

News Byte

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Today, Intel is releasing the specifications for the 12- to 18-core processors: Intel® Core™ i9-7920X, Intel Core i9-7940X, Intel Core i9-7960X and the Extreme Edition Intel Core i9-7980XE processors. Announced at [Computex 2017](#), the Intel Core X-series processor family is the most powerful, scalable and accessible high-end desktop platform¹ offered by Intel, designed to deliver the performance needed to meet extreme computing demands for virtual reality (VR), content creation, gaming and overclocking.

The new X-series processor family is the ultimate platform for content creators and gamers. Multitasking becomes extreme mega-tasking with simultaneous, compute-intensive, multithreaded workloads aligned in purpose, powered by up to 18 cores and 36 threads. And, with up to 68 PCIe 3.0 lanes on the platform, people have the ability to expand their systems with fast SSDs, up to four discrete GFX cards and ultrafast Thunderbolt™ 3 solutions.

Content creators can expect up to 20 percent better performance for VR content creation² and up to 30 percent faster 4K video editing³ over the previous generation. This means less time waiting and more time designing new worlds and experiences. Gamers and enthusiasts will experience up to 30 percent faster extreme mega-tasking for gaming⁴ over the previous generation.

Press kit: Intel Core X-series Processors

The 12-core Intel® Core™ X-series processor will be available starting on Aug. 28, and 14- to 18-core Intel® Core™ X-series processors will be available starting Sept. 25. The 4- to 10-core Intel® Core™ X-series processors are already on shelves and available at [multiple retailers](#), along with more than 200 Intel X299 Chipset motherboards.

Product specifications:

- [Intel Core X-series processor family fact sheet](#)
- [Intel Core X-series processor family product overview](#)
- [Intel Core X-series processors \(Intel.com\)](#)

UNLOCKED INTEL® CORE™ X-SERIES PROCESSOR FAMILY										
Processor number ¹	Base clock speed (GHz)	Intel® Turbo Boost Technology 2.0 frequency ² (GHz)	Intel® Turbo Boost Max Technology 3.0 Frequency ³ (GHz)	Cores/ threads	L3 cache	PCI express 3.0 lanes	Memory support	TDP	Socket (LGA)	RCP Pricing (1K USD)
i9-7980XE NEW	2.6	4.2	4.4	18/36	24.75 MB	44	Four channels DDR4-2666	165W	2066	\$1,999
i9-7960X NEW	2.8	4.2	4.4	16/32	22 MB	44	Four channels DDR4-2666	165W	2066	\$1,699
i9-7940X NEW	3.1	4.3	4.4	14/28	19.25 MB	44	Four channels DDR4-2666	165W	2066	\$1,399
i9-7920X NEW	2.9	4.3	4.4	12/24	16.5 MB	44	Four channels DDR4-2666	140W	2066	\$1,199
i9-7900X NEW	3.3	4.3	4.5	10/20	13.75 MB	44	Four channels DDR4-2666	140W	2066	\$999
i7-7820X NEW	3.6	4.3	4.5	8/16	11 MB	28	Four channels DDR4-2666	140W	2066	\$599
i7-7800X NEW	3.5	4.0	NA	6/12	8.25 MB	28	Four channels DDR4-2400	140W	2066	\$389
i7-7740X NEW	4.3	4.5	NA	4/8	8 MB	16	Two channels DDR4-2666	112W	2066	\$339
i5-7640X NEW	4.0	4.2	NA	4/4	6 MB	16	Two channels DDR4-2666	112W	2066	\$242

1. Intel processor numbers are not a measure of performance. Processor numbers differentiate features within each processor family, not across different processor families. See [intel.com/products/processor_numbers](#) for details.
2. Refers to the maximum dual-core frequency that can be achieved with Intel® Turbo Boost Technology 2.0.
3. Refers to the maximum dual-core frequency that can be achieved with Intel® Turbo Boost Max Technology 3.0.

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¹ Based on SPECint_rate_base2006 n-copy using Intel® Core™ i9-7900X vs Intel® Core™ i7-6950X

² As measured by Blender 2.78c BMW workload on Intel® Core™ i9-7900X vs. Intel® Core™ i7-6950X

³ As measured by Adobe Premiere Pro Workload on Intel® Core™ i9-7900X vs. Intel® Core™ i7-6950X

⁴ As measured by “Extreme Mega-tasking” workload on Intel® Core™ i9-7900X w/ Nvidia® GTX1080Ti vs. Intel® Core™ i7-6950X w/ Nvidia® GTX 1080Ti. Extreme mega-tasking workload consists of measuring the time it takes to perform video encode using Adobe® Media Encoder, while playing Overwatch® in ultra-graphics quality settings and recording + streaming to Twitch®.

Intel Core™ i9-7900X Processor (3.3GHz up to 4.5GHz, 10C/20T, 13.75MB, 140W TDP) measured on – Motherboard: Gigabyte X299, Memory: 4x8GB DDR4-2666, Storage: Intel 750 PCIe SSD- 400GB, OS: Windows® 10 (RS2), Graphics: Nvidia GTX 1080Ti (Driver 22.21.13.8233), BIOS:BIOS F5H , Intel® Turbo Boost Max Driver Version 1.0.0.1029, System Power Management Policy: High Performance

Workload Description

SPEC*int_rate_base2006 is a benchmark from the SPEC consortium that measures device performance and throughput using compute intensive application subtests. SPEC*int_rate_base2006 (1 copy) measures how fast a device completes a single integer compute task. SPEC*int_rate_base2006 (n copy) measures throughput, or how many integer compute tasks a device can accomplish in a given amount of time.

Software and workloads used in performance tests may have been optimized for performance only on Intel microprocessors. Performance tests, such as SYSmark and MobileMark, are measured using specific computer systems, components, software, operations and functions. Any change to any of those factors may cause the results to vary. You should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products. For more complete information visit <http://www.intel.com/benchmarks>.

Altering clock frequency or voltage may damage or reduce the useful life of the processor and other system components, and may reduce system stability and performance. Product warranties may not apply if the processor is operated beyond its specifications. Check with the manufacturers of system and components for additional details.

Intel technologies' features and benefits depend on system configuration and may require enabled hardware, software or service activation. Performance varies depending on system configuration. Check with your system manufacturer or retailer or learn more at www.intel.com.

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