

Documentation



iPad (8th generation) - Technical specifications

Finish

- Silver
- Space Gray
- Gold

Capacity¹

- 32GB
- 128GB

Size and Weight²

- Wi-Fi
 - Height: 9.8 inches (250.6 mm)
 - Width: 6.8 inches (174.1 mm)
 - Depth: 0.29 inch (7.5 mm)
 - Weight: 1.08 pounds (490 grams)
- Wi-Fi + Cellular
 - Height: 9.8 inches (250.6 mm)
 - Width: 6.8 inches (174.1 mm)
 - Depth: 0.29 inch (7.5 mm)
 - Weight: 1.09 pounds (495 grams)

Buttons and Connectors

- Home/Touch ID sensor
- Stereo speakers
- Smart Connector
- Lightning connector
- 3.5 mm headphone jack
- On/Off - Sleep/Wake
- Volume up/down
- Nano-SIM tray (cellular models)
- Dual microphones

In the Box

- iPad
- Lightning to USB-C Cable
- USB-C Power Adapter

Display

- Retina display
- 10.2-inch (diagonal) LED-backlit Multi-Touch display with IPS technology
- 2160-by-1620-pixel resolution at 264 pixels per inch (ppi)
- 500 nits brightness
- Fingerprint-resistant oleophobic coating
- Supports **Apple Pencil (1st generation)**

Chip

- A12 Bionic chip with 64-bit architecture
- Neural Engine

Camera

- 8MP camera
- $f/2.4$ aperture
- Five-element lens
- Hybrid IR filter
- Backside illumination
- Live Photos
- Autofocus
- Panorama (up to 43MP)
- HDR for photos
- Exposure control
- Burst mode
- Tap to focus
- Timer mode
- Auto image stabilization
- Body and face detection
- Photo geotagging

Video Recording

- 1080p HD video recording at 30 fps
- Slo-mo video support for 720p at 120 fps
- Time-lapse video with stabilization
- Video image stabilization
- Body and face detection
- 3x video zoom
- Video geotagging

FaceTime HD Camera

- 1.2MP photos
- $f/2.4$ aperture
- Retina Flash

- Backside illumination
- Live Photos
- 720p HD video recording
- HDR for photos
- Body and face detection
- Burst mode
- Exposure control
- Timer mode

Video Calling³

- FaceTime video
- iPad to any FaceTime-enabled device over Wi-Fi or cellular

Audio Calling³

- FaceTime audio
- iPad to any FaceTime-enabled device over Wi-Fi or cellular

Speakers

- Stereo speakers

Microphones

- Dual microphones for calls, video recording, and audio recording

Cellular and Wireless

- All models
 - Wi-Fi (802.11a/b/g/n/ac); dual band (2.4GHz and 5GHz); HT80 with MIMO
 - Bluetooth 4.2 technology
- Wi-Fi + Cellular model
 - UMTS/HSPA/HSPA+/DC-HSDPA (850, 900, 1700/2100, 1900, 2100 MHz); GSM/EDGE (850, 900, 1800, 1900 MHz)
 - Gigabit-class LTE (Bands 1, 2, 3, 4, 5, 7, 8, 11, 12, 13, 14, 17, 18, 19, 20, 21, 25, 26, 29, 30, 34, 38, 39, 40, 41, 66, 71)⁴
 - Data only⁵
 - Wi-Fi calling⁴
 - eSim⁶

[Learn more about cellular data](#)

For details on LTE support, contact your carrier and see apple.com/ipad/cellular/networks.

SIM Card

- Nano-SIM (supports Apple SIM⁶)
 - eSIM⁶

Location

- All models
 - Digital compass

- Wi-Fi
- iBeacon microlocation
- Wi-Fi + Cellular model
 - Built-in GPS/GNSS
 - Cellular

Sensors

- Touch ID
- Three-axis gyro
- Accelerometer
- Barometer
- Ambient light sensor

Touch ID

- Unlock iPad
- Secure personal data within apps
- Make purchases from the iTunes Store, App Store, and Apple Books

Apple Pay

- Pay with your iPad using Touch ID within apps and on the web
- Send and receive money in Messages

[Learn more about Apple Pay.](#)

Siri⁷

- Use your voice to send messages, set reminders, and more
- Get proactive suggestions
- Use hands-free
- Listen and identify songs

[Learn more about Siri](#)

Power and Battery⁸

- All models
 - Built-in 32.4-watt-hour rechargeable lithium-polymer battery
 - Up to 10 hours of surfing the web on Wi-Fi or watching video
 - Charging via power adapter or USB to computer system
- Wi-Fi + Cellular model
 - Up to 9 hours of surfing the web using cellular data network

Operating System

iPadOS 14

iPadOS comes with powerful features and built-in apps designed to take advantage of the unique capabilities of iPad.

[See what's new in iPadOS 14](#)

Accessibility

Accessibility features help people with disabilities get the most out of their new iPad. With built-in support for vision, hearing, mobility, and learning, you can create and do amazing things. [Learn more - Accessibility](#)

Features include:

- Voice Control
- VoiceOver
- Zoom
- Magnifier
- Siri and Dictation
- Switch Control
- Closed Captions
- AssistiveTouch
- Speak Screen

Built-in Apps

- App Store
- Books
- Calendar
- Camera
- Clock
- Contacts
- FaceTime
- Files
- Find My
- Home
- iTunes Store
- Mail
- Maps
- Measure
- Messages
- Music
- News
- Notes
- Photo Booth
- Photos
- Podcasts
- Reminders
- Safari
- Settings
- Shortcuts
- Siri
- Stocks
- Tips
- TV
- Voice Memos

Free Apps from Apple

Pages, Numbers, Keynote, iMovie, GarageBand, Clips and Apple Store app are preinstalled on iPad.

- Pages
- Numbers
- Keynote
- iMovie
- GarageBand
- Apple Store
- Trailers
- Music Memos
- Clips
- Swift Playgrounds
- Support

System Requirements

- Apple ID (required for some features)
- Internet access⁹

Syncing to a Mac or PC requires:

- macOS Catalina 10.15 or later using the Finder
- macOS El Capitan 10.11.6 through macOS Mojave 10.14.6 using iTunes 12.8 or later
- Windows 7 or later using iTunes 12.10 or later (free download from www.itunes.com/download)

Languages

- **Language support**
 - English (Australia, UK, U.S.), Chinese (Simplified, Traditional, Traditional Hong Kong), French (Canada, France), German, Italian, Japanese, Korean, Spanish (Latin America, Mexico, Spain), Arabic, Catalan, Croatian, Czech, Danish, Dutch, Finnish, Greek, Hebrew, Hindi, Hungarian, Indonesian, Malay, Norwegian, Polish, Portuguese (Brazil, Portugal), Romanian, Russian, Slovak, Swedish, Thai, Turkish, Ukrainian, Vietnamese
- **QuickType keyboard support**
 - English (Australia, Canada, India, Singapore, UK, U.S.), Chinese - Simplified (Handwriting, Pinyin QWERTY, Pinyin 10 Key, Shuangpin, Stroke), Chinese - Traditional (Cangjie, Handwriting, Pinyin QWERTY, Pinyin 10 Key, Shuangpin, Stroke, Sucheng, Zhuyin), French (Belgium, Canada, France, Switzerland), German (Austria, Germany, Switzerland), Italian, Japanese (Kana, Romaji), Korean (2-Set, 10 Key), Spanish (Latin America, Mexico, Spain), Albanian, Arabic (Modern Standard, Najdi), Armenian, Assamese, Azerbaijani, Bangla, Belarusian, Bodo, Bulgarian, Burmese, Cantonese - Traditional (Cangjie, Handwriting, Stroke, Sucheng), Catalan, Cherokee, Croatian, Czech, Danish, Dhivehi, Dogri, Dutch, Emoji, Estonian, Faroese, Filipino, Finnish, Flemish, Georgian, Greek, Gujarati,

Hawaiian, Hebrew, Hindi (Devanagari, Latin, Transliteration), Hungarian, Icelandic, Indonesian, Irish Gaelic, Kannada, Kashmiri (Arabic, Devanagari), Kazakh, Khmer, Konkani (Devanagari), Kurdish (Arabic, Latin), Kyrgyz, Lao, Latvian, Lithuanian, Macedonian, Maithili, Malay (Arabic, Latin), Malayalam, Maltese, Manipuri (Bangla, Meetei Mayek), Maori, Marathi, Mongolian, Nepali, Norwegian (Bokmål, Nynorsk), Odia, Pashto, Persian, Persian (Afghanistan), Polish, Portuguese (Brazil, Portugal), Punjabi, Romanian, Russian, Sanskrit, Santali (Devanagari, Ol Chiki), Serbian (Cyrillic, Latin), Sindhi (Arabic, Devanagari), Sinhala, Slovak, Slovenian, Swahili, Swedish, Tajik, Tamil (Anjal, Tamil 99), Telugu, Thai, Tibetan, Tongan, Turkish, Turkmen, Ukrainian, Urdu, Uyghur, Uzbek (Arabic, Cyrillic, Latin), Vietnamese, Welsh

- **QuickType keyboard support with autocorrection**

- Arabic (Modern Standard), Arabic (Najdi), Bangla, Bulgarian, Catalan, Cherokee, Chinese - Simplified (Pinyin QWERTY), Chinese - Traditional (Pinyin QWERTY), Chinese - Traditional (Zhuyin), Croatian, Czech, Danish, Dutch, English (Australia), English (Canada), English (India), English (Japan), English (Singapore), English (UK), English (U.S.), Estonian, Filipino, Finnish, Dutch (Belgium), French (Belgium), French (Canada), French (France), French (Switzerland), German (Austria), German (Germany), German (Switzerland), Greek, Gujarati, Hawaiian, Hebrew, Hindi (Devanagari), Hindi (Transliteration), Hungarian, Icelandic, Indonesian, Irish Gaelic, Italian, Japanese (Kana), Japanese (Romaji), Korean (2-set), Latvian, Lithuanian, Macedonian, Malay, Marathi, Norwegian (Bokmål), Norwegian (Nynorsk), Persian, Persian (Afghanistan), Polish, Portuguese (Brazil), Portuguese (Portugal), Punjabi, Romanian, Russian, Serbian (Cyrillic), Serbian (Latin), Slovak, Slovenian, Spanish (Latin America), Spanish (Mexico), Spanish (Spain), Swedish, Tamil (Anjal), Tamil (Tamil 99), Telugu, Thai, Turkish, Ukrainian, Urdu, Vietnamese

- **QuickType keyboard support with predictive input**

- English (Australia, Canada, India, Singapore, UK, U.S.), Chinese (Simplified, Traditional), French (Belgium, Canada, France, Switzerland), German (Austria, Germany, Switzerland), Italian, Japanese, Korean, Spanish (Latin America, Mexico, Spain), Arabic (Modern Standard, Najdi), Cantonese (Traditional), Dutch, Hindi (Devanagari, Latin), Portuguese (Brazil, Portugal), Russian, Swedish, Thai, Turkish, Vietnamese

- **QuickType keyboard support with multilingual input**

- English (U.S.), English (Australia), English (Canada), English (India), English (Singapore), English (UK), Chinese - Simplified (Pinyin), Chinese - Traditional (Pinyin), French (France), French (Belgium), French (Canada), French (Switzerland), German (Germany),

German (Austria), German (Switzerland), Italian, Japanese (Romaji), Portuguese (Brazil), Portuguese (Portugal), Spanish (Spain), Spanish (Latin America), Spanish (Mexico), Dutch (Belgium), Dutch (Netherlands), Hindi (Latin)

- **QuickType keyboard support with contextual suggestions**

- English (U.S.), English (Australia), English (Canada), English (India), English (Singapore), English (UK), Chinese (Simplified), French (Belgium), French (Canada), French (France), French (Switzerland), German (Austria), German (Germany), German (Switzerland), Italian, Spanish (Latin America), Spanish (Mexico), Spanish (Spain), Arabic (Modern Standard), Arabic (Najdi), Dutch (Belgium), Dutch (Netherlands), Hindi (Devanagari), Hindi (Latin), Russian, Swedish, Portuguese (Brazil), Turkish, Vietnamese

- **Siri languages**

- English (Australia, Canada, India, Ireland, New Zealand, Singapore, South Africa, UK, U.S.), Spanish (Chile, Mexico, Spain, U.S.), French (Belgium, Canada, France, Switzerland), German (Austria, Germany, Switzerland), Italian (Italy, Switzerland), Japanese (Japan), Korean (Republic of Korea), Mandarin Chinese (China mainland, Taiwan), Cantonese (China mainland, Hong Kong), Arabic (Saudi Arabia, United Arab Emirates), Danish (Denmark), Dutch (Belgium, Netherlands), Finnish (Finland), Hebrew (Israel), Malay (Malaysia), Norwegian (Norway), Portuguese (Brazil), Russian (Russia), Swedish (Sweden), Thai (Thailand), Turkish (Türkiye)

- **Dictation languages**

- English (Australia, Canada, India, Indonesia, Ireland, Malaysia, New Zealand, Philippines, Saudi Arabia, Singapore, South Africa, United Arab Emirates, UK, U.S.), Spanish (Argentina, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Panama, Paraguay, Peru, Spain, Uruguay, U.S.), French (Belgium, Canada, France, Luxembourg, Switzerland), German (Austria, Germany, Luxembourg, Switzerland), Italian (Italy, Switzerland), Japanese, Korean, Mandarin (China mainland, Taiwan), Cantonese (China mainland, Hong Kong, Macao), Arabic (Kuwait, Qatar, Saudi Arabia, United Arab Emirates), Catalan, Croatian, Czech, Danish, Dutch (Belgium, Netherlands), Finnish, Greek, Hebrew, Hindi (India), Hungarian, Indonesian, Malaysian, Norwegian, Polish, Portuguese (Brazil, Portugal), Romanian, Russian, Shanghainese (China mainland), Slovak, Swedish, Thai, Turkish, Ukrainian, Vietnamese

- **Definition dictionary support**

- English (UK, U.S.), Chinese (Simplified, Traditional), Danish, Dutch, French, German, Hebrew, Hindi, Italian, Japanese, Korean, Norwegian, Portuguese, Russian, Spanish, Swedish, Thai, Turkish
- **Bilingual dictionary support**
 - Arabic – English, Chinese (Simplified) – English, Chinese (Traditional) – English, Dutch – English, French – English, French – German, German – English, Hindi – English, Indonesian – English, Italian – English, Japanese – English, Japanese – Chinese (Simplified), Korean – English, Polish – English, Portuguese – English, Russian – English, Spanish – English, Thai – English, Vietnamese – English
- **Thesaurus**
 - English (UK, U.S.)
- **Spell check**
 - English, French, German, Italian, Spanish, Arabic, Arabic Najdi, Danish, Dutch, Finnish, Korean, Norwegian, Polish, Portuguese, Russian, Swedish, Turkish
- **Apple Pay supported regions**
 - Australia, Austria, Belarus, Belgium, Brazil, Bulgaria, Canada, China mainland,¹⁰ Croatia, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Georgia, Germany, Greece, Greenland, Guernsey, Hong Kong, Hungary, Iceland, Ireland, Isle of Man, Italy, Japan, Jersey, Kazakhstan, Latvia, Liechtenstein, Lithuania, Luxembourg, Macao, Malta, Montenegro, Netherlands, New Zealand, Norway, Poland, Portugal, Romania, San Marino, Saudi Arabia, Serbia, Singapore, Slovakia, Slovenia, Spain, Sweden, Switzerland, Taiwan, UK, Ukraine, United Arab Emirates, U.S., Vatican City

Audio Playback

- Audio formats supported: AAC (8 to 320 Kbps), Protected AAC (from iTunes Store), HE-AAC, MP3 (8 to 320 Kbps), MP3 VBR, Dolby Digital (AC-3), Dolby Digital Plus (E-AC-3), Audible (formats 2, 3, 4, Audible Enhanced Audio, AAX, and AAX+), Apple Lossless, AIFF, and WAV
- User-configurable maximum volume limit

TV and Video

- AirPlay Mirroring, photos, audio, and video out to Apple TV (2nd generation or later)
- Video mirroring and video out support: Up to 1080p through Lightning Digital AV Adapter and Lightning to VGA Adapter (adapters sold separately)
- Video formats supported: H.264 video up to 4K, 30 frames per second, High Profile level 4.2 with AAC-LC audio up to 160 Kbps, 48kHz, stereo audio or Dolby Audio up to 1008 Kbps, 48kHz, stereo or multichannel audio, in .m4v, .mp4, and .mov file formats; MPEG-4 video up to 2.5 Mbps, 640 by 480 pixels, 30 frames

per second, Simple Profile with AAC-LC audio up to 160 Kbps per channel, 48kHz, stereo audio or Dolby Audio up to 1008 Kbps, 48kHz, stereo or multichannel audio, in .m4v, .mp4, and .mov file formats; Motion JPEG (M-JPEG) up to 35 Mbps, 1280 by 720 pixels, 30 frames per second, audio in ulaw, PCM stereo audio in .avi file format

Mail Attachment Support

- **Viewable document types**
 - .jpg, .tiff, .gif (images); .doc and .docx (Microsoft Word); .htm and .html (web pages); .key (Keynote); .numbers (Numbers); .pages (Pages); .pdf (Preview and Adobe Acrobat); .ppt and .pptx (Microsoft PowerPoint); .txt (text); .rtf (rich text format); .vcf (contact information); .xls and .xlsx (Microsoft Excel); .zip; .ics

Environmental Requirements

- Operating ambient temperature: 32° to 95° F (0° to 35° C)
- Nonoperating temperature: -4° to 113° F (-20° to 45° C)
- Relative humidity: 5% to 95% noncondensing
- Operating altitude: tested up to 10,000 feet (3000 m)

iPad and the Environment

iPad is designed with the following features to reduce its environmental impact.¹¹ [See the iPad Product Environmental Report](#)

Made with better materials

- 100% recycled aluminum in the enclosure
- 100% recycled tin in the solder of the main logic board
- 60% or more recycled plastic in multiple components

Energy efficient

- ENERGY STAR®certified¹²

Smarter chemistry¹³

- Arsenic-free display glass
- Mercury-free display
- BFR-, PVC-, and beryllium-free

Green manufacturing

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

Responsible packaging

- 100% of virgin wood fiber comes from responsibly managed forests
- Recyclable, majority-fiber packaging

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](#)

1. Available space is less and varies due to many factors. A standard configuration uses approximately 10GB to 13GB of space (including iPadOS and preinstalled apps) depending on the model and settings. Preinstalled apps use about 4GB, and you can delete these apps and restore them. Storage capacity subject to change based on software version and may vary by device.
2. Size and weight vary by configuration and manufacturing process.
3. FaceTime calling requires a FaceTime-enabled device for the caller and recipient and a Wi-Fi connection. Availability over a cellular network depends on carrier policies; data charges may apply.
4. Data plan required. Gigabit-class LTE and Wi-Fi calling are available in select markets and through select carriers. Speeds are based on theoretical throughput and vary based on site conditions and carrier. For details on LTE support, contact your carrier and see apple.com/ipad/cellular/networks.
5. Cellular data plan is sold separately. The model you purchase is configured to work with a particular cellular network technology. Check with your carrier for compatibility and cellular data plan availability.
6. Not all carriers support Apple SIM and eSIM. See your carrier for details. Not available in China mainland.
7. Siri may not be available in all languages or in all areas, and features may vary by area. Internet access required. Cellular data charges may apply.
8. Testing conducted by Apple in August 2020 using preproduction iPad (8th generation) units and software. Testing consisted of full battery discharge while performing each of the following tasks: video playback and internet browsing using Wi-Fi or cellular data network. Video content was a repeated 2-hour 23-minute movie purchased from the iTunes Store. Internet over Wi-Fi and cellular data network tests were conducted using dedicated web servers, browsing snapshot versions of 20 popular web pages. All settings were default except: Wi-Fi was associated with a network (except for internet browsing over cellular data network); the Wi-Fi feature Ask to Join Networks and Auto-Brightness were turned off; Brightness was set to 50%; and WPA2 encryption was enabled. Battery life depends on device settings, usage, and many other factors. Battery tests are conducted using specific iPad units; actual results may vary.
9. Wireless broadband recommended; fees may apply.
10. In China mainland, you can use Apple Pay on the web in Safari only on compatible iPhone and iPad models using iOS 11.2 or later.
11. Data accurate as of product launch.
12. ENERGY STAR and the ENERGY STAR mark are registered trademarks owned by the U.S. Environmental Protection Agency.
13. Apple defines its restrictions on harmful substances, including definitions for what Apple considers to be "free of," in the [Apple Regulated Substances Specification](#). Every Apple product is free of PVC and phthalates with the exception of 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.

Helpful?

Yes

No

Support

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