

intel
nuc

Intel® NUC 12 Extreme Compute Element

The Modular Future of Extreme Gaming

A high-performance foundation for the
immersive gaming experiences customers want.



intel.
CORE™
i9

intel.
CORE™
i7

Deliver Your Own Powerful Gaming Rig

Quickly add to your product offerings with just-in-time system builds that reduce R&D time and lower inventory costs. And get to market fast with customized designs and uniquely branded systems that gamers want. The innovative and power-packed Intel® NUC 12 Extreme Compute Element features 12th Gen Intel® Core™ processors and cutting-edge technologies including 10Gb Ethernet, and Intel® Wi-Fi 6E and Thunderbolt 4.

Along with the latest Intel® Core™ i9/i7 processors, the Intel NUC 12 Extreme Compute Element offers up to 64GB dual-channel memory. For the first time, 10Gb

Ethernet comes standard, bringing workstation-level networking to consumer gaming. Wireless gamers also get the latest and greatest, with Intel® Wi-Fi 6E on select SKUs to take advantage of the new 6GHz band.

The plug-and-play simplicity of the Intel NUC 12 Compute Element makes it easy to build and brand the small, feature-rich rigs gamers want—all backed by a three-year warranty from Intel.

Intel® NUC 12 Extreme Compute Element:
Easily create powerful custom gaming systems

Features

- 12th Gen Intel® Core™ i9/i7 processors
- Up to 64GB dual-channel DDR4-3200 SODIMMs
- 3 M.2 key M slots
- HDMI 2.0b connector
- 2 Thunderbolt™ 4 ports
- 6 USB 3.2 Gen2 Type-A
- Intel® Wi-Fi 6E AX211
- 10Gb Ethernet port standard; 2.5Gb Ethernet port on Intel® Core™ i9 processor SKUs
- Intel three-year warranty



Ideal for
Enthusiast gaming



Intel® NUC 12 Extreme Compute Element



	NUC12EDBi9	NUC12EDBi7
Processor	12th Generation Core™ i9-12900 processor Up to 5.1GHz Turbo Boost Max, 8P+8E cores, 24 threads, 30MB L3 Cache	12th Generation Core™ i7-12700 processor Up to 4.9GHz Turbo Boost Max, 8P+4E cores, 20 threads, 25MB L3 Cache
Graphics	Intel® UHD Graphics 770, PCIe 5.0 x16 Gold Finger. Up to 12" card length, dual-slot capable	
Memory	Dual-channel DDR4-3200 SODIMMs, 1.2V, 64GB max	
Storage	3 x M.2 key M slots: 1 x 80 CPU-attached PCIe x4 Gen4 NVMe, 2 x 42/80 PCH-attached PCIe x4 Gen4 NVMe or SATA3 SSD RAID-0 and RAID-1 capable Intel® Optane™ SSD and Intel® Optane™ Memory M10, H10, and H20 ready	
Other Features & Technology	HDMI 2.0b connector • Two Thunderbolt™ 4 ports • Supports 3 x 4K displays • Intel® Wi-Fi 6E AX211, 802.11ax 2x2 2.4Gbps w/ 6GHz + Bluetooth® v5.2 • dual internal antennas • M.2 2230 key E slot • 6 x USB 3.2 Gen2 Type-A • Up to 7.1 multichannel digital audio via HDMI or DisplayPort signals	
Operating System	Not included. Microsoft Windows, compatible w/ Windows Server 2019; compatible w/ various Linux distros	



* Processor is pre-installed on Intel® NUC 12 Compute Element

Intel® NUC 12 Extreme Compute Element

Additional Technical Specifications



Processor

- 12th Generation Core™ i9-12900 processor
Up to 5.1GHz Turbo Boost Max, 8P+8E cores, 24 threads, 30MB L3 Cache
- 12th Generation Core™ i7-12700 processor
Up to 4.9GHz Turbo Boost Max, 8P+4E cores, 20 threads, 25MB L3 Cache

Graphics

- Intel® UHD Graphics 770

Storage Capabilities

- 3 x M.2 key M slots:
 - 1 x 80 CPU-attached PCIe4 Gen4 NVMe
 - 2 x 42/80 PCH-attached PCIe x 4 Gen4 NVMe or SATA3 SSD
 - RAID-0 and RAID-1 capable
- Intel® Optane™ SSD and Intel® Optane™ Memory M10, H10, and H20 ready

System Memory

- Dual channel DDR4-3200 SODIMMs, 1.2V, 64GB max

Connectivity

- HDMI 2.0b connector
- 2x rear Thunderbolt™ 4 ports with 5V fast phone charging profiles
- Intel® Wireless, IEEE 802.11ax 2x2/Wi-Fi 6E AX211 + Bluetooth® 5, with internal antennas
- Six rear USB 3.2 Gen2 ports

- Front panel USB Type-C Key A internal header
- Front panel USB Type-C Key B internal header
- 10GbE port standard
- Intel 2.5GbE (i225-LM) port on select SKUs

System BIOS

- 256Mb Flash EEPROM with Intel® Platform Innovation Framework for EFI Plug and Play
- Advanced configuration and power interface V5.0b, SMBIOS2.5
- Intel® BIOS
- Intel® Express BIOS update support

Hardware Management Features

- Voltage and temperature sensing
- ACPI-compliant power management control

Expansion Capabilities

- Two internal USB 2.0 headers

Audio

- Up to 7.1 multi-channel digital audio via HDMI or DisplayPort signals

Operating System Compatibility

- Windows 11
- Windows 10
- Various Linux distros

Environment Operating Temperature

- 0 C to +35 C

Storage Temperature

- -20 C to +60 C

Safety Regulations and Standards

- IEC/EN/UL 60950-1
- IEC/EN/UL 62368-1

EMC/RF Regulations and Standards

- FCC Part 15B/15C/15E
- CISPR/EN 55032/55024
- ICES-003
- VCCI 32
- BSMI CNS 13438
- KN 32/35
- AS/NZS CISPR 32
- EN 300 328
- EN 301 893
- EN 300 440
- EN 301 489-1/3/17
- EN 62311
- AS/NZS 4268
- AS/NZS 2772.2
- ARPANSA

Environmental Regulations

- EU RoHS
- China RoHS
- Taiwan BSMI RoHS
- REACH

Energy Efficiency Regulations for Mini PCs

- US Energy Star and CEC
- EU ErP Directive
- China CEL
- South Korea E-standby
- Australia GEMS
- Israel Energy Source
- Japan Energy Saving Act
2022年度基準: 15区分,54.7kWh/年

Level up your gaming
www.intel.com/NUC

Intel products are not intended for use in medical, life-saving, or life-sustaining applications. Intel may make changes to specifications and product descriptions at any time, without notice.

All products, dates, and figures specified are preliminary based on current expectations, and are subject to change without notice. Availability in different channels may vary.

Actual Intel® NUC kit may differ from the image shown.

INFORMATION IN THIS DOCUMENT IS PROVIDED IN CONNECTION WITH INTEL® PRODUCTS. NO LICENSE, EXPRESS OR IMPLIED, BY ESTOPPEL OR OTHERWISE, TO ANY INTELLECTUAL PROPERTY RIGHTS IS GRANTED BY THIS DOCUMENT. EXCEPT AS PROVIDED IN INTEL'S TERMS AND CONDITIONS OF SALE FOR SUCH PRODUCTS, INTEL ASSUMES NO LIABILITY WHATSOEVER, AND INTEL DISCLAIMS ANY EXPRESS OR IMPLIED WARRANTY, RELATING TO SALE AND/OR USE OF INTEL PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT, OR OTHER INTELLECTUAL PROPERTY RIGHT.