Intel® Core™ i7 Processor Extreme Edition

The highest performing desktop processor on the planet for extreme gamers and demanding enthusiasts.[1]

Overview

Conquer the world of extreme gaming with the fastest processor on the planet: the Intel® Core™ i7 processor Extreme Edition.[1] With faster, intelligent multi-core technology that dynamically accelerates performance to match your workload, it delivers an incredible breakthrough in gaming performance.

But performance doesn't stop at gaming. You'll multitask faster and unleash incredible digital media creation.[2] In fact, you'll experience maximum performance for whatever you do, thanks to the combination of Intel® Turbo Boost Technology[3] and Intel® Hyper-Threading Technology[4], which activates full processing power exactly where and when you need it the most.

Wield the Ultimate Gaming Weapon

The Intel Core i7 processor Extreme Edition can not only take on today's most complex and immersive games, but it's also powerful enough to handle tomorrow's gaming advances. Experience smoother and more realistic gaming made possible by distributing AI, physics, and rendering across four cores and eight software threads. For added flexibility, overspeed protection is removed allowing technical enthusiasts to tune the system for maximum performance.[5]

Breakaway Performance for Digital Media Creation

Take digital content creation to a whole new level with the Intel Core i7 processor Extreme Edition. Enjoy up to 79% faster video encoding and up to 46% faster image rendering, plus incredible performance for photo retouching and photo editing.[6, 7] Experience total creative freedom that's limited only by your imagination.

Gear up for Extreme Processing Power

Unique Intel® Turbo Boost Technology[3] dynamically accelerates performance to match your workload and maximize speed for demanding applications. New performance-maximized memory access technologies work together to reduce latency and more than double memory bandwidth for faster memory access.[8] Achieve up to 25 percent faster multitasking performance by handling multiple applications simultaneously so you experience less wait time.[2]

The Intel® Core™ i7 processor Extreme Edition offers unprecedented bandwidth and memory performance, including an integrated memory controller with 3 channels of DDR3, 2 DIMMs per channel, and up to 25.6 GB/s bandwidth for DDR3 1066 MHz.

Processor Comparison Table

	Intel® Core™ i7-965	Intel® Core™2 Extreme QX9770	Intel® Core™2 Extreme QX9650
Number of Simultaneous Threads	8 (with Hyper-Threading)	4	4
Processor Integrated Memory Controller	Yes	No	No
Intel® Turbo Boost Technology[3]	Yes	No	No
Number of Memory Channels	3	2	2
Intel® Express Chipset	X58	X48	X48, X38, P45, P35

Features and Benefits of the Intel® Core™ i7 Processor Extreme Edition

Feature	Benefit
Quad-Core Processing	Provides four independent execution cores in one processor package. Four dedicated processing cores help operating systems and applications deliver additional performance, so end users can experience better multitasking and multithreaded performance across many types of applications and workloads.
Intel® Hyper-Threading Technology[4]	Delivers two processing threads per physical core for a total of eight threads for massive computational throughput. With Intel® Hyper-Threading Technology, highly threaded applications can get more work done in parallel, completing tasks sooner. With more threads available to the operating system, multitasking becomes even easier. This amazing processor can handle multiple applications working simultaneously, allowing you to do more with less wait time.
Intel® Turbo Boost Technology[3]	Dynamically increases the processor's frequency as needed by taking advantage of thermal and power head-room when operating below specified limits. Get more performance automatically, when you need it the most.
8 MB Intel® Smart Cache	This large last-level cache enables dynamic and efficient allocation of shared cache to all four cores to match the needs of various applications for ultra-efficient data storage and manipulation.
Intel® QuickPath Interconnect	Intel's latest system interconnect design increases bandwidth and lowers latency, while achieving data transfer speeds as high as 25.6 GB/s.
Integrated Memory Controller	An integrated memory controller with three channels of DDR3 1066 MHz offers memory performance up to 25.6 GB/s. Combined with the processor's efficient prefetching algorithms, this memory controller's lower latency and higher memory bandwidth delivers amazing performance for data-intensive applications.
Intel® HD Boost	Includes the full SSE4 instruction set, significantly improving a broad range of multimedia and compute-intensive applications. The 128-bit SSE instructions are issued at a throughput rate of one per clock cycle, allowing a new level of processing efficiency with SSE4-optimized applications.
Digital Thermal Sensor (DTS)	Provides for more efficient processor and platform thermal control improving system acoustics. The DTS continuously measures the temperature at each processing core. The ability to continuously measure and detect variations in processor temperature enables system fans to spin only as fast as needed to cool the system. The combination of these technologies can result in significantly lower noise emissions from the PC.
Intel® Wide Dynamic Execution	Improves execution speed and efficiency, delivering more instructions per clock cycle. Each core can complete up to four full instructions simultaneously.
Intel® Smart Memory Access	Improves system performance by optimizing the use of the available data bandwidth from the memory subsystem and reducing the effective latency of memory accesses.

For more information, visit the Intel Web site: www.intel.com/products/desktop/processors

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