INTEL® 845PE CHIPSET
PRODUCT BRIEF

A platform with the innovative features, exceptional user value, and system performance needed to power robust applications for today and tomorrow.

The Intel® 845PE chipset and the Intel® Pentium® 4 processor deliver outstanding overall system performance.

Intel® 845PE
CHIPSET
Supporting
Hyper-Threading Technology

The Intel® 845PE chipset.

The Intel® 845PE chipset is the newest discrete chipset for the Pentium® 4 processor, and was developed with DDR333 memory so you can be confident that this platform offers a complete, robust solution for a broad range of demanding computing needs. In adding DDR333 main memory support, we worked closely with the industry to update memory specifications and validate compliance so that you can count on outstanding performance and interoperability.

The Intel 845PE chipset has been designed and optimized to support the Intel® Pentium® 4 Processor supporting Hyper-Threading Technology[1], 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 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, and improves system performance and responsiveness.

The combination of an Intel Pentium 4 Processor supporting Hyper-Threading Technology[1], 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. With systems based on the Intel Pentium 4 Processor with HT Technology[3], users can perform multiple complex tasks simultaneously, such as accessing instant messaging while playing their favorite online game or downloading music while managing their digital photos.

We designed two controller hubs into the 845PE chipset. The 82845PE Memory Controller Hub (MCH) supports both 533-MHz and 400-MHz system bus designs; DDR333 or DDR266 SDRAM memory; and the latest graphics devices through the 1.5V AGP4X interface.

The 82801DB I/O Controller Hub (ICH4) integrates Hi-Speed USB 2.0[2] technology, offering greater bandwidth for I/O-intensive applications and enabling new heights for multimedia streaming. The Intel® Application Accelerator adds new capabilities in acoustic and power management, as well as support for large disk drives for accelerated boot times and application launches.

The 845PE chipset utilizes these features to deliver a compelling solution for a broad range of market segments:

- Innovative architecture enhancements such as wider data paths and flexible memory refresh technology enable optimum DDR SDRAM performance.
- Advanced packaging technology and industry-leading electrical design innovations ensure long-term system reliability over a wide range of operating conditions.
- Support for higher-bandwidth DDR333/266 SDRAM memory provides exceptional performance across the full range of multimedia and 3D-intensive applications while offering the cost benefits and reliability of SDRAM architecture.
- Optimized for the Intel Pentium 4 Processor supporting Hyper-Threading Technology[1], the 845PE chipset delivers faster system performance and responsiveness.
- 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.

[1]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.

[2]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.

FEATURES	BENEFITS
533-MHz and 400-MHz System Bus	Supports platform longevity with the highest processor frequencies. Increases system bandwidth for greater responsiveness.
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® Hub Architecture	Dedicated data paths deliver maximum bandwidth for I/O-intensive applications.
DDR333/266 SDRAM	Supports up to DDR333 SDRAM memory for higher system performance.
AGP4X Interface	High-bandwidth interface delivers high-quality 2D, 3D, and video streams and is compatible with universal AGP8X graphics cards.
Alert on LAN* 2.0	Emits an alert in case of software failures or system intrusion, even when the O/S is not present or the system is suspended.
Integrated Hi-Speed USB 2.0	Six ports offer up to 480 MB/s, enabling ultra-fast data transfers 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 to accelerate boot time and application launch times.
AC'97 Controller	Supports Dolby* Digital 5.1 surround sound[2], 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.

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

PRODUCT PACKAGE

Intel® Pentium® 4 Processor	478 Flip Chip Pin Grid Array (FCPGA)
Intel® 82845PE MCH	760 Flip Chip Pin Grid Array (FCBGA)
Intel® 82801DB ICH4	421 Micro Ball Grid Array (MBGA)

INTEL ACCESS

Developer Site	developer.intel.com/
Intel® Chipsets Home Page	developer.intel.com/design/chipsets/
Other Intel Support	http://support.intel.com
Intel Literature Center	(800) 548-4725 7 a.m. to 7 p.m. CST *(U.S. and Canada)* *International locations please contact your local sales office.*
General Information Hotline	(800) 628-8686 or (916) 356-3104 5 a.m. to 5 p.m. PST
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