MacBook Pro

First Look

MacBook Pro is the ultimate pro notebook. The Apple M1 chip takes the most popular 13-inch MacBook Pro model to a new level of performance while providing up to 20 hours of battery life, while Intel’s quad-core, 6-core, and 8-core processors deliver fast performance for the rest of the MacBook Pro lineup. All models feature a brilliant and colorful Retina display. And the Magic Keyboard delivers a comfortable and quiet typing experience, with Touch Bar and Touch ID for convenient shortcuts. With MacBook Pro, pros, consumers, and students alike can do their best work.

<table>
<thead>
<tr>
<th>13-inch</th>
<th>16-inch</th>
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<tbody>
<tr>
<td><strong>Apple Retail price (U.S.)</strong></td>
<td>$1299</td>
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<tr>
<td><strong>Display</strong></td>
<td>13.3-inch (diagonal), 2560-by-1600-pixel LED-backlit Retina display, 500 nits, wide color (P3), True Tone technology</td>
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<tr>
<td><strong>Compute</strong></td>
<td>Apple M1 chip 8-core CPU with 4 performance cores and 4 efficiency cores 8-core GPU 16-core Neural Engine 2.0GHz quad-core 10th-generation Intel Core i5 processor (Turbo Boost up to 3.8GHz) Intel Iris Plus Graphics</td>
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<tr>
<td><strong>Memory</strong></td>
<td>8GB unified memory</td>
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<tr>
<td><strong>Storage</strong></td>
<td>256GB SSD</td>
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<tr>
<td><strong>Ports</strong></td>
<td>2 Thunderbolt / 4 ports</td>
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</tbody>
</table>

Key messages

New Apple M1 chip

- 13-inch models with Apple M1 chip take performance to an entirely new level
- 8-core CPU with four performance cores and four efficiency cores delivers up to 2.8 times faster CPU performance than before
- 8-core GPU brings the world’s fastest integrated graphics in a personal computer, with up to five times faster graphics than before
- 16-core Neural Engine delivers turbocharged machine learning performance that’s up to 11 times faster than before

Powerful processors

- 13-inch models with four Thunderbolt 3 ports feature 10th-generation quad-core Intel Core i5 and Intel Core i7 processors
- 16-inch models feature 9th-generation 6-core Intel Core i7 and 8-core Intel Core i9 processors with Turbo Boost speeds up to 5.0GHz—for the most powerful performance in a Mac notebook

Fast and powerful graphics

- 13-inch models with four Thunderbolt 3 ports feature Intel Iris Plus Graphics, delivering up to 80 percent faster graphics performance
- 16-inch models come standard with powerful AMD Radeon Pro 5300M and 5500M graphics with 4GB of GDDR6 memory—and can be configured with 8GB of GDDR6 memory or Radeon Pro 5600M with 8GB of HBM2 memory for desktop-class graphics performance

All-day battery life

- 13-inch models with Apple M1 chip deliver incredible battery life that lasts up to 20 hours—the longest battery life ever in a Mac
- 13-inch models with four Thunderbolt 3 ports deliver up to 10 hours of battery life
- 16-inch models deliver up to 11 hours of battery life

Best Mac notebook display ever

- Retina display features 500 nits of brightness and a P3 wide color gamut, so text is crisp, details are sharp, and photos and video are vivid and true to life
- True Tone technology delivers a more natural viewing experience by matching the color temperature of the display to the ambient light

Magic Keyboard and Touch Bar

- Magic Keyboard delivers a comfortable and quiet typing experience that customers love, with a refined scissor mechanism
- The Touch Bar dynamically adapts to the application you’re using, so you get useful tools and shortcuts when you need them
- Use Apple Pay or log in with Touch ID, and a press of the Touch ID button instantly locks your screen

Memory and storage options for pro users

- 13-inch models with Apple M1 chip come standard with 8GB of unified memory and 256GB or 512GB SSDs and can be configured with up to 16GB memory and 2TB SSD storage
- 13-inch models with four Thunderbolt 3 ports come standard with 16GB of memory and 512GB or 1TB SSDs and can be configured with up to 32GB of memory and 4TB of SSD storage
- 16-inch models can be configured with up to 64GB memory and 8TB SSD storage—so you can run multiple pro apps simultaneously, multitask more efficiently, and take all your files wherever you go

Room-filling audio

- 16-inch models feature a high-fidelity six-speaker sound system with force-canceling woofers that deliver deep bass and natural sound
- All models support Dolby Atmos playback for an immersive surround sound experience when watching movies
- 13-inch models with Apple M1 chip and 16-inch models come with a studio-quality three-mic array with high signal-to-noise ratio and directional beamforming for exceptional clarity when recording

macOS Big Sur

- All models now come with macOS Big Sur, which introduces a bold new design and powerful updates for Safari and Messages
- Engineered to take advantage of M1, macOS Big Sur delivers incredible performance and the ability to run iPhone and iPad apps

Essential additions

- AppleCare+ for Mac, Microsoft Office for Mac, Final Cut Pro, Logic Pro, USB-C to USB Adapter, USB-C Digital AV Adapter, Leather Sleeve for 16-inch and 13-inch MacBook Pro

Footnotes:

1. Testing conducted by Apple in October 2020 using preproduction 13-inch MacBook Pro systems with Apple M1 chip, 8GB of RAM, and 512GB SSD. The wireless web test measures battery life by wirelessly browsing 25 popular websites with display brightness set to 8 clicks from bottom. The Apple TV movie playback test measures battery life by playing back HD 1080p content with display brightness set to 8 clicks from bottom. Battery life varies by use and configuration. See apples.com/batteries for more information. 2. Testing conducted by Apple in October 2020 using preproduction 13-inch MacBook Pro systems with Apple M1 chip, as well as production 1.7GHz quad-core Intel Core i7-based 13-inch MacBook Pro systems, all configured with 16GB RAM and 2TB SSD. Open source project built with prexelkivy Xcode 12.2 with Apple Clang 12.0.0, Ninja 1.10.0.git, and CMake 3.16.5. Performance tests are conducted using specific computer systems and reflect the approximate performance of MacBook Pro. 3. Testing conducted by Apple in October 2020 using preproduction 13-inch MacBook Pro systems with Apple M1 chip, as well as production 1.7GHz quad-core Intel Core i7-based 13-inch MacBook Pro systems with Intel Iris Plus Graphics 645, all configured with 16GB RAM and 2TB SSD. Tested with prexelkivy Xcode 12.2 and Create ML 2.5, with an Action Classification model created in the app. Performance tests are conducted using specific computer systems and reflect the approximate performance of MacBook Pro. 4. Testing conducted by Apple in October 2020 using preproduction 13-inch MacBook Pro systems with Apple M1 chip, as well as production 1.7GHz quad-core Intel Core i7-based 13-inch MacBook Pro systems, all configured with 16GB RAM and 2TB SSD. Tested with prexelkivy Xcode 12.2 and Create ML 2.5, with an Action Classification model created in the app. Performance tests are conducted using specific computer systems and reflect the approximate performance of MacBook Pro.

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