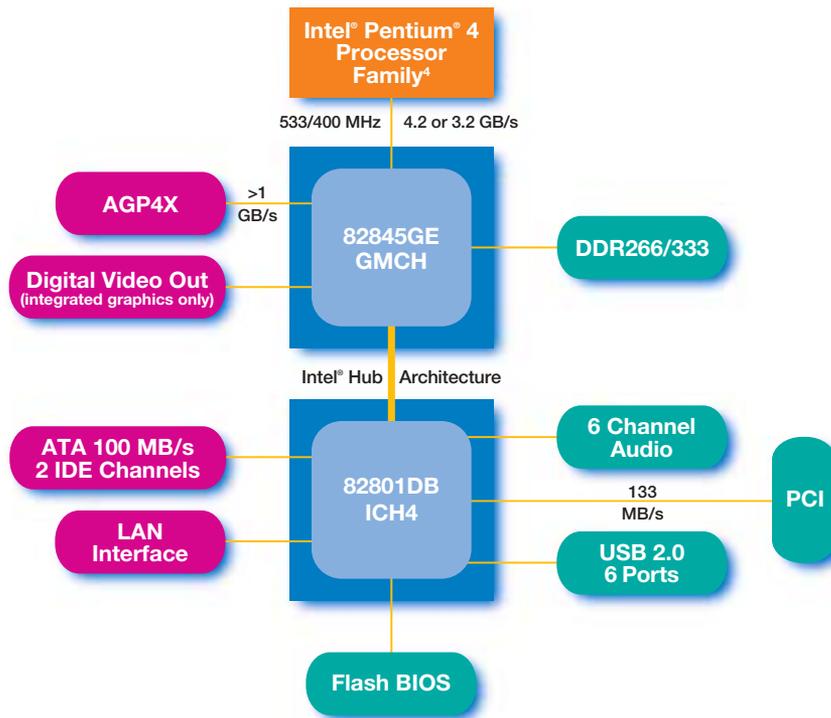## TEN REASONS TO CHOOSE THE INTEL® 845GE CHIPSET

1 Flexibility

The 533-MHz or 400-MHz system bus supports the highest processor frequencies available in the range of Pentium® 4 processors, with the headroom to design today's platforms for tomorrow's applications.

2 Realistic graphics

The revolutionary new Intel® Extreme Graphics core delivers an intense and realistic visual experience for the latest 3D and digital applications, without the complexity and expense of a separate graphics card.
With a faster 266-MHz graphics engine and DDR333 memory support, the Intel Extreme Graphics core achieves new levels in integrated graphics performance

3 Higher performance

Systems based on an Intel® Pentium® 4 Processor with HT Technology[3], an Intel® chipset that supports HT Technology, an operating system that includes optimizations for HT Technology, and a BIOS that supports HT Technology and has it enabled delivers unmatched system performance.

4 Sharp images

Rapid Pixel and Texel Rendering technology enables fast rendering, smooth motion, and awesome detail. Innovative technologies such as Zone Rendering, Dynamic Video Memory Technology, and Intelligent Memory Management optimize both graphics and system performance with shared system memory.

5 Reduced TCO

With Intel® Stable Image Technology, the same highly stable graphics driver supports the Intel® 845GE chipset for desktop designs and the Intel® 830 mobile chipset family. Graphics drivers for future Intel chipsets will be backward-compatible to support multiple desktop and mobile PCs using the same graphics architecture.

6 Cutting-edge design

Combining DDR with the innovative memory controller architecture of the 845GE chipset and the advanced instruction set of the Pentium 4 processor improves the time required to complete high-bandwidth multimedia processing tasks.

7 Fastest USB connectivity

Six integrated Hi-Speed USB 2.0 ports enable high-bandwidth connectivity across a variety of peripherals. USB 2.0 offers up to 40x bandwidth over the original USB 1.1 specification, and burns CDs up to 6x faster, and performs data backup up to 11x faster.

8 Enhanced sound

The latest AC'97 implementation in the 845GE chipset delivers support for six quality channels of Dolby* Digital 5.1 surround sound[1], and dual independent DMA audio engines allow separate, simultaneous audio. This allows audio files to be played simultaneously with the sound track from a separate game or application.

9 Value-add platform software

The Intel® Application Accelerator delivers additional IDE performance to 845GE chipset-based platforms and provides headroom for future hard disk drives. Improved I/O transfer rates and faster O/S loads enables additional performance and accelerated boot times over native IDE drivers.

10 Wide interoperability

In adding DDR333 main memory support, we worked closely with memory suppliers to update the specifications (including both component silicon changes and DIMM board layout changes) and to conduct compliance testing. Our own chipset platform validation assures this new memory enables awesome performance and wide interoperability on Intel 845GE chipset-based platforms.

[1] Separate license may be required; contact vendor for details.

[3] 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 for information

Intel® Pentium® 4 Processor Family[4]

533/400 MHz   4.2 or 3.2 GB/s

AGP4X

>1 GB/s

Digital Video Out (integrated graphics only)

82845GE GMCH

DDR266/333

Intel® Hub Architecture

ATA 100 MB/s 2 IDE Channels

6 Channel Audio

82801DB ICH4

133 MB/s

PCI

LAN Interface

USB 2.0 6 Ports

Flash BIOS