ComX Computers
Product Specification Sheet

CP-i2H6900K

Intel Broadwell-e Core i7-6900K 3.2Ghz 8 core+Hyper-Threading / 16 threads LGA 2011 Processor (unlocked)

Product Overview

Intel Broadwell-e i7-6900K LGA 2011 - 8 core+Hyper-Threading / 16 threads, 3.2Ghz / 4.0Ghz turbo boost, 40x PCI-express lanes, 5GT/s -1x QPi, VT-x + AES-N, VT-d + no TXT, built-in Quad channel DDR4-2133 memory controller, support up to 128Gb, 76.8Gb/sec memory bandwidth, 14nm - 20mb smart cache - box CPU with no fan | speed / turbo boost - Ghz : 3.2 / 4.0, built-in GPU : N, L3 Cache - mb : 20, core / thread : 8 / 16, memory controller : 4x DDR4-2133, memory bandwidth - gb/sec : 76.8, max memory size - Gb : 128, micron - nm : 14, TDP - w : 140, vPro : N, VT-x : Y, VT-d (VT for Direct i/ o) : Y, TXT : N, code name : Broadwell, pci-E lane : 40



Specifications

About this product

The Intel Core i7-6900K Broadwell-E processor delivers high-end desktop performance with 8 cores, 16 threads, and up to 4.0GHz Intel Turbo Boost technology. Designed for the LGA 2011 platform, it features quad channel DDR4 memory support, 40 PCI Express lanes, and a large 20MB Smart Cache, making it ideal for demanding professional workloads, content creation, virtualization, and enthusiast desktop systems. Buy now from our website for reliable high performance computing and quick delivery in South Africa.

Overview Summary

Intel Core i7-6900K Broadwell-E 8-Core Desktop Processor

The Intel Core i7-6900K is a high-end desktop processor built on Intel's 14nm Broadwell-E architecture. Featuring 8 physical cores with Intel Hyper-Threading technology for a total of 16 processing threads, it is designed to handle demanding multitasking, professional content creation, virtualization, software development, and workstation applications.

With a base clock speed of 3.2GHz and Intel Turbo Boost up to 4.0GHz, the processor delivers excellent responsiveness for lightly threaded workloads while maintaining strong multi-core performance. Support for quad channel DDR4-2133 memory, up to 128GB of RAM, and 40 PCI Express lanes makes it suitable for high-end graphics cards, NVMe storage, and multiple expansion devices.

Its large 20MB Intel Smart Cache, advanced virtualization technologies, AES-NI hardware encryption support, and high memory bandwidth help improve efficiency across demanding applications. This processor is intended for enthusiast desktop systems and professional workstations that require exceptional processing capability.

Performance tier: Enthusiast

Uses: Content creation, video editing, 3D rendering, virtualization, software development, workstation computing, engineering applications, multitasking, enthusiast desktop systems

Description

The Intel Core i7-6900K is part of Intel's Broadwell-E family of enthusiast desktop processors and is engineered for users who require exceptional multi-threaded computing performance. Its 8-core, 16-thread design allows demanding applications to execute efficiently while maintaining responsive system performance during heavy multitasking.

The processor integrates a quad channel DDR4-2133 memory controller capable of supporting up to 128GB of system memory with bandwidth up to 76.8GB per second. This enables efficient handling of memory intensive workloads including video production, professional photography, engineering software, virtual machines, and scientific computing.

Forty PCI Express lanes provide outstanding platform flexibility for multiple graphics cards, high-speed NVMe storage devices, and expansion cards without significant bandwidth limitations. Hardware support for Intel VT-x, VT-d, and AES-NI further improves virtualization performance and hardware accelerated encryption for enterprise and professional applications.

The Intel Core i7-6900K is supplied as a boxed processor without a cooling fan, allowing enthusiasts and system builders to select a compatible cooling solution appropriate for its 140W thermal design power.

Features

The Intel Core i7-6900K combines high core counts with advanced desktop platform features for demanding computing environments.

- 8 physical processing cores.
- 16 simultaneous processing threads using Intel Hyper-Threading Technology.
- 3.2GHz base clock speed.
- Up to 4.0GHz Intel Turbo Boost frequency.
- 20MB Intel Smart Cache.
- 40 PCI Express lanes for multiple high bandwidth devices.
- Quad channel DDR4-2133 memory controller.
- Supports up to 128GB system memory.
- Memory bandwidth up to 76.8GB per second.
- Intel VT-x virtualization support.
- Intel VT-d support for directed I/O virtualization.
- AES-NI hardware encryption acceleration.
- 14nm Broadwell-E architecture.
- Boxed processor supplied without a cooling fan.

What's in the Box

- 1 x Intel Core i7-6900K processor.
- 1 x Retail packaging.
- Documentation.

Specifications

Essentials	
Processor Number	i7-6900K
Cache	20 MB

Instruction Set	64-bit
Embedded Options Available	No
Lithography	14 nm
Scalability	1S Only
Conflict Free	Yes
Performance	
# of Cores	8
# of Threads	16
Processor Base Frequency	3.2 GHz
Max Turbo Frequency	4 GHz
TDP	140 W
Memory Specifications	
Max Memory Size (dependent on memory type)	128 GB
Memory Types	DDR4 2400/2133
Max # of Memory Channels	4
ECC Memory Supported	No
Graphics Specifications	
Processor Graphics	None
Expansion Options	
PCI Express Revision	3
Max # of PCI Express Lanes	40
Package Specifications	
Max CPU Configuration	1
Sockets Supported	FCLGA2011-3
Advanced Technologies	
Intel Turbo Boost Max Technology 3.0	Yes
Intel Turbo Boost Technology	2
Intel vPro Technology	No
Intel Hyper-Threading Technology	Yes
Intel Virtualization Technology (VT-x)	Yes
Intel Virtualization Technology for Directed I/O (VT-d)	Yes
Intel VT-x with Extended Page Tables (EPT)	Yes
Intel 64	Yes

Idle States	Yes
Enhanced Intel SpeedStep Technology	Yes
Intel Smart Response Technology	Yes
Intel Data Protection Technology	
Intel AES New Instructions	Yes
Intel Platform Protection Technology	
Trusted Execution Technology	No
Execute Disable Bit	Yes

FAQ

What is the Intel Core i7-6900K best used for?

The Intel Core i7-6900K is designed for high performance desktop systems handling professional workloads including content creation, virtualization, software development, engineering applications, and heavy multitasking.

Does the Intel Core i7-6900K include integrated graphics?

No. This processor does not include integrated graphics and requires a dedicated graphics card.

Does this processor support DDR4 memory?

Yes. It supports quad channel DDR4-2133 memory with a maximum supported capacity of 128GB.

Does the processor include a CPU cooler?

No. The boxed Intel Core i7-6900K is supplied without a cooling fan, so a compatible cooling solution must be purchased separately.

How many PCI Express lanes does this processor provide?

The processor provides 40 PCI Express lanes, making it suitable for multiple graphics cards and high speed storage devices.

Does the processor support virtualization?

Yes. The processor supports Intel VT-x and Intel VT-d technologies for virtualization environments.

Product Information Online

For the latest product information, availability and purchasing details, please visit the product page:

Product page:
https://www.comx-computers.co.za/CP-i2H6900K-Intel-Broadwell-e-Core-i7-6900K-3-2Ghz-8-core-Hyper-Threading-16-threads-p-147385.php

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