MacBook Pro (Retina, 15-inch, Mid 2015)
Technical Specifications



Display

- Retina display

  15.4-inch (diagonal) LED-backlit display with IPS technology; 2880-by-1800 native resolution at 220 pixels per inch with support for millions of colors
- Supported scaled resolutions:

  1920 by 1200

  1680 by 1050

  1280 by 800

  1024 by 640
- 300 nits brightness
- Standard color gamut (sRGB)
- 900:1 contrast ratio

Processor

- **2.2GHz**

2.2GHz quad-core Intel Core i7 processor (Turbo Boost up to 3.4GHz) with 6MB shared L3 cache

Configurable to 2.5GHz quad-core Intel Core i7 (Turbo Boost up to 3.7GHz) with

6MB shared L3 cache or 2.8GHz quad-core Intel Core i7 (Turbo Boost up to 4.0GHz) with 6MB shared L3 cache.

- **2.5GHz**
  2.5GHz quad-core Intel Core i7 processor (Turbo Boost up to 3.7GHz) with 6MB shared L3 cache
  Configurable to 2.8GHz quad-core Intel Core i7 (Turbo Boost up to 4.0GHz) with 6MB shared L3 cache.

Memory

- 16GB of 1600MHz DDR3L onboard memory

Storage[1]

- **2.2GHz - 256GB**
  256GB PCIe-based flash storage
  Configurable to 512GB or 1TB flash storage.

- **2.5GHz - 512GB**
  512GB PCIe-based flash storage
  Configurable to 1TB flash storage.

Size and Weight

- Height: 0.71 inch (1.8 cm)
- Width: 14.13 inches (35.89 cm)
- Depth: 9.73 inches (24.71 cm)
- Weight: 4.49 pounds (2.04 kg)[2]

Graphics and Video Support

- Intel Iris Pro Graphics
  2.2GHz - 256GB

- Intel Iris Pro Graphics
  2.5GHz - 512GB

- Intel Iris Pro Graphics
  AMD Radeon R9 M370X with 2GB of GDDR5 memory and automatic graphics switching

  Dual display and video mirroring: Simultaneously supports full native resolution on the built-in display and up to 3840 by 2160 pixels on up to two external displays, both at millions of colors

  - Thunderbolt digital video output
    - Native Mini DisplayPort output
    - DVI, VGA, dual-link DVI, and HDMI output supported using Mini DisplayPort adapters (sold separately)
  - HDMI video output
    - Support for 1080p resolution at up to 60Hz
    - Support for 3840-by-2160 resolution at 30Hz
    - Support for 4096-by-2160 resolution at 24Hz

Camera

- 720p FaceTime HD camera

Connections and Expansion



- MagSafe 2 power port
- Two Thunderbolt 2 ports (up to 20 Gbps)
- Two USB 3 ports (up to 5 Gbps)
- HDMI port
- 3.5 mm headphone jack
- SDXC card slot
- Apple Thunderbolt to FireWire Adapter (sold separately)
- Apple Thunderbolt to Gigabit Ethernet Adapter (sold separately)

Wireless

- **Wi-Fi**
  802.11ac Wi-Fi wireless networking; IEEE 802.11a/b/g/n compatible
- **Bluetooth**
  Bluetooth 4.2 wireless technology

Audio

- Stereo speakers
- Dual microphones
- 3.5 mm headphone jack
    - Support for Apple iPhone headset with remote and microphone
    - Support for audio line out (digital/analog)

Keyboard and Trackpad

- Full-size backlit keyboard with 78 (U.S.) or 79 (ISO) keys, including 12 function keys and 4 arrow keys (inverted “T” arrangement) with ambient light sensor
- Force Touch trackpad for precise cursor control and pressure-sensing capabilities; enables Force clicks, accelerators, pressure-sensitive drawing, and Multi-Touch gestures

Battery and Power[3]

- Up to 9 hours wireless web
- Up to 9 hours iTunes movie playback
- Up to 30 days of standby time
- Built-in 99.5-watt-hour lithium-polymer battery
- 85W MagSafe 2 Power Adapter with cable management system; MagSafe 2 power port

Electrical and Operating Requirements

- Line voltage: 100V to 240V AC
- Frequency: 50Hz to 60Hz
- Operating temperature: 50° to 95° F (10° to 35° C)
- Storage temperature: –13° to 113° F (–25° to 45° C)
- Relative humidity: 0% to 90% non condensing
- Operating altitude: tested up to 10,000 feet
- Maximum storage altitude: 15,000 feet
- Maximum shipping altitude: 35,000 feet

Operating System

macOS High Sierra

macOS is the operating system that powers everything you do on a Mac. macOS High Sierra brings new forward-looking technologies and enhanced features to your Mac. It's macOS at its highest level yet.

Accessibility

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

Learn more about Accessibility

Features include:

- VoiceOver
- Zoom
- Increase Contrast
- Reduce Motion
- Siri and Dictation
- Switch Control
- Closed Captions
- Text to Speech

Built-in Apps[4]

- Photos
- iMovie

- GarageBand
- Pages
- Numbers
- Keynote
- Siri
- Safari
- Mail
- FaceTime
- Messages
- Maps
- Notes
- Calendar
- Contacts
- Reminders
- Photo Booth
- Preview
- iTunes
- iBooks
- App Store
- Time Machine

What's in the Box

- MacBook Pro
- MagSafe 2 Power Adapter
- Power cord
- AC wall plug

Configure to Order

Configure your MacBook Pro with these options, only at apple.com:

- Up to 2.8GHz quad-core Intel Core i7, Turbo Boost up to 4.0GHz, with 6MB shared L3 cache
- Up to 1TB PCIe-based SSD[1]

MacBook Pro and the Environment

Apple takes a complete product life cycle approach to determining our environmental impact. Learn more about MacBook Pro and the Environment

MacBook Pro is designed with the following features to reduce its environmental impact:

- Mercury-free LED-backlit display
- Arsenic-free display glass
- BFR-free
- PVC-free[5]
- Beryllium-free
- Highly recyclable aluminum enclosure
- Meets ENERGY STAR 6.1 requirements
- Rated EPEAT Gold[6]

Apple and the Environment

Learn more about Apple's dedication to reducing the environmental impact of our products and process. Or read our Product Environmental Reports for detailed information on the environmental performance of every Apple product.

Apple GiveBack

Letting go of your old Mac is easy with Apple GiveBack. If it's in good shape, you can trade it in for Apple Store credit. If it's not eligible for credit, we'll recycle it responsibly at no cost to you. Good for you. Good for the planet.

See how it works

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	1.40 (K_V = 0.25)	6.0
Wireless web	1.40 (K_V = 0.25)	6.5

$L_{WA,m}$ is the mean A-weighted sound power level, rounded to the nearest 0.05 B.

1. $L_{pA,m}$ is the mean A-weighted sound pressure level measured at the operator position (rounded to the nearest 0.5 dB).
2. 1 B (bel) = 10 dB (decibel)
3. K_v is the statistical adder for computing the upper-limit of A-weighted sound power level.
4. The quantity, $L_{WA,c}$ (formerly called L_{WAd}) may be computed from the sum of $L_{WA,m}$ and K_v.
5. The Wireless web test browses 25 popular websites.
6. Configuration tested: 2.5GHz quad-core Intel Core i7 processor, 16GB memory, 512GB storage, Intel Iris Pro, AMD Radeon R9 M370X.

Accessories

Mac Software

- Final Cut Pro X
- Logic Pro X

Displays and Adapters

- Apple Mini DisplayPort to DVI Adapter
- Apple Mini DisplayPort to VGA Adapter
- Apple Mini DisplayPort to Dual-Link DVI Adapter
- MagSafe to MagSafe 2 Converter

AirPort and Wireless

- AirPort Express
- AirPort Extreme
- AirPort Time Capsule

Other Accessories

- Apple USB SuperDrive
- Thunderbolt to Gigabit Ethernet Adapter
- Thunderbolt to FireWire Adapter
- 85W MagSafe 2 Power Adapter
- AppleCare+ for Mac

---

1. 1GB = 1 billion bytes and 1TB = 1 trillion bytes; actual formatted capacity less.
2. Weight varies by configuration and manufacturing process.

3. Testing conducted by Apple in April 2015 using pre production 2.2GHz quad-core Intel Core i7–based 15-inch MacBook Pro systems with 256GB of flash storage and 16GB of RAM. The wireless web test measures battery life by wirelessly browsing 25 popular websites with display brightness set to 12 clicks from bottom or 75%. The HD movie playback test measures battery life by playing back HD 1080p content with display brightness set to 12 clicks from bottom or 75%. The standby test measures battery life by allowing a system, connected to a wireless network and signed in to an iCloud account, to enter standby mode with Safari and Mail applications launched and all system settings left at default. Battery life varies by use and configuration. See www.apple.com/batteries for more information.
4. 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.
5. PVC-free AC power cord available in all regions except India and South Korea.
6. MacBook Pro achieved a Gold rating from EPEAT in the U.S. and Canada.