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Product Specification Sheet

CP-I2h6950x

Intel Core i7-6950X 3.0Ghz Ten Core LGA 2011 Extreme Edition Processor

Product Overview

Intel Broadwell-e i7-6950X LGA 2011 - 10 core+Hyper-Threading / 20 threads, 3.0Ghz / 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 - 25mb smart cache - box CPU with no fan | speed / turbo boost - Ghz : 3.0 / 4.0, built-in GPU : N, L3 Cache - mb : 25, core / thread : 10 / 20, 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 i7-6950X Broadwell-E desktop processor delivers exceptional multi-threaded performance with 10 cores, 20 threads, and Turbo Boost up to 4.0GHz. Designed for the Intel LGA 2011 platform, it features quad channel DDR4 memory support, 40 PCI Express lanes, and a large 25MB Smart Cache, making it an excellent choice for demanding content creation, virtualization, workstation tasks, and enthusiast desktop systems. Buy now from our website for quick delivery in South Africa.

Overview Summary

Intel Core i7-6950X Broadwell-E 10-Core Desktop Processor

The Intel Core i7-6950X is a high-end desktop processor built on Intel's 14nm Broadwell-E architecture for the LGA 2011 socket. Featuring 10 physical cores with Hyper-Threading for a total of 20 processing threads, it provides outstanding performance for heavily threaded applications including video editing, 3D rendering, virtualization, software development, and professional content creation.

Operating at a base frequency of 3.0GHz with Intel Turbo Boost reaching up to 4.0GHz, the processor combines excellent single-thread responsiveness with exceptional multi-core performance. Support for quad channel DDR4-2133 memory delivers up to 76.8GB/s memory bandwidth, while 40 PCI Express lanes enable high-bandwidth graphics cards and storage devices without compromising performance.

With a large 25MB Intel Smart Cache, hardware virtualization support including Intel VT-x and VT-d, AES-NI encryption acceleration, and support for up to 128GB of system memory, the Core i7-6950X remains an excellent processor for enthusiast workstations and advanced desktop computing.

Performance tier: Enthusiast workstation

Uses: Video editing, 3D rendering, CAD, virtualization, software development, content creation, workstation computing, multi-GPU systems

Description

The Intel Core i7-6950X is engineered for users who require exceptional desktop computing performance across heavily threaded workloads. Built using Intel's 14nm Broadwell-E architecture, it combines 10 processing cores with Hyper-Threading technology to deliver 20 simultaneous threads for demanding professional applications.

The processor features a base clock speed of 3.0GHz and Intel Turbo Boost technology capable of reaching up to 4.0GHz when additional performance is required. A generous 25MB Intel Smart Cache helps reduce memory latency and improves responsiveness during complex workloads.

Designed for enthusiast desktop and workstation platforms, the processor supports quad channel DDR4-2133 memory with bandwidth up to 76.8GB/s and accommodates up to 128GB of system memory. Its 40 PCI Express lanes provide excellent expansion capability for high-performance graphics cards, NVMe storage devices, and professional expansion cards.

Additional technologies including Intel VT-x, Intel VT-d, and AES-NI hardware encryption acceleration make the Core i7-6950X well suited for virtualization environments, secure computing, engineering applications, digital content creation, and professional productivity.

Features

The Intel Core i7-6950X combines high core counts with advanced desktop platform features to deliver reliable performance across professional and enthusiast workloads.

- 10 physical processing cores.
- 20 simultaneous threads with Intel Hyper-Threading Technology.
- 3.0GHz base clock frequency.
- Up to 4.0GHz Intel Turbo Boost frequency.
- 25MB Intel Smart Cache.
- Built on Intel 14nm Broadwell-E architecture.
- Supports quad channel DDR4-2133 memory.
- Supports up to 128GB system memory.
- 76.8GB/s maximum memory bandwidth.
- 40 PCI Express lanes for high-bandwidth expansion.
- Intel VT-x virtualization support.
- Intel VT-d virtualization for directed I/O.
- AES-NI hardware encryption acceleration.
- No integrated graphics.
- Designed for Intel LGA 2011 desktop platforms.

What's in the Box

- 1 x Intel Core i7-6950X processor.
- 1 x Retail processor packaging.
- Documentation.

Specifications

Essentials	
Processor Number	i7-6950X

Cache	25 MB
Instruction Set	64-bit
Embedded Options Available	No
Lithography	14 nm
Scalability	1S Only
Conflict Free	Yes
Performance	
# of Cores	10
# of Threads	20
Processor Base Frequency	3 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 i7-6950X best used for?

The Intel Core i7-6950X is designed for high-performance desktop and workstation workloads. It is well suited for video editing, 3D rendering, virtualization, software development, engineering applications, and professional content creation that benefit from multiple CPU cores.

Does the Intel Core i7-6950X include integrated graphics?

No. This processor does not include integrated graphics, so a dedicated graphics card is required for display output.

What type of memory does this processor support?

The processor supports DDR4 memory. It features a quad channel DDR4-2133 memory controller with support for up to 128GB of system memory and a maximum memory bandwidth of 76.8GB/s.

Is this processor suitable for virtualization?

Yes. The processor supports Intel VT-x and Intel VT-d technologies, making it suitable for virtual machines, testing environments, and workstation virtualization.

Which socket is required for this processor?

The Intel Core i7-6950X uses the Intel LGA 2011 socket. It is intended for compatible Intel LGA 2011 desktop motherboards that support Broadwell-E processors.

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-I2h6950x-Intel-Core-i7-6950X-3-0Ghz-Ten-Core-LGA-2011-Extreme-Edition-Processor-p-147387.php

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