intel nuc

Intel® NUC 12 Pro Mini PCs, Kits, & Boards

Small Size. Big Business Performance.

Boost business performance with 12th Gen Intel® Core™ processors and the latest features to support productivity, collaboration, and edge compute

Powerful Performance.
Perfect Fit.

Intel® NUC 12 Pro Mini PCs, Kits, and Boards raise the bar for performance and connectivity in a 4x4 device for productivity, collaboration, and edge compute. 12th Gen Intel® Core™ processors—plus up to 64GB dual-channel memory and massive SSD capacity—drive enterprise-class performance in a pint-sized PC. Collaboration is faster and easier than ever with lightning-fast wired and wireless connectivity options. Select SKUs come with **Intel vPro®** technology for remote manageability, hardware-enhanced security features, and platform stability to help businesses cut IT costs and boost uptime.

The systems are built to deliver great experiences at the edge, with their small size, numerous ports front and back, dual LAN expansion module (select SKUs), and these added features:

- **Intel Watchdog Utility: Monitors and can automatically restart applications.**
- **Display emulation: Enables emulation of displays for one or both HDMI ports when a display is not attached or is temporarily disconnected.**
- **Client management interface: HDMI CEC can be queried and configured via the WMI interface.**

Every Intel® NUC 12 Pro Mini PC, Kit, and Board is qualified for 24x7 operation and designed to last with a three-year warranty from Intel. For performance, connectivity, and reliability in a small footprint, these 4x4s are tough to beat.

Features

12th Gen Intel® Core™ i7/i5/i3 processors

Intel vPro® Enterprise with 12th Gen Intel® Core™ i7/i5 processors

Up to 64GB dual-channel DDR4-3200 memory

Intel® Iris® Xe graphics or Intel® UHD graphics

M.2 slots for PCIe x4 Gen 4 NVMe SSD and second SSD (select SKUs support third SSD)

2x Thunderbolt™ 4 ports (select SKUs),

3x USB 3.2 ports, 1 USB 2.0 port,

2x HDMI 2.1 TMDS Compatible

Intel® i225-V Ethernet for speeds up to 2.5 Gbps and Intel® Wi-Fi 6E AX211 (Gig+)

Tall SKU available with second Ethernet port (Intel® i225-V) and two additional USB 2.0 ports

Tolerates 0-40° C external ambient operating temperature

All USB ports with individual USB power control

Intel three-year warranty

Three-year product availability

Productivity
Including business computing and home office

Collaboration
Including video conferencing and huddle rooms

Edge compute
Including digital signage, digital kiosks, intelligent vending, and edge appliances

Connect up to **one 8K or four 4K displays**

Qualified for **24/7 operation**

Intel® NUC 12 Pro: Go Small for Big Performance

Intel vPro®
Built for Business

Select Intel® NUC 12 Pro SKUs feature Intel vPro® Enterprise for Windows with 12th Gen Intel® Core™ processors, delivering performance, security, stability, and manageability features f or managed businesses of all sizes.

Revolutionary business performance

High-performance Intel vPro® Enterprise with 12th Gen Intel® Core™ i7/i5 processors is designed to amplify employee productivity with industry-leading performance tuned for the workloads and applications business professionals use most.

Comprehensive security

Minimize business risks with comprehensive, multilayer security designed for isolated work environments.

Enterprise-grade stability

Take advantage of hardware stability and enterprise-level validation of key hardware components.

Hardware-based remote management

Use an out-of-band connection that operates independently of the OS to manage desktops and laptops remotely—even if the computer is off, the operating system fails, or there's no hard drive present.

- **Intel® Active Management Technology (Intel® AMT)**, part of Intel vPro, helps IT support a mobile workforce by bringing remote manageability where it is needed—even for those working outside the corporate firewall.

- **Intel® Endpoint Management Assistant (Intel® EMA)** allows IT to remotely and more securely manage Intel AMT devices beyond the firewall via the cloud.

Remote management features—only on Intel vPro Enterprise

With Intel AMT for Intel vPro Enterprise, businesses can access the full suite of remote device management capabilities, including these new features that can be performed with a single out-of-band command via Intel AMT and Intel EMA.

- **Intel® Remote Platform Erase** helps protect company assets and personal data by making it easy to clear all user and company data from Intel vPro devices before disposing, reselling, or returning
- **Remote Power Control** Hardware KVM - see it remotely even when it's down. Use KVM to remotely monitor OS upgrades or boot to the system BIOS.

Built with Intel® Core™ i7 vPro® processors

Intel® NUC 12 Pro Kits and Board

	Kits				Boards
	NUC12 WSKv7	**NUC12 WSHv7**	**NUC12 WSHv70Z**	**NUC12 WSKv70Z**	**BNUC12 WSBv70000**
	Tall	Slim	Tall	Slim	–
Processor	**12th Generation Intel® Core™ i7-1270P** **Intel® Iris® Xe Graphics, Intel® vPro® Technology** 12 Processor Cores (4P+8E), 16 threads, 18MB Intel® Smart Cache, 35W TDP P-Cores: 4.8GHz Turbo; E-Cores : 3.5GHz Turbo				
Graphics	Intel® Iris® Xe Graphics 96EU, 1.40 GHz				
Memory	Dual-channel DDR4-3200 SODIMMs, 1.2V, **64GB max**.				
Storage	**M.2 22x80** key M slot for PCIe x4 Gen 4 NVMe SSD **M.2 22x42** key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability				
Thunderbolt™ Technology	2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)		–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)
Other Features & Technology	**Intel® i225 -v** 10/100/1000/2500 Mbps RJ45 Ethernet | Discrete **TPM 2.0** | 2x front and 1x rear **USB 3.2** Gen 2 type A ports 1x rear type A and 2x internal **USB 2.0** headers | 2x **HDMI 2.1 TMDS Compatible** (4K@60Hz), with built-in CEC per port 3.5mm front **stereo headset jack** | Up to **7.1 multichannel (or 8-channel) digital audio** on HDMI and DP type C ports (select SKUs only)				
Wi-Fi	Intel® Wi-Fi 6E AX211 (Gig+) vPro, Bluetooth™ 5.2				M.2 2230 key E slot for **Intel® Wi-Fi 6E AX211 (Gig+)** card (sold separately)
Geo-Specific Power Cord	US, EU, or No Cord Option		–		
Operating System	–				
What's Needed	Memory, Storage and OS				–

Built with Intel® Core™ i5 vPro® processors

Intel® NUC 12 Pro Kits and Board

	Kits				Boards
	NUC12 WSHv5	**NUC12 WSKv5**	**NUC12 WSHv50Z**	**NUC12 WSKv50Z**	**BNUC12 WSBv50000**
	Tall	Slim	Tall	Slim	–
Processor	**12th Generation Intel® Core™ i5-1250P** **Intel® Iris® Xe Graphics, Intel® vPro® Technology** 12 Processor Cores (4P+8E), 16 threads, 12MB Intel® Smart Cache, 35W TDP P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo				
Graphics	Intel® Iris® Xe Graphics 80EU, 1.40 GHz				
Memory	Dual-channel DDR4-3200 SODIMMs, 1.2V, **64GB max**.				
Storage	**M.2 22x80** key M slot for PCIe x4 Gen 4 NVMe SSD **M.2 22x42** key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability				
Thunderbolt™ Technology	2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)		–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)
Other Features & Technology	**Intel® i225 -v** 10/100/1000/2500 Mbps RJ45 Ethernet | Discrete **TPM 2.0** | 2x front and 1x rear **USB 3.2** Gen 2 type A ports 1x rear type A and 2x internal **USB 2.0** headers | 2x **HDMI 2.1 TMDS Compatible** (4K@60Hz), with built-in CEC per port 3.5mm front **stereo headset jack** | Up to **7.1 multichannel (or 8-channel) digital audio** on HDMI and DP type C ports (select SKUs only)				
Wi-Fi	Intel® Wi-Fi 6E AX211 (Gig+) vPro, Bluetooth™ 5.2				M.2 2230 key E slot for **Intel® Wi-Fi 6E AX211 (Gig+)** card (sold separately)
Geo-Specific Power Cord	US, EU, or No Cord Option		–		
Operating System	–				
What's Needed	Memory, Storage and OS				–

Built with Intel® Core™ i7 processors

Intel® NUC 12 Pro Mini PCs, Kits and Boards

	Mini PC		Mini PC PRC only	Kits				Boards	
	RNUC12 WSKi70XC1	**RNUC12 WSKi70XC2**	**RNUC12 WSHi70QA6**	**NUC12 WSHi7**	**NUC12 WSKi7**	**NUC12 WSHi70Z**	**NUC12 WSKi70Z**	**BNUC12 WSBi70000**	**BNUC12 WSBi70Z00**
	Slim		Tall	Tall	Slim	Tall	Slim	–	–
Processor	**12th Generation Intel® Core™ i7-1260P** **Intel® Iris® Xe Graphics** 12 Processor Cores (4P+8E), 16 threads, 18MB Intel® Smart Cache, 35W TDP P-Cores: 4.8GHz Turbo; E-Cores: 3.4GHz Turbo								
Graphics	Intel® Iris® Xe Graphics 96EU, 1.40 GHz								
Memory	**2x8GB** DDR4-3200			Dual-channel DDR4-3200 SODIMMs, 1.2V, **64GB max.**					
Storage	**500GB** NVMe x4 Gen4 SSD			**M.2 22x80** key M slot for PCIe x4 Gen 4 NVMe SSD **M.2 22x42** key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability					
Thunderbolt™ Technology	–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)			–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)	–
Other Features & Technology	**Intel® i225 -v** 10/100/1000/2500 Mbps RJ45 Ethernet | Discrete **TPM 2.0** | 2x front and 1x rear **USB 3.2** Gen 2 type A ports 1x rear type A and 2x internal **USB 2.0** headers | 2x **HDMI 2.1 TMDS Compatible** (4K@60Hz), with built-in CEC per port 3.5mm front **stereo headset jack** | Up to **7.1 multichannel (or 8-channel) digital audio** on HDMI and DP type C ports (select SKUs only)								
Wi-Fi	Intel® Wi-Fi 6E AX211 (Gig+) on M.2 slot, Bluetooth™ 5.2							M.2 2230 key E slot for **Intel® Wi-Fi 6E AX211 (Gig+)** card (sold separately)	
Geo-Specific Power Cord	US	EU	CN	US, EU, CN or No Cord Option	US, EU or No Cord Option	–			
Operating System	Windows 11 Pro Standard		Windows 11 Home Plus	–	–	–			
What's Needed	–			Memory, Storage and OS				–	
VESA Bracket	Yes		No	–					
Box	Yes			–					

Built with Intel® Core™ i5 processors

Intel® NUC 12 Pro Mini PCs, Kits and Boards

	Mini PC		Mini PC PRC only	Kits				Boards	
	RNUC12 WSKi50YC1	**RNUC12 WSKi50YC2**	**RNUC12 WSHi50WA6**	**NUC12 WSHi5**	**NUC12 WSKi5**	**NUC12 WSHi50Z**	**NUC12 WSKi50Z**	**BNUC12 WSBi50000**	**BNUC12 WSBi50Z00**
	Slim		Tall	Tall	Slim	Tall	Slim	–	–
Processor	**12th Generation Intel® Core™ i5-1250P** **Intel® Iris® Xe Graphics** 12 Processor Cores (4P+8E), 16 threads, 12MB Intel® Smart Cache, 35W TDP P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo								
Graphics	Intel® Iris® Xe Graphics 80EU, 1.40 GHz								
Memory	**2x8GB** DDR4-3200			Dual-channel DDR4-3200 SODIMMs, 1.2V, **64GB max.**					
Storage	**500GB** NVMe x4 Gen4 SSD			**M.2 22x80** key M slot for PCIe x4 Gen 4 NVMe SSD **M.2 22x42** key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability					
Thunderbolt™ Technology	–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)			–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4) –	
Other Features & Technology	**Intel® i225 -v** 10/100/1000/2500 Mbps RJ45 Ethernet | Discrete **TPM 2.0** | 2x front and 1x rear **USB 3.2** Gen 2 type A ports 1x rear type A and 2x internal **USB 2.0** headers | 2x **HDMI 2.1 TMDS Compatible** (4K@60Hz), with built-in CEC per port 3.5mm front **stereo headset jack** | Up to **7.1 multichannel (or 8-channel) digital audio** on HDMI and DP type C ports (select SKUs only)								
Wi-Fi	Intel® Wi-Fi 6E AX211 (Gig+) on M.2 slot, Bluetooth™ 5.2							M.2 2230 key E slot for **Intel® Wi-Fi 6E AX211 (Gig+)** card (sold separately)	
Geo-Specific Power Cord	US	EU		US, EU, CN or No Cord Option	US, CN or No Cord Option	–			
Operating System	Windows 11 Pro Standard		Windows 11 Home Standard	–					
What's Needed	–			Memory, Storage and OS				–	
VESA Bracket	Yes		No	–					
Box	Yes			–					

Built with Intel® Core™ i3 processors

Intel® NUC 12 Pro Mini PCs, Kits and Boards

	Mini PC		Mini PC PRC only	Kits				Boards	
	RNUC12 WSKi30YC1	**RNUC12 WSKi30YC2**	**RNUC12 WSHi30WA6**	**NUC12 WSHi3**	**NUC12 WSKi3**	**NUC12 WSHi30Z**	**NUC12 WSKi30Z**	**BNUC12 WSBi30000**	**BNUC12 WSBi30Z00**
	Slim		Tall	Tall	Slim	Tall	Slim	–	
Processor	**12th Generation Intel® Core™ i3-1220P** **Intel® UHD Graphics** **10 Processor Cores** (2P+8E), 12 threads, 12MB Intel® Smart Cache, 20W TDP P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo								
Graphics	Intel® UHD Graphics for 12th Gen Intel® Processors								
Memory	**2x8GB** DDR4-3200			Dual-channel DDR4-3200 SODIMMs, 1.2V, **64GB max.**					
Storage	**500GB** NVMe x4 Gen4 SSD			**M.2 22x80** key M slot for PCIe x4 Gen 4 NVMe SSD **M.2 22x42** key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability					
Thunderbolt™ Technology	–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)			–		2x **Thunderbolt™ 4** ports (incl. DP 1.4a and USB 4)	–
Other Features & Technology	**Intel® i225 -v** 10/100/1000/2500 Mbps RJ45 Ethernet | Discrete **TPM 2.0** | 2x front and 1x rear **USB 3.2** Gen 2 type A ports 1x rear type A and 2x internal **USB 2.0** headers | 2x **HDMI 2.1 TMDS Compatible** (4K@60Hz), with built-in CEC per port 3.5mm front **stereo headset jack** | Up to **7.1 multichannel (or 8-channel) digital audio** on HDMI and DP type C ports (select SKUs only)								
Wi-Fi	Intel® Wi-Fi 6E AX211 (Gig+) on M.2 slot, Bluetooth™ 5.2							M.2 2230 key E slot for **Intel® Wi-Fi 6E AX211 (Gig+)** card (sold separately)	
Geo-Specific Power Cord	US	EU	CN	–		US, EU, CN and No Cord Option	US, EU and No Cord Option		
Operating System	Windows 11 Pro Standard		Windows 11 Home Standard	–					
What's Needed	–			Memory, Storage and OS				–	
VESA Bracket	Yes		No	–					
Box	Yes			–					

Intel® NUC 12 Pro

Mini PCs, Kits and Board

Processor

- 12th Generation Intel® Core™ i7-1270P
  Intel vPro® Technology
  Intel® Iris® Xe Graphics
  Intel vPro® Technology
  12 Processor Cores (4P+8E), 16 threads
  18MB Intel® Smart Cache, 35W TDP
  P-Cores: 4.8GHz Turbo; E-Cores: 3.5GHz Turbo
- 12th Generation Intel® Core™ i5-1250P
  Intel® vPro® Technology
  Intel® Iris® Xe Graphics
  12 Processor Cores (4P+8E), 16 threads
  12MB Intel® Smart Cache, 35W TDP
  P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo
- 12th Generation Intel® Core™ i7-1260P
  Intel® Iris® Xe Graphics
  12 Processor Cores (4P+8E), 16 threads
  18MB Intel® Smart Cache, 35W TDP
  P-Cores: 4.8GHz Turbo; E-Cores: 3.5GHz Turbo
- 12th Generation Intel® Core™ i5-1240P
  Intel® Iris® Xe Graphics
  12 Processor Cores (4P+8E), 16 threads
  12MB Intel® Smart Cache, 35W TDP
  P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo
- 12th Generation Intel® Core™ i3-1220P
  Intel® UHD Graphics for 12th Gen Intel® Processors
  10 Processor Cores (2P+8E), 12 threads
  12MB Intel® Smart Cache, 20W TDP
  P-Cores: 4.4GHz Turbo; E-Cores: 3.3GHz Turbo

Graphics

- i7 vPro, i7,
  Intel® Iris® Xe Graphics 96EU, 1.40 GHz
- i5 vPro, & i5 SKUs
  Intel® Iris® Xe Graphics 80EU, 1.40 GHz
- i3 SKUs
  Intel® UHD Graphics for 12th Gen Intel® Processors

Storage Capabilities

- M.2 22x80 key M slot for PCIe x4 Gen 4 NVMe SSD
- M.2 22x42 key B slot for PCIe x1 Gen 3, USB 3.2 Gen 2 and SATA SSD expandability

System Memory

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

Connectivity

- 2x Thunderbolt 4 ports (incl. DP 1.4a and USB 4) via back panel type C connectors (select SKUs only)
- 2x HDMI 2.1 TMDS Compatible (4K@60Hz), with built-in CEC per port
- 2x front and 1x rear USB 3.2 Gen 2 type A ports
- 1x rear type A and 2x internal USB 2.0 headers
- Front panel header (with Vcc5/1A, 5Vsby2A, 3.3Vsby/1A)
- All USB ports with individual USB power control
- Intel® i225-v 10/100/1000/2500 Mbps RJ45 Ethernet (i225-V on vPro SKUs; i225-V on non-vPro SKUs)
- Dual LAN tall SKU: 2nd Intel® i225-V Ethernet and two additional USB 2.0 ports on expansion module (optional)
- Intel® Wi-Fi 6E AX211 (Gig+) vPro, Bluetooth™ 5.2
- 3.5mm front stereo headset jack

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

- TDP settings for Core i5/i7 CPUs down-configurable to 20W
- Voltage and temperature sensing
- ACPI-compliant power management control

Chassis Expansion and Robustness

- 2nd Intel® i225-V Ethernet and 2 x additional USB 2.0 ports on expansion module (select SKUs only)
- Replaceable lid
- Kensington lock with base security
- Cable locking arm
- VESA mounting plate included
- Tall kits only: 2.5” drive bay (15mm SATA) and internal expansion bay via backpanel

Audio

- 3.5mm front stereo headset jack
- Up to 7.1 multichannel (or 8-channel) digital audio on HDMI and DP type C ports (select SKUs only)

Advanced Features

- Qualified for 24x7 operation
- Delayed AC start; Auto CMOS reset
- Display emulation (headless display, virtual display, persistent displays) via HDMI

Operating System Compatibility

- Microsoft Windows* 11, Windows 10 (logo’d), Windows 10 IOT Enterprise
- Compatible with various Linux distros

Power Requirements

- 12 – 20VDC ±5% input on rear jack, internal 2x2 power connector, with OVP/UVP, with DC transient voltage suppression
- 19VDC power supply adapter (120W for Core i7, i5; 90W for Core i3) with geo-specific AC cord (IEC C5)

Product Dimensions

- Board: 104x102 mm
- “K” chassis: 117x112x37 mm
- “H” chassis: 117x112x54 mm

Environment Operating Temperature

- 0 C to +35 C
- Up to 40degC external ambient operating temperature tolerance

Storage Temperature

- -20 C to +60 C

Safety Regulations and Standards

- IEC/EN 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

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

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