



# Mac Pro (Rack, 2023) - Tech Specs

Year introduced: 2023

Finish	Silver
Chip	<p><b>Apple M2 Ultra chip</b></p> <p>24-core CPU with 16 performance cores and 8 efficiency cores</p> <p>60-core GPU</p> <p>32-core Neural Engine</p> <p>800GB/s memory bandwidth</p> <p><b>Media engine</b></p> <p>Hardware-accelerated H.264, HEVC, ProRes and ProRes RAW</p> <p>Two video decode engines</p> <p>Four video encode engines</p> <p>Four ProRes encode and decode engines</p> <p><b>Configurable to:</b></p> <p>M2 Ultra with 24-core CPU, 76-core GPU and 32-core Neural Engine</p>
Memory	<p>64GB unified memory</p> <p><b>Configurable to:</b></p> <p>128GB or 192GB</p>
Storage <sup>1</sup>	<p>1TB SSD</p> <p><b>Configurable to:</b></p> <p>2TB, 4TB or 8TB</p>
Display Support	<p><b>Simultaneous support for up to eight displays:</b></p> <p>Eight displays with up to 4K resolution at 60Hz</p> <p>Six displays with up to 6K resolution at 60Hz</p> <p>Three displays with up to 8K resolution at 60Hz</p> <p><b>Thunderbolt 4 digital video output</b></p>

	<p>Support for native DisplayPort output over USB-C</p> <p><b>HDMI display video output (per port)</b></p> <p>Support for one display with up to 8K resolution at 60Hz or 4K resolution at 240Hz</p> <p>Support for variable refresh rate (VRR), HDR and multi-channel audio</p>
<b>Audio</b>	<p>Built-in speaker</p> <p>3.5mm headphone jack with advanced support for high-impedance headphones</p> <p>HDMI port supports multi-channel audio output</p>
<b>Expansion</b>	<p><b>Six full-length PCI Express gen 4 slots</b></p> <p>Two x16 slots</p> <p>Four x8 slots</p> <p><b>One half-length x4 PCI Express gen 3 slot with Apple I/O card installed</b></p> <p><b>300W auxiliary power available:</b></p> <p>Two 6-pin connectors delivering 75W of power each</p> <p>One 8-pin connector delivering 150W of power</p>
<b>Connections</b>	<p><b>Eight Thunderbolt 4 (USB-C) ports</b></p> <p>Six ports on the back of the enclosure and two ports on the top of the tower enclosure or two ports on the front of the rack enclosure</p> <p>Support for:</p> <p>Thunderbolt 4 (up to 40Gb/s)</p> <p>DisplayPort</p> <p>USB 4 (up to 40Gb/s)</p> <p>USB 3.1 Gen 2 (up to 10Gb/s)</p> <p><b>Internal connections</b></p> <p>One USB-A port (up to 5Gb/s)</p> <p>Two Serial ATA ports (up to 6Gb/s)</p> <p><b>Additional connections</b></p> <p>Two USB-A ports (up to 5Gb/s)</p> <p>Two HDMI ports</p> <p>Two 10Gb Ethernet ports</p> <p>3.5mm headphone jack</p>
<b>Communications</b>	<p><b>Wi-Fi</b></p> <p>Wi-Fi 6E (802.11ax)<sup>2</sup></p> <p><b>Bluetooth</b></p> <p>Bluetooth 5.3</p> <p><b>Two 10Gb Ethernet ports</b></p> <p>10Gb Ethernet (Nbase-T Ethernet with support for 1Gb, 2.5Gb, 5Gb and 10Gb Ethernet using RJ-45 connector)</p>

## Input Devices

Magic Keyboard with Touch ID and Numeric Keypad  
Magic Mouse  
Optional Magic Trackpad

## Enclosure

Mac Pro rack enclosure with rack mount rails

## Size and Weight

**Height:** 22.02 cm (8.67 inches) 5U  
**Width:** 48.2 cm (18.98 inches)  
**Enclosure depth (from handle):** 53.95 cm (21.24 inches)  
**Handle depth:** 4.60 cm (1.81 inches)  
**Enclosure depth (from fascia):** 49.35 cm (19.43 inches)  
**Minimum rack depth:** 60.96 cm (24.0 inches)  
**Maximum rack depth:** 106.68 cm (42.0 inches)  
**Weight:** 17.21 kg (37.9 pounds)<sup>3</sup>

## Electrical and Operating Requirements

**Line voltage:** 100–240V AC at 12A; 220–240V AC at 6A  
**Frequency:** 50Hz to 60Hz, single phase  
**Maximum continuous power:** 1280W at 108–125V or 220–240V; 1180W at 100–107V  
**Operating temperature:** 10° to 35° C (50° to 95° F)  
**Storage temperature:** –40° to 47° C (–40° to 116° F)  
**Relative humidity:** 5% to 95% non-condensing  
**Maximum altitude:** tested up to 5,000 metres (16,400 feet)  
**Typical acoustical performance:** sound pressure level (operator position): 5 dBA at idle<sup>4</sup>

## In the Box

Mac Pro  
Rack mount rails (shipped in separate box)  
Magic Keyboard with Touch ID and Numeric Keypad  
Magic Mouse  
Power lead (2m)  
USB-C Charge Cable (1m)

## Operating System

macOS

macOS is the most advanced desktop operating system in the world. And with macOS Sonoma, work and play on your Mac are even more powerful — with new ways to elevate your video presentations, boost your gaming performance and personalise your device.

[Learn more about latest operating system](#)

## Accessibility

Accessibility features help people with disabilities get the most out of their new Mac Pro. With built-in support for vision, hearing, mobility and learning, you can create and do amazing things.

[Learn more about accessibility](#)

## Features include:

Voice Control	Reduce Motion
VoiceOver	Siri and Dictation
Zoom	Switch Control
Increase Contrast	

## Built-in Apps<sup>5</sup>

App Store	Mail	Preview
Books	Maps	QuickTime Player
Calendar	Messages	Reminders
Contacts	Music	Safari
FaceTime	News	Shortcuts
Find My	Notes	Siri
Freeform	Numbers	Stocks
GarageBand	Pages	Time Machine
Home	Photo Booth	TV
iMovie	Photos	Voice Memos
Keynote	Podcasts	

## Configure to Order

Configure your Mac Pro with these options at [apple.com](https://apple.com):

M2 Ultra with 24-core CPU, 76-core GPU and 32-core Neural Engine  
128GB unified memory  
192GB unified memory  
2TB, 4TB or 8TB SSD  
Wheels (tower)

## Mac Pro and the Environment

Mac Pro is designed with the following features to reduce its environmental impact:<sup>6</sup>

[See the Mac Pro Product Environmental Report \(PDF\).](#)

### Made with better materials

30% recycled content in the entire product,<sup>7</sup> including:  
70% recycled aluminium in the enclosure  
100% recycled rare earth elements in the speaker magnets  
100% recycled gold in the plating of multiple printed circuit boards  
100% recycled tin in the solder of multiple printed circuit boards  
35% or more recycled plastic in multiple components

### Energy efficient

ENERGY STAR® certified<sup>8</sup>

### Smarter chemistry<sup>9</sup>

Mercury-, BFR-, PVC- and beryllium-free

### Green manufacturing

Over 20% of manufacturing electricity sourced from supplier clean energy projects<sup>10</sup>  
No established final assembly supplier sites generate any waste sent to landfill<sup>11</sup>

### Responsible packaging

100% of virgin wood fibre comes from responsibly managed forests<sup>12</sup>

95% fibre-based packaging<sup>13</sup>

### Progress towards our 2030 goal

Reduced emissions for Mac Pro by 34% against our baseline<sup>14</sup>

### Apple and the Environment

Today, Apple is carbon neutral for global corporate operations, and we are focused on our Apple 2030 goal to make every product carbon neutral.

[See Apple's commitment](#)

Declared noise emission values in accordance with ECMA-109

## Acoustic Performance

Sound Power Level	
$L_{WA,m}$ (B)	
Idle	2.4 ( $K_v = 0.3$ )
Wireless web	2.4 ( $K_v = 0.3$ )

1.  $L_{WA,m}$  is the mean A-weighted sound power level, rounded to the nearest 0.1 B.
2.  $L_{pA,m}$  is the mean A-weighted sound pressure level measured at operator position (rounded to the nearest 1 dB).
3. 1 B (bel) = 10 dB (decibel).
4.  $K_v$  is the statistical adder for computing upper-limit of A-weighted sound power level.
5. The quantity,  $L_{WA,c}$  (formerly called  $L_{WA,d}$ ) may be computed from the sum of  $L_{WA,m}$  and  $K_v$ .
6. The wireless web test browses 6 tabs with a mix of content including media.
7. Configuration tested: Mac Pro with M2 Ultra chip, 24-core CPU / 60-core GPU, 64 GB unified memory, 1 TB storage, rack enclosure.

1. 1TB = 1 trillion bytes; actual formatted capacity less.
2. Wi-Fi 6E connectivity available in countries where supported.
3. Weight varies by configuration and manufacturing process.
4. Acoustics measured from typical operator position sitting in front of standard Mac Pro system. Acoustics may vary by configuration.
5. iMovie, GarageBand, Pages, Numbers and Keynote are available on the Mac App Store. Downloading apps requires an Apple ID and a device that is compatible with the OS version required for each app.
6. Data accurate as of product launch.
7. Product recycled or renewable content is the mass of certified recycled material relative to the overall mass of the device, not including packaging or in-box accessories.
8. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the US Environmental Protection Agency.
9. Apple's Regulated Substances Specification describes Apple's restrictions on the use of certain chemical substances in materials in Apple products, accessories, manufacturing processes, and packaging used for shipping products to Apple's end-customers. Restrictions are derived from international laws or directives, regulatory agencies, eco-label requirements, environmental standards and Apple policies. Every Apple product is free of PVC and phthalates except for AC power leads in India, Thailand (for two-pin AC power leads) and South Korea, where we continue to seek government approval for our PVC and phthalates replacement. Apple products comply with the European Union Directive 2011/65/EU and its amendments, including exemptions for the use of lead such as high-temperature solder. Apple is working to phase out the use of these exempted substances for new products where technically possible.
10. We estimate the percentage of electricity-related emissions in our manufacturing that is sourced from clean electricity by attributing to our carbon model clean energy procured by our suppliers in the prior fiscal year, based on the supplier manufacturing allocations at time of product launch. Included in this number is only clean electricity that Apple or its suppliers have procured as part of Apple's Supplier Clean Energy Programme.
11. All established final assembly supplier sites—those that have been Apple suppliers for more than one year—for Mac Pro are third-party verified as Zero Waste by UL LLC (UL 2799 Standard). UL requires at least 90% diversion through methods other than waste to energy to achieve Zero Waste to Landfill designations (Silver 90–94%, Gold 95–99% and Platinum 100%).

- 12. Responsible sourcing of wood fibre is defined in Apple’s Sustainable Fibre Specification. We consider wood fibres to include bamboo.
- 13. Breakdown of US retail packaging by weight. Adhesives, inks and coatings are excluded from our calculations of plastic content and packaging weight.
- 14. Carbon reductions are calculated against a baseline scenario: 1) No use of clean electricity for manufacturing or product use, beyond what is already available on the grid (based on regional emissions factors). 2) Apple’s carbon intensity of key materials as of 2015 (our baseline year for our 2030 product carbon neutrality goal). Carbon intensity of materials reflects use of recycled content and production technology. 3) Apple’s average mix of transportation modes (air, rail, ocean, ground) by product line across three years (fiscal years 2017 to 2019) to best capture the baseline transportation emissions of our products.

Helpful?

Yes

No

Support

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