

# MacBook Pro



## First Look

Supercharged by Apple M-series chips, the MacBook Pro lineup redefines pro laptops. The 13-inch model features a brilliant Retina display and is powered by the M2 chip for great performance and all-day battery life. The 14-inch and 16-inch models with M2 Pro and M2 Max offer even more performance, extraordinary battery life, and versatile connectivity options with Thunderbolt, HDMI, SDXC, and MagSafe 3 ports. And they feature a Liquid Retina XDR display with high brightness, an amazing contrast ratio, and P3 wide color. No other laptop lineup offers this combination of performance, capability, and battery life.



	13-inch	14-inch	16-inch			
<b>Display</b>	13.3-inch (diagonal) Retina display, 500 nits, wide color (P3), 16.7 million colors, True Tone	14.2-inch (diagonal) Liquid Retina XDR display, up to 1000 nits sustained brightness, up to 1600 nits peak brightness, wide color (P3), 1 billion colors, True Tone, 1,000,000:1 contrast ratio, ProMotion	16.2-inch (diagonal) Liquid Retina XDR display, up to 1000 nits sustained brightness, up to 1600 nits peak brightness, wide color (P3), 1 billion colors, True Tone, 1,000,000:1 contrast ratio, ProMotion			
<b>Compute</b>	Apple M2 chip 8-core CPU with 4 performance and 4 efficiency cores 10-core GPU 16-core Neural Engine	Apple M2 Pro chip 10-core CPU with 6 performance and 4 efficiency cores 16-core GPU 16-core Neural Engine	Apple M2 Pro chip 12-core CPU with 8 performance and 4 efficiency cores 19-core GPU 16-core Neural Engine	Apple M2 Max chip 12-core CPU with 8 performance and 4 efficiency cores 30-core GPU 16-core Neural Engine	Apple M2 Pro chip 12-core CPU with 8 performance and 4 efficiency cores 19-core GPU 16-core Neural Engine	Apple M2 Max chip 12-core CPU with 8 performance and 4 efficiency cores 38-core GPU 16-core Neural Engine
<b>Memory</b>	8GB unified memory	16GB unified memory	16GB unified memory	32GB unified memory	16GB unified memory	32GB unified memory
<b>Storage (SSD)</b>	256GB      512GB	512GB	1TB	1TB	512GB      1TB	1TB
<b>Ports</b>	2 Thunderbolt / USB 4 ports, 3.5 mm headphone jack	3 Thunderbolt 4 ports, HDMI, SDXC card slot, MagSafe 3 port, 3.5 mm headphone jack			3 Thunderbolt 4 ports, HDMI, SDXC card slot, MagSafe 3 port, 3.5 mm headphone jack	

## Key messages

### Design

- 13-inch model offers powerful performance in a compact design
- Advanced thermal system in 14-inch and 16-inch models maximizes performance for sustained pro workflows—in a thin and light design

### Powerful performance

- Apple M-series chips offer industry-leading performance and power efficiency
- 16-core Neural Engine across the lineup turbocharges machine learning-based tasks with over 15 times faster performance than previous Intel-based MacBook Pro models<sup>1</sup>
- Enhanced media engine features hardware-accelerated ProRes
- 16-inch models with M2 Max feature High Power Mode for maximum performance in sustained workflows

### M2 chip

- 8-core CPU and 10-core GPU deliver powerful CPU and graphics performance
- Supports 8GB, 16GB, or 24GB of superfast unified memory
- Supports playback of up to 11 streams of 4K or two streams of 8K ProRes video<sup>2</sup>

### M2 Pro chip

- Offers up to a 12-core CPU and up to a 19-core GPU
- Supports 16GB or 32GB of superfast unified memory
- Supports playback of up to 23 streams of 4K or five streams of 8K ProRes video<sup>1</sup>

### M2 Max chip

- Offers the same powerful CPU performance as M2 Pro and up to a 38-core GPU
- Supports up to 96GB of superfast unified memory, enabling workflows that were previously only possible on desktops
- Supports playback of up to 43 streams of 4K or 10 streams of 8K ProRes video<sup>1</sup>

### Amazing displays

- Retina display on 13-inch MacBook Pro features 500 nits of brightness and a P3 wide color gamut, so text is crisp, details are sharp, and photos and video are vivid
- Liquid Retina XDR displays on 14- and 16-inch MacBook Pro feature 1,000,000:1 contrast ratio and up to 1600 nits of brightness for extreme dynamic range, so HDR photos, videos, and games are even more true to life
- ProMotion on Liquid Retina XDR displays automatically adjusts the refresh rate so you get ultrasMOOTH scrolling and incredible responsiveness

### Wide array of connectivity options

- All MacBook Pro models have Thunderbolt ports with data transfer speeds up to 40Gb/s and a 3.5 mm headphone jack that supports high-impedance headphones
- 14-inch and 16-inch models include a MagSafe 3 port, HDMI port, and an SDXC card slot, so you can easily connect to displays and camera memory cards
- 14-inch and 16-inch models support up to two external displays with M2 Pro, or up to four external displays with M2 Max
- 13-inch MacBook Pro supports one external display

### Camera

- All models feature an advanced ISP, so you'll look your best on video calls
- 14-inch and 16-inch models have a 1080p FaceTime HD camera that uses the ISP and Neural Engine to deliver sharper video, especially in low light

### All-day battery life<sup>3</sup>

- Enjoy up to 20 hours of battery life on the 13-inch model
- Get up to 18 hours of battery life on 14-inch MacBook Pro and up to 22 hours on 16-inch MacBook Pro—and both models support fast-charging from 0 percent to 50 percent battery in 30 minutes<sup>4</sup>

### More immersive audio

- High-fidelity, six-speaker sound system with force-cancelling woofers on 14-inch and 16-inch models delivers up to 80 percent more bass output
- All models offer support for Spatial Audio when you play movies and music with Dolby Atmos
- All models include a studio-quality, three-mic array with high signal-to-noise ratio and directional beamforming so you get exceptional clarity in recordings

### Magic Keyboard

- Touch Bar on 13-inch MacBook Pro adapts to what you're doing and suggests shortcuts when you need them
- Using shortcuts in pro apps is even easier with the dedicated, full-height function row of mechanical keys on 14-inch and 16-inch models
- Lock and unlock your Mac, authorize purchases in apps, use Apple Pay, or AutoFill passwords with Touch ID on every model

### Essential additions

- AppleCare+, Final Cut Pro, Logic Pro, USB-C to USB Adapter
- 96W USB-C Power Adapter for fast-charging on 14-inch models with 10-core CPU

<sup>1</sup> For performance testing details, see [www.apple.com/macbook-pro-14-and-16](http://www.apple.com/macbook-pro-14-and-16). <sup>2</sup> For performance testing details, see [www.apple.com/macbook-pro-13](http://www.apple.com/macbook-pro-13). <sup>3</sup> Battery life varies by use and configuration. See [apple.com/batteries](http://apple.com/batteries) for more information. <sup>4</sup> Charge time varies with region, settings, and environmental factors; actual results will vary.

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