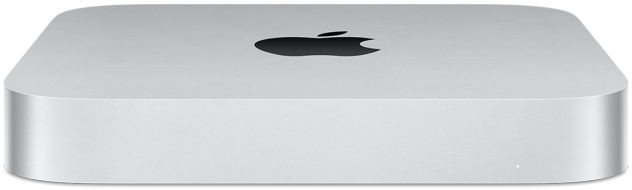
Mac mini (2023) - Technical Specifications



Finish

- Silver

Chip
Apple M2 chip

- 8-core CPU with 4 performance cores and 4 efficiency cores
- 10-core GPU
- 16-core Neural Engine
- 100GB/s memory bandwidth
- Media engine
  - Hardware-accelerated H.264, HEVC, ProRes, and ProRes RAW
  - Video decode engine
  - Video encode engine
  - ProRes encode and decode engine

Apple M2 Pro chip

- 10-core CPU with 6 performance cores and 4 efficiency cores
- 16-core GPU
- 16-core Neural Engine
- 200GB/s memory bandwidth
- Media engine
  - Hardware-accelerated H.264, HEVC, ProRes, and ProRes RAW
  - Video decode engine
  - Video encode engine
  - ProRes encode and decode engine
- Configurable to:
  - M2 Pro with 12-core CPU and 19-core GPU

Memory
Apple M2 chip

- 8GB unified memory
  Configurable to: 16GB or 24GB

Apple M2 Pro chip

- 16GB unified memory
  Configurable to: 32GB

Storage[1]
Apple M2 chip

- 256GB SSD
  Configurable to: 512GB, 1TB, or 2TB

Apple M2 Pro chip

- 512GB SSD
  Configurable to: 1TB, 2TB, 4TB, or 8TB

Display Support
Apple M2 chip

- Simultaneously supports up to two displays:
  - One display with up to 6K resolution at 60Hz over Thunderbolt and one display with up to 5K resolution at 60Hz over Thunderbolt or 4K resolution at 60Hz over HDMI
- Thunderbolt 4 digital video output
  - Support for native DisplayPort output over USB-C
- HDMI display video output
  - Support for one display with up to 4K resolution at 60Hz

Apple M2 Pro chip

- Simultaneously supports up to three displays:
  - Up to three displays: Two displays with up to 6K resolution at 60Hz over Thunderbolt and one display with up to 4K resolution at 60Hz over HDMI
  - Up to two displays: One display with up to 6K resolution at 60Hz over Thunderbolt and one display with up to 4K resolution at 144Hz over HDMI
  - One display with up to 8K resolution at 60Hz or 4K resolution at 240Hz over HDMI
- Thunderbolt 4 digital video output
  - Support for native DisplayPort output over USB-C
- HDMI display video output
  - Support for one display with up to 8K resolution at 60Hz or 4K resolution at 240Hz

Video Playback

- Supported formats include HEVC, H.264, and ProRes
- HDR with Dolby Vision, HDR10, and HLG

Audio Playback

- Supported formats include AAC, MP3, Apple Lossless, FLAC, Dolby Digital, Dolby Digital Plus, and Dolby Atmos

Audio

- Built-in speaker
- 3.5 mm headphone jack with advanced support for high-impedance headphones
- HDMI port supports multichannel audio output

Connections and Expansion

- Two Thunderbolt 4 ports (M2) or four Thunderbolt 4 ports (M2 Pro) with support for:
  - DisplayPort
  - Thunderbolt 4 (up to 40Gb/s)
  - USB 4 (up to 40Gb/s)
  - USB 3.1 Gen 2 (up to 10Gb/s)
  - Thunderbolt 2, HDMI, DVI, and VGA supported using adapters (sold separately)
- Two USB-A ports (up to 5Gb/s)
- HDMI port
- Gigabit Ethernet port (configurable to 10Gb Ethernet)
- 3.5 mm headphone jack

Communications

Wi-Fi

- Wi-Fi 6E (802.11ax)[2]

Bluetooth

- Bluetooth 5.3

Ethernet

- 10/100/1000BASE-T Gigabit Ethernet (RJ-45 connector)
- Configurable to 10Gb Ethernet (Nbase-T Ethernet with support for 1Gb, 2.5Gb, 5Gb, and 10Gb Ethernet using RJ-45 connector)

Size and Weight

- Height: 1.41 inches (3.58 cm)
- Width: 7.75 inches (19.70 cm)
- Depth: 7.75 inches (19.70 cm)
- Weight (M2): 2.6 pounds (1.18 kg)[3]
- Weight (M2 Pro): 2.8 pounds (1.28 kg)[3]

Electrical and Operating Requirements

- Line voltage: 100–240V AC
- Frequency: 50Hz to 60Hz, single phase
- Maximum continuous power (M2): 150W
- Maximum continuous power (M2 Pro): 185W
- Operating temperature: 50° to 95° F (10° to 35° C)
- Storage temperature: –40° to 116° F (–40° to 47° C)
- Relative humidity: 5% to 90% noncondensing
- Operating altitude: tested up to 16,400 feet (5000 meters)
- Typical acoustical performance: Sound pressure level (operator position): 5 dBA at idle[4]

In the Box

- Mac mini
- Power cord

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 personalize your device.
Learn more about latest operating system

Accessibility
Accessibility features help people with disabilities get the most out of their new Mac mini. 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
- VoiceOver
- Zoom
- Increase Contrast
- Reduce Motion
- Siri and Dictation
- Switch Control
- Closed Captions
- Text to Speech

Built-in Apps[5]

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

Configure to Order
Configure your Mac mini with these options at apple.com:

Apple M2 chip

- 16GB or 24GB unified memory
- 512GB, 1TB, or 2TB SSD
- 10Gb Ethernet

Apple M2 Pro chip

- M2 Pro with 12-core CPU, 19-core GPU, and 16-core Neural Engine

- 32GB unified memory
- 1TB, 2TB, 4TB, or 8TB SSD
- 10Gb Ethernet

Mac mini and the Environment
Mac mini is designed with the following features to reduce its environmental impact:[6]
See the Mac mini Product Environmental Report

Made with better materials

- Over 40% recycled content in the entire product,[7] including:
  - 100% recycled aluminum in the enclosure of Mac mini with M2 and M2 Pro, and in the thermal module of Mac mini with M2 Pro
  - 100% recycled rare earth elements in all magnets
  - 100% recycled tin in the solder of multiple printed circuit boards
  - 100% recycled gold in the plating of multiple printed circuit boards
  - 35% or more recycled plastic in multiple components

Energy efficient

- ENERGY STAR® certified[8]

Smarter chemistry[9]

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

Green manufacturing

- Apple's Zero Waste Program helps suppliers eliminate waste sent to landfill
- All final assembly supplier sites are transitioning to 100% renewable energy for Apple production

Responsible packaging

- 100% of virgin wood fiber comes from responsibly managed forests
- 96% fiber-based packaging and no outer plastic wrap[10]

Apple and the Environment
We're committed to making our products without taking from the earth, and to become carbon neutral across our entire business, including products, by 2030.
See Apple's commitment

Acoustic Performance
Declared noise emission values in accordance with ECMA-109

	Sound Power Level $L_{WA,m}$ **(B)**	**Sound Pressure Level Operator Position** $L_{pA,m}$ **(dB)**
Idle	1.4 (K_V = 0.3)	5
Wireless web	1.4 (K_V = 0.3)	5

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 the 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_{WAd}) 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 mini with Apple M2 chip, 8-core CPU / 10-core GPU, 8GB unified memory, 512GB storage, 2-ports and Mac mini with Apple M2 Pro chip, 10-core CPU / 16-core GPU, 16GB unified memory, 2TB storage, 4-ports.

1. 1GB = 1 billion bytes and 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 mini 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 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 U.S. 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 cords in India, Thailand (for two-prong AC power cords), 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. Based on retail packaging as sold by Apple. Fiber content is based on a breakdown of U.S. retail packaging by weight. Adhesives, inks, and coatings are excluded from our calculations of plastic content and packaging weight.

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