iPhone 11

From Wikipedia, the free encyclopedia

iPhone 11

Developer	Apple Inc.
Type	Smartphone
Series	iPhone
First released	September 20, 2019

Discontinued	September 7, 2022 (global) June 2024 (Indonesia)
Predecessor	iPhone XR
Successor	iPhone 12 and 12 Mini
Related	iPhone 11 Pro and Pro Max
Compatible networks	2G / 3G / 4G LTE
Form factor	Slate
Dimensions	H: 150.9 mm (5.94 in) W: 75.7 mm (2.98 in) D: 8.3 mm (0.33 in)
Weight	194 g (6.8 oz)
Operating system	**Original:** iOS 13 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	A13 Bionic
CPU	Hexa-core (2× high power Lightning cores at 2.66 GHz + 4× low power Thunder cores at 1.82 GHz)[2][3][4]
GPU	Apple-designed 4 core, up to 690 GFLOPS[5]
Modem	Dual SIM with eSIM Intel[6] Gigabit-Class LTE, up to 30 LTE bands

Memory	4 GB LPDDR4X RAM
Storage	64, 128 or 256 GB
Battery	3110 mAh Li-ion (3.83 V)[7]
Charging	Fast charging, Qi wireless charging
Rear camera	12 MP (1.4 μm) (1/2.55″), quad-LED flash, *ƒ*/1.8 aperture, Optical image stabilization (Wide-angle only) quad-LED flash, autofocus, IR filter, Burst mode, Five-element lens (Ultra Wide);[8] six-element lens (Wide),[8] 4K video recording at 24, 30 or 60 FPS or 1080p at 30 or 60 FPS, Slow-motion video (1080p at 120 FPS or 240 FPS), Time-lapse with stabilization, Panorama (up to 63 megapixels), Portrait Mode, Portrait Lighting, Face detection, Digital image stabilization, Optical image stabilization, Stereo audio recording, Night Mode
Front camera	12 MP, f/2.2 aperture, burst mode, exposure control, face detection, auto-HDR, auto image stabilization, Retina flash, 4K video recording at 24, 30 or 60 FPS or 1080p HD at 30 or 60 FPS, Slow-motion video (1080p at 120 FPS) Portrait Mode, Portrait Lighting and Animoji
Display	6.1 inch (155 mm) diagonal Liquid Retina: LED-backlit IPS LCD, 1792×828 px (326 ppi) 625 cd/m² max. brightness (typical),

	with dual-ion exchange-strengthened glass and Haptic Touch.
Sound	Spatial Audio, Dolby Atmos
Connectivity	Wi-Fi 6 (802.11ax), Bluetooth 5.0, Ultra-wideband (UWB)
Water resistance	IP68, up to 2 m (6.6 ft) for 30 minutes
Other	FaceTime audio- or video-calling, USB-C to Lightning
Website	iPhone 11 at the Wayback Machine (archived October 9, 2020)

This article is part of a series on the

iPhone

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The **iPhone 11** is a smartphone developed and marketed by Apple. It is the thirteenth generation of iPhone, succeeding the iPhone XR, and was unveiled on September 10, 2019, alongside the higher-end iPhone 11 Pro at the Steve Jobs Theater in Apple Park, Cupertino, by Apple CEO Tim Cook. Preorders began on September 13, 2019, and the phone was officially released on September 20, 2019, one day after the official public release of iOS 13.

Despite minimal exterior changes from the preceding iPhone XR, substantial design changes within the phone took place, including the addition of the more powerful Apple A13 Bionic chip as well as an ultra-wide dual-camera system.[9] In October 2020, Apple halted the inclusion of both Apple EarPods and the wall adapter, citing environmental goals.[10][11]

As of March 2022, the iPhone 11 has sold 159.2 million units worldwide, making it the tenth best-selling smartphone of all time.[12][13]

The iPhone 11 as well as the iPhone 12 mini and iPhone 13 Pro with its Max variant were discontinued and removed from Apple's website after the announcement of the iPhone 14 and iPhone 14 Pro on September 7, 2022.

History

[edit]

Details regarding the smartphone were widely leaked before the official release; complete specifications and renderings of the phone were widely publicized. Among the most significant changes were improvements in the cameras and the continuation of the 'notch' design around the frontal camera which dipped down into the screen, a feature started by the iPhone X.[14][15][16] The official event invite which was sent out to developers contained a graphic featuring an Apple logo made of layered colored glass, implied to be the new colors for the phone. A patent filed by Apple earlier in the year also hinted at a new camera design.[17][18]

Design

[edit]

iPhone 11's back cover variant colors

The iPhone 11 was available in six colors: Purple, Yellow, Green, Black, White and Product (Red). The top of the screen retains the 'notch' design, wherein the TrueDepth camera system and phone speaker are encapsulated in a black, rounded-out rectangle that dips into the screen, similar to its predecessor, the iPhone XR. An elevated area in the top corner on the back of the iPhone acts as a camera housing, containing the microphone, the flashlight, and both of the rear-facing digital cameras.[11][19] The Apple logo on the back of the phone is centered to be equidistant to all edges and is made of a reflective material.

Color	Name
	Black
	White
	Purple
	Yellow
	Green
	Product Red

Specifications

[edit]

Hardware

[edit]

The iPhone 11, along with the iPhone 11 Pro, uses Apple's A13 Bionic processor, which contains a third-generation neural engine. It has three internal storage options: 64 GB, 128 GB, and 256 GB.[20] It also has 4 GB of RAM.[21] The iPhone 11 has an IP68 water- and dust-resistant rating along with dirt and grime, and is water-resistant up to 2 m (6.6 ft) for 30 minutes. However, the manufacturer's warranty does not cover liquid damage to the phone. Also, like previous iPhones, both phones do not have a headphone jack, and initially came with wired EarPods with a Lightning connector, although Apple no longer includes these with any device.[11][21] The iPhone 11 is the first smartphone with built-in ultra wideband hardware, via its Apple U1 chip.[22][23][24]

Display

[edit]

The iPhone 11 has a 6.1-inch (15 cm) IPS LCD with a resolution of 1792 × 828 pixels (1.4 megapixels) at a pixel density of 326 PPI with a maximum brightness of 625 nits and a 1400:1 contrast ratio and it is equivalent to the iPhone XR. It supports Dolby Vision, HDR10, True-Tone, and a wide color gamut. As with the iPhone 11 Pro, XR, XS, and X, the display has a notch at the top for the TrueDepth camera system and the speaker. The display has an oleophobic coating, making it fingerprint-resistant.[2][21] Apple announced in September 2019 that both the iPhone 11 and iPhone 11 Pro would show a warning notification if a display were replaced with an unauthorized part. Apple stated that problems with the phone could arise if the wrong parts or procedures were used during the repair process.[25]

Battery

[edit]

The iPhone 11 is supplied with a 11.91 Wh (3,110 mAh) battery, a slight increase from the 11.21 Wh (2,942 mAh) found in the iPhone XR. The battery is not user-replaceable.

Camera

[edit]

The iPhone 11 includes a dual-lens 12 MP rear camera array. It has one $\mathit{f}/2.4$ ultra-wide-angle lens with a 120° field of view and 2× optical zoom out, and one $\mathit{f}/1.8$ wide-angle lens. The iPhone 11 supports 4K video at up to 60 fps and 1080p slow motion at up to 240 fps.[2] The phone also features an audio zoom feature, which focuses audio on the area on which is being zoomed in, similar to the Pro model.[21] Both of the cameras support video, although only the primary lens has OIS. It supports portrait mode with six portrait lighting effects, depth control, and an advanced bokeh effect. The phone also has an automatic night mode allowing the camera to take brighter pictures with reduced noise in low-light environments. Also, a redesigned camera app adds new features such as a scroll wheel for choosing between the different lenses and a feature called "QuickTake", which allows the user to long-press the shutter button to take a video. Apple has also announced a new Deep Fusion feature that takes advantage of AI and machine learning for image processing and was released via iOS 13.2 software update on October 29, 2019.[2][21][26]

Software

[edit]

See also: iOS, iOS 13, iOS 14, iOS 15, iOS 16, iOS 17, and iOS 18

The iPhone 11 was supplied with iOS 13,[27] which includes Siri, Face ID (through the TrueDepth camera), Apple Pay, and Apple Card support. It received iOS 14 on September 16, 2020, iOS 15 on September 20, 2021, iOS 16 on September 12, 2022, iOS 17 on September 18, 2023.[28] and iOS 18 on September 16, 2024.[29]

Release and reception

[edit]

The iPhone 11 drew generally positive reviews after its launch.[27][30] Reviews generally praised the phone's performance, battery life, and cameras, while criticizing the display as passable, but aging quickly. Reviewers also criticized the notch as being far too large for 2019. According to Counterpoint Research's Market Pulse, it was the second best-selling and the most popular model globally for 2019, in less than four months of launch.[31]

iPhone 11 Pro

From Wikipedia, the free encyclopedia

iPhone 11 Pro
iPhone 11 Pro Max

iPhone 11 Pro in Midnight Green

Brand	Apple Inc.
Manufacturer	Foxconn
Type	Smartphone
First released	September 20, 2019; 5 years ago
Discontinued	October 13, 2020; 4 years ago
Predecessor	iPhone XS / iPhone XS Max
Successor	iPhone 12 Pro / iPhone 12 Pro Max
Related	iPhone 11
Compatible networks	2G / 3G / 4G LTE
Form factor	Slate
Dimensions	**Pro:** H: 144 mm (5.7 in) W: 71.4 mm (2.81 in) D: 8.1 mm (0.32 in) **Pro Max:** H: 158 mm (6.2 in) W: 77.8 mm (3.06 in) D: 8.1 mm (0.32 in)
Weight	**Pro:** 188 g (6.6 oz) **Pro Max:** 226 g (8.0 oz)
Operating system	**Original:** iOS 13 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	A13 Bionic
Modem	Dual SIM with eSIM Gigabit-Class LTE Cat.19 with 4x4 MIMO, up to 30 LTE bands
Memory	4 GB LPDDR4X RAM[2]

Storage	64, 256 or 512 GB NVMe
Battery	**Pro:** 3.83 V 11.67 Wh (3,046 mAh) Li-ion[2] **Pro Max:** 3.79 V 15.04 Wh (3,969 mAh) Li-ion[2]
Charging	Lightning fast charging, Qi wireless charging
Rear camera	12 MP (wide), f/1.8, 26 mm, 1/2.55", 1.4 µm, dual pixel PDAF, OIS 12 MP (telephoto), f/2.0, 52 mm, 1/3.4", 1.0 µm, PDAF, OIS, 2x optical zoom 12 MP (ultrawide), f/2.4, 120˚, 13 mm, 1/3.6"
Front camera	12 MP (wide), f/2.2 aperture, 23 mm, 1/3.6"
Display	**Pro:** 5.85 in (149 mm), 2436 × 1125 px, supplied by Samsung Display[3] **Pro Max:** 6.46 in (164 mm), 2688 × 1242 px, supplied by Samsung Display[3] and LG Display[4] **All models:** 458 ppi, Super Retina XDR, Haptic Touch, wide color display (DCI-P3), true tone display, 800 cd/m² max. brightness (typical), 1,200 cd/m² max. brightness (HDR), with fingerprint-resistant oleophobic coating.
Sound	Stereo speakers with spatial audio and Dolby Atmos
Connectivity	Wi-Fi 6 (802.11ax), Bluetooth 5.0, Ultra-wideband (UWB)
Water resistance	IP68, up to 4 m (13 ft) for 30 minutes
Other	FaceTime audio- or video-calling, USB-C to Lightning, GPS/GNSS position, velocity and time.
Website	iPhone 11 Pro – Apple at the Wayback Machine (archived October 2, 2020)

This article is part of a series on the

iPhone

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3G
3GS

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List of iPhone models

 *Telephones portal*

The **iPhone 11 Pro** and **iPhone 11 Pro Max** are smartphones developed and marketed by Apple Inc. Serving as Apple's flagship models of the 13th generation of iPhones, they succeeded the iPhone XS and iPhone XS Max, respectively, upon their release. Apple CEO Tim Cook unveiled the devices alongside the standard model, the iPhone 11, on September 10, 2019 at the Steve Jobs Theater at Apple Park. Pre-orders began on September 13, 2019, and the phones went on sale on September 20.[5] They were discontinued on October 13, 2020, following the announcement of the iPhone 12 and iPhone 12 Pro.

Notable improvements over the previous devices include the triple-lens rear camera system and the A13 Bionic chip.[6] The 11 Pro and 11 Pro Max are Apple's first iPhones to feature a "Pro" designation, previously used only for larger Apple devices, such as the iPad Pro and MacBook Pro.[7] They are also the first generation of iPhones that include a Lightning to USB-C cable in the box, which allows them to connect to a charger brick or to a Mac computer that only has USB-C ports, the only generation that included an 18-watt, "fast-charging" power adapter in the box, and the last generation that included the power adapter in the box (as well as EarPods).[8]

History

[edit]

During development, the phones were referred to as D42 and D43. Details regarding the iPhone 11 Pro line were leaked widely starting several months before the official release, with complete specifications, renderings, and real-life images of the phone being publicized. Substantial advancements in the camera and the continuation of the 'notch' design featured since the iPhone X were correctly predicted in leaks.[9][10][11] Some leaks, however, were inaccurate; the inclusion of bilateral charging was widely anticipated and publicized, but was not part of the phone's design.[12][13] Official release event invites sent out to press featured layered colored glass elements organized to form the Apple logo, which some reviewers drew similarities to Apple's original logo, suggesting new colors for the phone, and to a patent Apple filed for a new camera design earlier.[14][15]

Release

[edit]

The iPhone 11 and 11 Pro were unveiled in a press event at the Steve Jobs Theater in Cupertino, California on September 10, 2019; the first Apple event live streamed on YouTube.[16] The event featured various other products and services other than the iPhone, including a new Apple Watch, a new iPad, Apple TV+, and Apple Arcade.[17] Pre-orders began on September 13, with the iPhone 11 Pro starting from a base price of $999, and the larger screen Pro Max starting from $1,099. The phones were released on September 20 in the US and other countries, with all releases complete by December 6.[18]

The iPhone 11, 11 Pro and the 11 Pro Max made up the 13th generation of iPhones.

Discontinuation

[edit]

On October 13, 2020, after the iPhone 12 Pro and 12 Pro Max were announced, the iPhone 11 Pro and 11 Pro Max were removed from sale on Apple's official website.[19][20]

Design

[edit]

The backside of the iPhone 11 Pro Max in Space Grey

The iPhone 11 Pro and 11 Pro Max is available in Gold, Silver, Space Gray, and Midnight Green, a new color not available on previous iPhone models.[21] Similar to the iPhone XS and XS Max respectively, there is a display cutout at the front that includes the 12 MP TrueDepth camera system and speaker. There is also a new rear camera design with three lenses and a flash in a larger, square-shaped bump, which is the most visible difference compared to the iPhone XS.[22][23] The Apple logo is now centered on the back of the device with no text, and the glass has a frosted matte finish, unlike the glossy finish found on other previous flagship iPhones.

Color	Name
	Silver
	Space Gray
	Gold
	Midnight Green

Specifications

[edit]

Hardware

[edit]

The iPhone 11 Pro and 11 Pro Max both have an A13 Bionic processor. Both phones have three internal storage options: 64 GB, 256 GB, and 512 GB, and have 4 GB of RAM.[24] Both models are rated IP68 water and dust resistant, and are resistant for 30 minutes at a depth of 4 meters. The warranty does not cover any water damage to the phone. Continuing the trend set starting with the iPhone 7, neither phone includes a headphone jack, but came with wired EarPods with a Lightning connector prior to Apple's decision to halt inclusion of them in October 2020, citing environmental impact.[23] The iPhone 11 Pro and Pro Max are the first and only iPhones to be sold with a USB-C 18-watt fast charger.[25]

Display

[edit]

The iPhone 11 Pro has a 5.85 inch (149 mm) (marketed as 5.8-inch (15 cm)) OLED display with a resolution of 2436 × 1125 pixels (2.7 megapixels), while the iPhone 11 Pro Max has a larger 6.46 inch (164 mm) (marketed as 6.5-inch (17 cm)) OLED display with a resolution of 2688 × 1242 pixels (3.3 megapixels) which both have a pixel density of 458 PPI. Both models feature a Super Retina XDR Display with a 2,000,000:1 contrast ratio and a notch at the top for the TrueDepth camera system and speaker. Apple describes the display as having a "mini Apple Pro Display XDR" on a phone. They also have a True Tone and wide color display supporting HDR with 800

nits of standard brightness and 1200 nits peak brightness if necessary. The screen has an oleophobic coating that is fingerprint-resistant.[23] The display of the iPhone 11 Pro and iPhone 11 Pro Max is made by Samsung.[3][26][27]

Batteries

[edit]

The iPhone 11 Pro is supplied with a 11.67 Wh (3,046 mAh) battery, a slight increase from the 10.13 Wh (2,658 mAh) found in the iPhone XS, while the iPhone 11 Pro Max has a 15.04 Wh (3,969 mAh) battery, another slight increase from the 12.08 Wh (3,174 mAh) found in the iPhone XS Max. Neither of the batteries are user-replaceable.

Cameras

[edit]

The iPhone 11 Pro and Pro Max both include a triple-lens 12MP rear camera array. There is one ƒ/2.4 ultra-wide-angle lens with a 120-degree field of view and 2× optical zoom out, one ƒ/1.8 wide-angle lens, and one ƒ/2.0 telephoto lens with 2× optical zoom in. There is a burst mode, image stabilization, HDR, and a Portrait Mode supporting depth control and an advanced bokeh effect. iPhone 11 Pro also has an automatic Night Mode allowing the camera to take brighter pictures with reduced noise in low light environments. There is also a redesigned camera app that adds new features such as a scroll wheel for choosing between the different lenses and long-pressing the shutter button to take a video. Apple has also announced a new Deep Fusion feature which will take advantage of AI and machine learning for image processing.[24][23][28]

The iPhone 11 Pro supports 4K video up to 60 fps and 1080p slow motion at up to 240 fps.[28] However, Apple limits the full range of zoom (0.5× -6×) while shooting in 4K @ 60fps to either 0.5× – 1.5×, 1×, to 2× depending which lens is selected upon recording. All other resolutions/frame rates support the full zoom set. The phone also features an audio zoom feature which focuses audio on the area that is being zoomed in on.[25] All of the cameras support video although only the wide and telephoto come with optical image stabilization.[23] Video can be captured with multiple cameras at the same time, through the multi camera recording feature.[29]

Both models also have a 12 MP TrueDepth front camera with a ƒ/2.2 aperture. The front camera also supports stabilized 4K video recording up to 60fps.[24] Apple has added slow-motion video recording to the front camera in 1080p at up to 120 fps, a feature which Apple refers to as "slofies". Similar to previous iPhone models, the TrueDepth system is also used for Face ID and Animoji.[28]

Software

[edit]

See also: iOS, iOS 13, iOS 14, iOS 15, iOS 16, iOS 17, and iOS 18

Further information: iOS version history

The iPhone 11 Pro and Pro Max was initially supplied with iOS 13. The newest iOS update that supports both phones as of September 2024, is iOS 18. The phones also come with Siri, Face ID (through the TrueDepth camera), Apple Pay, and they support Apple Card.[24][23][30]

Reception

[edit]

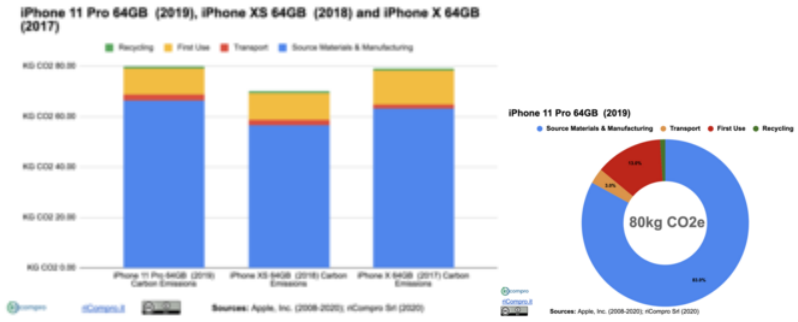
Upon release, the iPhone 11 Pro received generally positive reviews, with critics highlighting the improvements to the camera, display, and battery, although it was criticized for its similar design to the iPhone XS and the large camera bump, as well as the lack of rumored features such as bilateral wireless charging and USB-C. TechRadar critics praised the improved camera array, calling it "clearly the big upgrade", and also praised the faster A13 Bionic processor, and the display, while criticizing the design similarities compared to the iPhone XS including the display cut-out for the sensor housing, commonly referred to as "the notch," and also criticizing the cost.[9][31] Pocket Lint also positively described the camera, the processor, display, and battery, camera design, and lack of bilateral wireless charging.[32][33] The Verge and T3 positively described the general aspects of the phone, while stating that the 'pro' label may not be fully justified as the phone only helps Apple keep up with the competitors, not surpass them.[34][35] The device received an overall score of 117 from DXOMARK, ranking it as the second-best smartphone camera on the site tied with the Samsung Galaxy Note 10+. An 11-point improvement over its predecessor, it had a photo score of 124 and a video score of 102.[36]

Environmental data

[edit]

Carbon footprint

[edit]



Carbon footprint of 1st life cycle of an iPhone 11 Pro

The iPhone 11 Pro has a carbon footprint of 80 kilograms (180 lb) CO2e emissions, which is 10 kilograms (22 lb) more than the preceding iPhone XS and 25 kilograms (55 lb) more than the iPhone 3G in 2008.[37] 83% of the emissions are caused by the production of the device and primary resources while remaining emissions are caused by transportation and first use. [38][39]

Repairability

[edit]

The iPhone 11 Pro and Pro Max continue the strategy of discouraging customers to seek third party repairs while rendering repairs with Apple more costly: repair with non-genuine Apple parts such as batteries or displays can trigger warning messages on the phone instigating the customer to visit a certified technician to replace the respective parts with genuine ones. While the website clearly states that the phone will function properly despite the warning, this information is not passed in the context of the warning. Even if batteries are properly functioning and at full capacity the customers are prompted by a message on the phone to replace the battery.[40] At the same time battery replacement with original spare parts saw an increase in pricing: after initially discounting battery replacements to $29 following the Batterygate scandal, battery replacement prices for all flagship iPhone models was reverted to US$69.00.[41][42]

iPhone 12

37 languages
Article
Talk
Tool

From Wikipedia, the free encyclopedia

iPhone 12
iPhone 12 Mini

iPhone 12 in Blue

Brand	Apple Inc.
Manufacturers	Pegatron[1] (on contract, sole supplier of iPhone 12 Mini) Foxconn[2] (on contract)
Type	Smartphone
Generation	14th
First released	**12**: October 23, 2020; 4 years ago **12 Mini**: November 13, 2020; 4 years ago
Availability by region	**12:** show **October 23, 2020** show **October 30, 2020** show **November 6, 2020** show **November 13, 2020** show **November 27, 2020** show **December 4, 2020** show

	December 14, 2020 show **December 17, 2020** show **December 18, 2020** **12 Mini:** show **November 13, 2020** show **November 20, 2020** show **November 27, 2020** show **December 4, 2020** show **December 11, 2020** show **December 17, 2020** show **December 18, 2020** show **December 23, 2020**
Discontinued	**12 Mini**: September 7, 2022; 2 years ago **12**: September 12, 2023; 20 months ago
Predecessor	iPhone 11
Successor	iPhone 13 / iPhone 13 Mini
Related	iPhone 12 Pro / iPhone 12 Pro Max
Compatible networks	2G / 3G / 4G LTE / 5G
Form factor	Slate
Dimensions	**12**: H: 146.7 mm (5.78 in) W: 71.5 mm (2.81 in) D: 7.4 mm (0.29 in) **12 Mini:** H: 131.5 mm (5.18 in)

	W: 64.2 mm (2.53 in) D: 7.4 mm (0.29 in)
Weight	**12**: 162 g (5.7 oz) **12 Mini:** 133 g (4.7 oz)
Operating system	**12:** **Original:** iOS 14.1[7][8] **Current:** iOS 18.5, released May 12, 2025[9] **12 Mini:** **Original**: iOS 14.2 **Current:** iOS 18.5, released May 12, 2025[10]
System-on-chip	A14 Bionic
CPU	Hexa-core (2 "high performance" Firestorm @ 3.1 GHz[11] + 4 "energy-saving" Icestorm)
GPU	Apple-designed 4 core, up to 750 GFLOPS[12]
Modem	Qualcomm X55 5G[13]
Memory	4 GB LPDDR4X[11][14][15]
Storage	64, 128, 256 GB[a] NVMe
Battery	**12:** 3.83 V 10.78 Wh (2,815 mAh) Li-ion[16] **12 Mini:** 3.85 V 8.57 Wh (2,227 mAh) Li-ion[17]
Charging	Qi wireless charging (7.5 W) Lightning fast charging (20 W) MagSafe wireless charging (15 W/12 W (Mini))
Rear camera	12 MP, f/1.6, 26 mm (wide), 1.4 µm, dual pixel PDAF, OIS 12 MP, f/2.4, 13 mm, 120˚ (ultrawide), 1/3.6" Dual-LED dual-tone flash, HDR (photo/panorama) 4K@24/30/60fps, 1080p@30/60/120/240fps, HDR, Dolby Vision HDR (up to 30fps), stereo sound rec.
Front camera	12 MP, f/2.2, 23 mm (wide), 1/3.6" HDR 4K@24/30/60fps, 1080p@30/60/120fps, gyro-EIS
Display	**12:** 6.1 in (155 mm) diagonal Super Retina XDR OLED, 2532×1170px (460 ppi, aspect ratio 19.5:9), supplied by LG

	Display[18] and Samsung Display[18] **12 Mini:** 5.4 in (137 mm) diagonal Super Retina XDR OLED, 2340×1080 px (476 ppi, aspect ratio 19.5:9), supplied by Samsung Display[18]
Sound	Spatial Audio, Dolby Atmos
Connectivity	Wi-Fi 6 (802.11ax), Bluetooth 5.0, Ultra-wideband (UWB)
Water resistance	IP68, up to 6 m (20 ft) for 30 minutes
Other	FaceTime audio- or video-calling
Website	iPhone 12 at the Wayback Machine (archived September 14, 2021)

This article is part of a series on the

iPhone

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XR
XS / XS Max

11
11 Pro / 11 Pro Max

12 / 12 Mini 12 Pro / 12 Pro Max
13 / 13 Mini 13 Pro / 13 Pro Max
14 / 14 Plus 14 Pro / 14 Pro Max
15 / 15 Plus 15 Pro / 15 Pro Max
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The **iPhone 12** and **iPhone 12 Mini** (stylized and marketed as **iPhone 12 mini**) are smartphones developed and marketed by Apple Inc. They are the fourteenth-generation iPhones, succeeding the iPhone 11.[19] They were unveiled at a virtually held Apple Special Event at Apple Park in Cupertino, California, on October 13, 2020, alongside the "premium flagship" iPhone 12 Pro and iPhone 12 Pro Max and HomePod Mini. Pre-orders for the iPhone 12 started on October 16, 2020, and the phone was released in most countries on October 23, 2020, alongside the iPhone 12 Pro and fourth-generation iPad Air. Pre-orders for the iPhone 12 Mini began on November 6, 2020, and the phone was released on November 13, 2020, alongside the iPhone 12 Pro Max.[20]

The major upgrades over the iPhone 11[21] include the addition of a Super Retina XDR OLED as opposed to the Liquid Retina LED-backlit LCD IPS panel on the iPhone 11 and XR, 5G support, the introduction of MagSafe, Apple A14 Bionic system on a chip (SoC) and high-dynamic-range video Dolby Vision 4K up to 30 fps.[22] The iPhone 12 and iPhone 12 Mini, like the iPhone 12 Pro and iPhone 12 Pro Max, are the first iPhone models from Apple to no longer include a power adapter or EarPods headphones found in prior iPhone models; however, a USB-C to Lightning cable is included; this change was retroactively applied to other iPhone models sold by Apple, such as the iPhone XR, iPhone 11 and the second-generation iPhone SE.

Design

[edit]

The iPhone 12 and 12 Mini are the first major redesign since the iPhone X. It features a chassis with flat edges, similar to the iPhone 4 and iPhone 5 designs, as well as the iPad Pro since 2018, and the 4th-generation iPad Air, which was also released in 2020. The notch size is similar to previous iPhone models, despite speculation about a reduction in width.[23] The borders around the display are thinner by 35% than any previous model. The new design also comes with a ceramic-hardened front glass, marketed as Ceramic Shield, while the back retains the previous generation Dual-Ion Exchange strengthened glass.[24]

On April 20, 2021, at Apple's Special Event “Spring Loaded”, Apple revealed a new purple color option which became available on April 30, 2021.[25]

The iPhone 12 and 12 Mini are available in six colors: Black, White, Product Red, Green, Blue, and Purple.[24]

Color	Name
	Black
	White
	Product Red
	Green
	Blue
	Purple

Specifications

[edit]

Hardware

[edit]

The iPhone 12 and iPhone 12 Mini use Apple's six-core A14 Bionic processor, which contains a next-generation neural engine. They both have three internal storage options: 64, 128, and 256 GB.[a] Both also carry an IP68 water and dust resistance rating along with dirt and grime, and is water-resistant up to six meters (20 feet) for 30 minutes. However, the manufacturer warranty does not cover liquid damage to the phone.

The iPhone 12 series are the first iPhone models to be supplied from launch without EarPods or a wall adapter, which Apple says was done to reduce carbon emissions and waste since most users already own them. Apple also claims 70% more boxes can fit on a pallet given the smaller box, and thus further reducing emissions.[26] A USB-C to Lightning cord is still included. This change also applies retroactively to all other iPhone models still in production.[27] To comply with French law regarding wireless device radiation and health which requires phones to be bundled with and promote use of hands-free accessories by children under 14, iPhone models will still include EarPods in this market.[28]

A magnetic connector known as MagSafe is introduced on the iPhone 12 models, allowing accessories such as cases and charging cords to be attached to the rear of the device. Accessories can also be stacked together.[29]

The devices support 5G cellular communications. This allows upload speeds of up to 200 Mbit/s and download speeds of up to 4 Gbit/s.[30] However, only models sold in the U.S. support the fastest mmWave technology; those sold elsewhere in the world, including Canada, support only sub-6 GHz frequency bands.[31] A new feature called Smart Data Mode enables 5G only when necessary to preserve battery life.[32]

Black iPhone 12

Displays

[edit]

The iPhone 12 features a 6.1-inch (155 mm) display[33] with Super Retina XDR OLED technology at a resolution of 2532 × 1170 pixels and a pixel density of about 460 ppi.[34] The iPhone 12 Mini features a 5.4-inch (137 mm) display with the same technology at a resolution of 2340 × 1080 pixels, and a pixel density of about 476 ppi. Both phones have a peak brightness of 1200 nits when viewing HDR content equivalent to the iPhone 12 Pro, and normal brightness of 625 nits.[34] Both phones also use an improved glass-ceramic covering called Ceramic Shield which is co-developed with Corning Inc. Apple describes it as having "4 times better drop performance" and being "tougher than any smartphone glass".[35]

Batteries

[edit]

The iPhone 12 has a 10.78 Wh (2,815 mAh) battery, a slight decrease from the 11.91 Wh (3,110 mAh) battery found in the iPhone 11.[36] It is also identical to the battery found in the iPhone 12 Pro. The iPhone 12 Mini has a 8.57 Wh (2,227 mAh) battery. Like previous iPhones, the battery is not user-replaceable.[37]

Chipsets

[edit]

Both the iPhone 12 and 12 Mini have the Apple A14 Bionic, the first ARM-based smartphone system-on-a-chip (SoC) manufactured on the 5 nm process node. However, unlike previous years, they are not the first Apple devices to receive the newest A-series processor, with the fourth-generation iPad Air being the first. Both phones use Qualcomm's Snapdragon X55 5G modem.

Cameras

[edit]

Both phones have two rear 12-megapixel cameras: wide and ultra-wide. The wide camera is a 26 mm full-frame equivalent with an f/1.6 aperture which captures 27% more light than the f/1.8 aperture in the iPhone 11[20] and a seven-element lens. The ultra-wide camera is a 13 mm full-frame equivalent with an f/2.4 aperture and a five-element lens.[38]

All cameras now support Night Mode for both photo and time-lapse video at full resolution.[24] Smart HDR has been improved thanks to Smart HDR 3.[38] This iPhone model is the first capable of shooting 10-bit high dynamic range Dolby Vision 4K video at up to 30 fps which allows for greater brightness and deeper shadows.[39]

The front-facing, TrueDepth camera features a 12-megapixel camera with an f/2.2 aperture. This model also added Night Mode to the front-facing camera.[24]

Sensors

The iPhone 12 and 12 Mini include mostly the same sensors found on prior iPhone models going back to the iPhone X. These include an accelerometer, gyroscope, barometer, proximity sensor, ambient light sensor, and a digital compass. The devices also include the Face ID sensor for biometric authentication.

Software

[edit]

See also: iOS, iOS 14, iOS 15, iOS 16, iOS 17, and iOS 18

Further information: iOS version history

Both phones originally shipped with iOS 14.[24] The devices come with the stock iOS apps, such as Safari, Weather, and Messages, and they include Siri, the personal assistant in iOS. They received iOS 15 on September 20, 2021, iOS 16 on September 12, 2022, iOS 17 on September 18, 2023, and most recently, iOS 18 on September 16, 2024.[40]

Reception

[edit]

The iPhone 12 received largely positive reviews. *The Verge* called it a "beautiful, powerful, and incredibly capable device", praising the new design reminiscent of the iPhone 5, the speed of the A14 Bionic processor, its 5G capabilities, addition of the OLED display like on the high end iPhones, combined with much slimmer bezels than previous iPhone models and improved battery life over iPhone 11.[41] *Engadget* also gave the iPhone 12 a positive review, praising the MagSafe wireless charging and accessories magnetic attachment as well as the redesigned camera system, a greatly improved display like in its Pro counterparts.[42]

iPhone 12 was the third best-selling and was the most popular model globally in Q2 2021.[43]

Apple was criticized for the continued reliance on Face ID as the sole biometric option to unlock the device, which is incompatible with face masks. iOS 14.5 allowed the use of a paired Apple Watch to unlock the phone while wearing a mask, while iOS 15.4 allows unlocking with a mask on, without an Apple Watch. All models can still use a passcode to log in.[44][45][46][47]

The iPhone 12 mini has received more mixed reviews. Some praised the phone for being a new small phone, while others criticized the price and inferior battery life compared to the full-size 12[48] (although the battery life of the iPhone 12 mini is longer than that of the second-generation iPhone SE[49]).

"OLED-gate"

[edit]

Within two weeks after its public release, a thread was started at Apple Support Communities describing a problem with the iPhone 12 and iPhone 12 Pro OLED panel black pixels not shutting off completely in black scenes, resulting in what was described as "ugly glowing".[50] A considerable number of users have since posted replies reporting the same problem, photos and videos have been shared online demonstrating the issue. As of January 2021, Apple has not yet made an official statement.

EarPods and power adapter controversy

[edit]

Apple no longer includes either EarPods or a power adapter in the boxes of all iPhone 12 and 12 Pro models, claiming that it is an environmental initiative and no longer including them would reduce e-waste and permit smaller iPhone boxes, allowing more devices to be transported simultaneously to decrease its carbon footprint. The boxes only include a USB-C to Lightning cable, incompatible with the existing USB-A power adapters that Apple previously supplied with its devices. Users can still use their existing USB-A power adapters and cables but must purchase a USB-C power adapter sold separately to enable fast charging.

The iPhone 12 was sold in France with EarPods as the law required that smartphones be bundled with “hands-free kits” or a “headset” in order to protect children aged 14 and younger from electromagnetic radiation.[51][52]

In December 2020, a Brazilian consumer rights watchdog Procon-SP Foundation requested Apple to provide proof that not including chargers is beneficial to the environment. The watchdog argues that Apple removing the charger is harming consumers and wants to force the company to include one as it claims the charger is an essential component.[53]

The Verge reported the reason power adapters and EarPods are no longer included could be to offset the increased cost of 5G components. These new components are reported to cost 30% more than their predecessors.[54]

Repairability concerns

[edit]

iFixit and Australian YouTuber Hugh Jeffreys discovered that a number of key components such as the cameras would malfunction or display warnings if they are replaced with new ones or those taken from an otherwise identical donor unit.[55] Internal Apple documents also mention that, beginning with the iPhone 12 and in subsequent models, authorized technicians would have to run the phones through an internal System Configuration tool to reprogram repaired units in order to account for hardware changes. While Apple has yet to comment on the issue, the inability to replace key system components have raised concerns about right to repair and planned obsolescence.[56] However, the iPhone 12 Mini does not have this issue.[57] Apple later addressed the issue with the release of iOS 14.4, which displays a warning message if the phone detects an unpaired camera module but otherwise allows for full functionality.[58]

Electromagnetic radiation concerns

[edit]

In September 2023, the French watchdog agency Agence nationale des fréquences [fr] notified Apple that sales of the iPhone 12 must be halted in France due to the device exceeding the legal specific absorption rate for consumer electronics. The agency also requested that Apple must recall all iPhone 12s that have been produced in order to meet safety regulations. However, this coincided with the release of the iPhone 15 models where Apple also discontinued the iPhone 12 globally.[59]

Despite the move however, France's digital minister did emphasize the iPhone 12's radiation levels[60] remained well below the threshold deemed harmful by scientific studies. Even Apple, "...disputed the findings and said the device complies with regulations..." [*Regulations | source 39]*. This highlighted a discrepancy between the agency's tests and real-world phone usage scenarios.[61]

iPhone 12 Pro

31 languages
Article
Talk
Tool

From Wikipedia, the free encyclopedia

iPhone 12 Pro
iPhone 12 Pro Max

iPhone 12 Pro

iPhone 12 Pro in Gold

Brand	Apple Inc.
Type	Smartphone
Generation	14th
First released	**Pro:** October 23, 2020; 4 years ago **Pro Max:** November 13, 2020; 4 years ago
Availability by region	**Pro:** show **October 23, 2020** show **October 30, 2020** show **November 6, 2020** show **November 13, 2020** show **November 27, 2020** show **December 4, 2020** show **December 14, 2020** show **December 17, 2020** show **December 18, 2020**

	Pro Max: show **November 13, 2020** show **November 20, 2020** show **November 27, 2020** show **December 4, 2020** show **December 17, 2020** show **December 18, 2020** show **December 23, 2020** show **January 5, 2021**
Discontinued	September 14, 2021; 3 years ago
Predecessor	iPhone 11 Pro and Pro Max
Successor	iPhone 13 Pro and Pro Max
Related	iPhone 12 and 12 Mini
Compatible networks	GSM, CDMA, 3G, EVDO, HSPA+, 4G LTE, 5G
Form factor	Slate
Dimensions	**Pro:** H: 146.7 mm (5.78 in) W: 71.5 mm (2.81 in) D: 7.4 mm (0.29 in) **Pro Max:** H: 160.8 mm (6.33 in) W: 78.1 mm (3.07 in)

	D: 7.4 mm (0.29 in)
Weight	**Pro:** 189 g (6.7 oz) **Pro Max:** 228 g (8.0 oz)
Operating system	**Original:** iOS 14 **Current:** iOS 18.5, released May 12, 2025[5]
System-on-chip	A14 Bionic
CPU	Hexa-core (2x high-power Firestorm cores @3.1 GHz + 4x low-power Icestorm cores @1.8 GHz)[6]
GPU	Quad-core Apple-designed GPU, up to 750 GFLOPS[7][8]
Modem	Qualcomm Snapdragon X55 5G[9][10]
Memory	6 GB LPDDR4X[11][12]
Storage	128, 256 or 512 GB[a] NVMe
Battery	**Pro:** 10.78 Wh (2,815 mAh) Lithium-ion battery @ 3.83 V[13] **Pro Max:** 14.13 Wh (3,687 mAh) Lithium-ion battery @ 3.83 V[14]
Charging	Lightning charging (12 W) USB PD via Lightning fast charging (20 W) MagSafe wireless charging (15 W)
Rear camera	12 MP (4032 x 3024 px); Dolby Vision; Night Mode; 4K @ 24, 30, 60; 1080p@30, 60, 120; 720p@240; 26 mm; 12 MP telephoto (52 mm, 2x) and ultra-wide (13 mm, 0.5x)
Front camera	12 MP (4000 x 3000 px); Dolby Vision; 4K @ 24, 30, 60; 1080p@30, 60, 120; 720p@240; 26 mm
Display	**12 Pro:** 6.1 in (155 mm) diagonal, 2532×1170px at 460.3 ppi, supplied by Samsung Display[15] **12 Pro Max:** 6.7 in (170 mm), 2778×1284px at 457.3 ppi, supplied by Samsung Display[16]

	show
	Display features:
Sound	show
	Sound features:
Connectivity	show
	All models:
	show
	A2341 / A2342:
	show
	A2406 / A2410:
	show
	A2408 / A2412:
	show
	A2407 / A2411:
Data inputs	show
	List of inputs:
Water resistance	IP68, up to 6 m (20 ft) for 30 minutes
Codename	D53P /
SAR	show
	12 Pro:[19]
	show
	12 Pro Max:[20]
Hearing aid compatibility	M3, T4[21]
Other	FaceTime Audio / Video
	Wi-Fi Hotspot
	Voice over LTE (VoLTE)
	Wi-Fi Calling
Website	iPhone 12 Pro – Apple at the Wayback Machine (archived October 13, 2020)

This article is part of a series on the

iPhone

1st generation
3G
3GS

4
4s

5
5c
5s

6 / 6 Plus
6s / 6s Plus

7 / 7 Plus
8 / 8 Plus

X
XR
XS / XS Max

11
11 Pro / 11 Pro Max

12 / 12 Mini
12 Pro / 12 Pro Max

13 / 13 Mini
13 Pro / 13 Pro Max

14 / 14 Plus
14 Pro / 14 Pro Max

15 / 15 Plus
15 Pro / 15 Pro Max

16 / 16 Plus
16 Pro / 16 Pro Max
16e

SE
1st
2nd
3rd

List of iPhone models

 *Telephones portal*

The **iPhone 12 Pro** and **iPhone 12 Pro Max** are smartphones developed and marketed by Apple Inc. They are the flagship smartphones in the fourteenth generation of the iPhone, succeeding the iPhone 11 Pro and iPhone 11 Pro Max, respectively. They were unveiled alongside the iPhone 12 and iPhone 12 Mini at an Apple Special Event at Apple Park in Cupertino, California on October 13, 2020, with the iPhone 12 Pro being released on October 23, 2020, and the iPhone 12 Pro Max on November 13, 2020. They were discontinued on September 14, 2021, along with the iPhone XR, following the announcement of the iPhone 13 and iPhone 13 Pro.

Major upgrades over the iPhone 11 Pro and iPhone 11 Pro Max include the addition of 5G support, the lidar sensor, ProRAW (DNG) allowing high quality lossless 12-bit image capture in the native photos app with the use of the new DNG v1.6 specification, the introduction of the MagSafe wireless charging and accessory system, the Apple A14 Bionic system on a chip (SoC), high-dynamic-range video Dolby Vision 10-bit 4:2:0 4K video recording at 30 or 60 fps, larger 6.1-inch and 6.7-inch displays on the iPhone 12 Pro and iPhone 12 Pro Max, respectively, and the move to a base capacity of 128 GB[a] from the prior base capacity of 64 GB,[a] while retaining the other storage capacities of 256 and 512 GB.[a] The iPhone 12 Pro and iPhone 12 Pro Max, like the iPhone 12 and iPhone 12 Mini, are the first iPhone models from Apple to no longer include a power adapter or EarPods headphones found in prior iPhone models; however, a USB-C to Lightning cable is still included, and this change was retroactively applied to other iPhone models sold by Apple at the time, including the iPhone XR, iPhone 11 and iPhone SE (2nd generation).

History

[edit]

This section **needs expansion**. You can help by adding to it. *(October 2020)*

Official announcement

[edit]

The **iPhone 12 Pro** and **iPhone 12 Pro Max** were officially announced by Apple Inc. on October 13, 2020, during a virtual press event held at the Steve Jobs Theater at Apple Park in Cupertino,

California. The event was conducted alongside the announcement of the iPhone 12, iPhone 12 Mini, and HomePod Mini.[22]

The iPhone 12 Pro and iPhone 12 Pro Max alongside the rest of the iPhone 12 lineup were the first flagship iPhones to be announced via a pre-recorded broadcast rather than a live on-stage event, due to the COVID-19 lockdowns. Apple would continue to announce future iPhones this way even after the end of the pandemic and return of in-person events.

Launch and availability

[edit]

Pre-orders for the iPhone 12 Pro began on October 16, 2020, with the official release taking place on October 23, 2020.[23] This release coincided with the launch of the fourth-generation iPad Air and the standard iPhone 12. The iPhone 12 Pro Max followed a staggered release schedule, with pre-orders commencing on November 6, 2020, and an official release date of November 13, 2020, alongside the iPhone 12 Mini.[24]

The pricing for the iPhone 12 Pro started at $999, while the iPhone 12 Pro Max began at $1099. This marked the first time since the launch of the iPhone XS and iPhone XR in 2018 that multiple iPhone models were announced together but not released simultaneously.

Discontinuation and reintroduction

[edit]

On September 14, 2021, following the announcement of the iPhone 13 Pro and iPhone 13 Pro Max, the iPhone 12 Pro and iPhone 12 Pro Max were officially discontinued and removed from sale on Apple's website. However, in March 2022, Apple resumed selling refurbished iPhone 12 Pro models starting at $759 through its Refurbished and Clearance section. The iPhone 12 Pro Max, however, was not made available as a refurbished option.

The iPhone 12 series introduced several significant technological advancements, such as the inclusion of a Super Retina XDR display,[25] improved camera capabilities, and support for 5G connectivity. It received positive reviews[26][27] for its design, performance, and new features, making it one of the top-selling smartphone series of its release year.

Design

[edit]

It is the first major redesign since the iPhone X, similar to that of iPad Pros since 2018 and the 4th-generation iPad Air. The iPhone 12 Pro and 12 Pro Max feature a flat chassis, a design seen with the iPhone 4 through the iPhone 5S and the first generation iPhone SE. The notch size is similar to previous models.[28] The bezels are around 35% thinner than the iPhone 11 Pro and previous models. The new design also comes with Corning Inc's custom ceramic-hardened i.e glass ceramic front glass, "Ceramic Shield", while the back retains the previous generation of Corning Inc's custom Dual-Ion Exchange strengthened glass.[29] On the back is the same three-camera configuration found on the iPhone 11 Pro, but with larger apertures and an added LiDAR scanner.

The iPhone 12 Pro and 12 Pro Max are available in four colors: Silver, Graphite, Gold, and Pacific Blue. Pacific Blue is a new color replacing Midnight Green, while Graphite is a renamed version of Space Gray and Gold is now updated in new yellow gold introduced with the Apple Watch Series 6.[29]

Color	Name
	Silver
	Graphite
	Gold
	Pacific Blue[30]

Specifications

[edit]

Hardware

[edit]

The iPhone 12 Pro uses Apple's six-core A14 Bionic processor, which contains a 16-core neural engine. It has three internal storage options: 128, 256, and 512 GB.[a] The iPhone 12 Pro has an IP68 water and dust-resistant rating along with dirt and grime, and is water-resistant up to six meters (20 feet) for 30 minutes. However, the manufacturer warranty does not cover liquid damage to the phone.[31]

The iPhone 12 Pro, like the iPhone 12, is not supplied with EarPods (except in France) or the power adapter included with prior iPhone models. Apple claims this will reduce carbon emissions and that most users already own these items.[32] Apple still supplies the USB-C to Lightning cable that was introduced with the iPhone 11 Pro. In addition to Lightning and Qi wireless charging, the phones introduce MagSafe wireless charging, a new magnet-based charging and accessory system that allow accessories such as chargers and cases to snap onto the back of the phones. MagSafe wireless charging supports up to 15 watts, is fast-charge capable, and is a reimagining of the MagSafe brand that was introduced in 2006 with the original MacBook Pro. The MagSafe Charger can be purchased separately, along with a variety of cases and other accessories.[31]

The iPhone 12 Pro and 12 Pro Max support 5G cellular communications. This allows upload speeds of up to 200 Mbit/s (1 Mbit/s = 1 million bits per second) and download speeds of up to 4 Gbit/s. However, only models sold in the U.S. support the faster mmWave technology; those sold elsewhere in the world, including Canada, only support sub-6 GHz frequency bands. A new feature called Smart Data Mode provides 5G only when necessary to preserve battery life and data usage.[31]

Displays

[edit]

The iPhone 12 Pro has a 6.06 inch (154 mm) (marketed as 6.1 inch) OLED display with a resolution of 2532 × 1170 pixels (2.9 megapixels) at 460 ppi, while the iPhone 12 Pro Max has a 6.68 inch (170 mm) (marketed as 6.7 inch) OLED display with a resolution of 2778 × 1284 pixels (3.5 megapixels) at 458 ppi. Both models have the Super Retina XDR OLED display with thinner bezels than previous generation iPhones. The iPhone 12 Pro Max features the largest display on any iPhone to date.[33] The phones also introduce a new glass-ceramic covering, named 'Ceramic Shield', which was co-developed with Corning Inc. Apple claims the Ceramic Shield has "4 times better drop performance" and that it is "tougher than any smartphone glass".[34]

Batteries

[edit]

The iPhone 12 Pro is supplied with a 10.78 Wh (2,815 mAh) battery, a slight decrease from the 11.67 Wh (3,046 mAh) battery found in the iPhone 11 Pro, and is identical to the battery found in the standard iPhone 12. The iPhone 12 Pro Max has a 14.13 Wh (3,687 mAh) battery, another slight decrease from the 15.04 Wh (3,969 mAh) battery found in the iPhone 11 Pro Max.[35] The battery is not user-replaceable.[36][37][38]

Chipsets

[edit]

Both the iPhone 12 Pro and iPhone 12 Pro Max are supplied with the Apple A14 Bionic, the first ARM-based smartphone system-on-a-chip (SoC) manufactured on the 5 nm process node.[39] However, unlike previous years, the iPhone 12 Pro and iPhone 12 Pro Max are not the first Apple devices to receive the newest A-series processor, with the fourth-generation iPad Air being the first device from Apple to contain the A14 Bionic chip.[39] The iPhone 12 Pro and iPhone 12 Pro Max also contain the Apple M14 motion coprocessor. The iPhone 12 Pro and iPhone 12 Pro Max use Qualcomm's X55 5G modem.

Cameras

[edit]

The iPhone 12 Pro features four cameras: one front-facing camera and three back-facing cameras, including a telephoto, wide, and ultra-wide camera. The iPhone 12 Pro also features a lidar scanner for AR and computer-aided photo enhancement services. The iPhone 12 Pro also adds Night Mode for time-lapse video recording on all four cameras.[40] Unlike the iPhone 11 Pro and iPhone 11 Pro Max where the only difference was the screen size and battery capacity, the iPhone 12 Pro Max adds a 47% larger sensor and sensor-shift image stabilization to the main camera lens, and replaces the f/2.0 aperture 52 mm telephoto camera lens with a f/2.2 aperture 65 mm lens, allowing for a 2.5x optical zoom. The iPhone 12 Pro and iPhone 12 Pro Max are the first smartphones capable of shooting in 10-bit high dynamic range Dolby Vision 4K video at up to 60 frames per second.[41]

The cameras of the iPhone 12 Pro

Sensors

[edit]

The iPhone 12 Pro and iPhone 12 Pro Max have largely the same sensors found on prior iPhone models going back to the iPhone X. These include an accelerometer, gyroscope, barometer, proximity sensor, ambient light sensor, and a digital compass.[29] The devices also include the Face ID facial recognition system, this is made up of several sensors: mainly a dot projector, flood illuminator, and an infrared camera, allowing a user's face to be scanned and stored by the Secure Enclave. A lidar scanner is the new sensor included in the 12 Pro and 12 Pro Max, similar to that of the fourth-generation iPad Pro, permitting additional augmented reality (AR) features to also be supported, such as the ability to measure a user's approximate height from the Measure app.[42]

Software

[edit]

See also: iOS, iOS 14, iOS 15, iOS 16, iOS 17, and iOS 18

Further information: iOS version history

The iPhone 12 Pro and iPhone 12 Pro Max feature iOS, Apple's mobile operating system.[43] The user interface of iOS is based on the concept of direct manipulation, using multi-touch gestures. Interface control elements consist of sliders, switches, and buttons.[44] Interaction with the OS includes gestures such as *swipe*, *tap*, *pinch*, and *reverse pinch*, all of which have specific definitions within the context of the iOS operating system and its multi-touch interface. Internal accelerometers are used by some applications to respond to shaking the device (one common result is the undo command) or rotating it vertically (one common result is switching from portrait to landscape mode).[44]

The iPhone 12 Pro was first supplied with iOS 14.1 alongside the iPhone 12 while the iPhone 12 Pro Max was supplied with iOS 14.2 alongside the iPhone 12 Mini. These phones come with the stock iOS apps, such as Safari, Weather, and Messages, and they also include Siri, the personal assistant included in iOS since iOS 5 with the release of the iPhone 4S.

These phones support the current public release of iOS, which is currently iOS 18.[45][46]

Reception

[edit]

The iPhone 12 Pro received generally positive reviews. *The Verge* called it a "beautiful, powerful, and incredibly capable device", praising the new design reminiscent of the iPhone 5, the speed of the A14 Bionic processor, and its 5G capabilities,[b] but noted the decrease in battery life compared to the iPhone 11 Pro and the low number of upgrades compared to the iPhone 12.[47] *Engadget* also gave the iPhone 12 Pro a positive review, praising the MagSafe wireless charging and accessory system as well as the improved camera system, but noted the lack of upgrade motivation if users had already purchased a new iPhone in 2019.[48]

Apple was criticized for the continued reliance on Face ID as the sole biometric option to unlock the device, which is incompatible with face masks. This limitation was lifted with the introduction of the fifth revision of the iOS 14, which permits the user to unlock the phone while wearing a face mask, using the paired and password unlocked Apple Watch as its alternative authenticator. The iPhone SE (3rd generation) is the only phone that Apple currently produces that supports Touch ID, an alternative option that is compatible with face masks. All models can still use a passcode to log in.[49][50][51]

"OLED-gate"

[edit]

Within two weeks of its public release, a thread was started at Apple Support describing a problem with pixels on the iPhone 12 and iPhone 12 Pro OLED displays not shutting off completely in black scenes, resulting in what was described as an "ugly glowing";[52] over 3,500 other users have since clicked the "I have this question too" button in the thread. Additional users have provided photos and videos online that demonstrate the problem; one of whom—whose video amassed over 50,000 views—claims Apple responded that they were working on the problem.[53] However, Apple has not officially acknowledged the problem, which persists despite multiple software updates, leading users and pundits to fear a hardware problem.[54]

Removal of the power adapter and EarPods

[edit]

Apple, through an "environmental initiative", have removed the EarPods (except in France until January 31, 2022[55]) and power adapter (except in São Paulo[56]) from all new iPhone boxes, including the iPhone 12 and iPhone 12 Pro. According to Apple, removing the power adapter

permitted Apple to avoid 180, 000 metric tons of CO_2 in fiscal year 2021 thanks to a shift in the mode of transport and product weight. Apple now includes a USB-C to Lightning cable, incompatible with the existing USB-A power adapters that Apple previously supplied with its devices. Users can still use their existing USB-A power adapters and Lightning cables to charge and sync, but must purchase or use an existing USB-C power adapter to utilize the included USB-C to Lightning cable. Starting with the iPhone 8, a USB Power Delivery (USB-PD) compliant charger is required to permit fast charging when using the USB-C to Lightning cable, with Apple suggesting the use of a 20W or greater USB-PD compliant charger to fast charge the iPhone 12.[57][58]

Environmental data

[edit]

Carbon footprint

[edit]

The iPhone 12 Pro has a carbon footprint of 82 kg (181 lb) of CO_2 emissions, which is 6 kilograms (13 pounds) more than the preceding iPhone 11 Pro. The iPhone 12 Pro Max has a footprint of 86 kg (190 lb) of carbon emissions, a 6 kilograms (13 pounds) increase compared to the iPhone 11 Pro Max. Of all emissions, 86% and 82% released by producing the iPhone 12 Pro and iPhone 12 Pro Max respectively are caused by device production and primary resource use with the remaining emissions released by means of first use, transportation, and end-of-life processing.[59][60][61][62]

Repairing

[edit]

See also: Right to repair

Several weeks after its release, it was discovered by iFixit and Australian tech YouTuber Hugh Jeffreys that a number of key components such as the cameras malfunction or display warnings if they are replaced with new or those taken from an otherwise identical donor unit.[63] Internal Apple documents also mention that, beginning with the iPhone 12 and continuing with subsequent models, authorized technicians would have to run the phones through an internal System Configuration tool to reprogram repaired units in order to account for hardware changes. While Apple has yet to comment on the issue, the inability to replace key system components have raised concerns about repairing and planned obsolescence.[64]

iPhone 13

From Wikipedia, the free encyclopedia

iPhone 13
iPhone 13 Mini

iPhone 13 in Blue

Developer	Apple Inc.
Type	Smartphone
Series	iPhone
First released	September 24, 2021
Discontinued	**13 Mini**: September 12, 2023 **13**: September 9, 2024
Predecessor	iPhone 12 and 12 Mini
Successor	iPhone 14 and 14 Plus
Related	iPhone 13 Pro and Pro Max
Compatible networks	GSM, CDMA, 3G, EVDO, HSPA+, 4G LTE, 5G
Form factor	Slate

Colors	Blue Green Midnight Pink (PRODUCT)Red Starlight
Dimensions	**13**: H: 146.7 mm (5.78 in) W: 71.5 mm (2.81 in) D: 7.65 mm (0.301 in) **13 Mini:** H: 131.5 mm (5.18 in) W: 64.2 mm (2.53 in) D: 7.65 mm (0.301 in)
Weight	**13**: 173–174 g (6.1–6.1 oz)[1] **13 Mini:** 140–141 g (4.9–5.0 oz)[1]
Operating system	**Original**: iOS 15 **Current:** iOS 18.5, released May 12, 2025[2]
System-on-chip	A15 Bionic
CPU	Hexa-core (2x "high-performance" – 3.23 GHz, Avalanche + 4x "energy-saving" Blizzard) – 2.02 GHz
GPU	Apple-designed 4 core, up to 1.37 TFLOPS[3]
Modem	Qualcomm Snapdragon X60 5G
Memory	4 GB LPDDR4X[4]
Storage	128, 256 or 512 GB NVMe
SIM	nanoSIM and eSIM (eSIM not available on China mainland models, and on Hong Kong and Macau iPhone 13 mini models) Single SIM or Dual SIM in dual stand-by
Battery	**13:** 3.84 V 12.41 W·h (3227 mA·h) Li-ion **13 Mini:** 3.88 V 9.34 W·h (2406 mA·h) Li-ion

Charging	MagSafe and Qi wireless charging Lightning fast charging (20W)
Rear camera	12 MP, f/1.6, 26 mm (wide), 1.7 µm, dual pixel PDAF, sensor-shift OIS 12 MP, f/2.4, 120˚, 13 mm (ultrawide) Dual-LED dual-tone flash, HDR (photo/panorama) 4K@24/30/60fps, 1080p@30/60/120/240fps, HDR, Dolby Vision HDR (up to 60fps), stereo sound rec
Front camera	12 MP, f/2.2, 23 mm (wide), 1/3.6" SL 3D, (depth/biometrics sensor) HDR 4K@24/25/30/60fps, 1080p@30/60/120fps, gyro-EIS
Display	**13:** 6.1 in (155 mm) diagonal Super Retina XDR OLED, 2532×1170px (460 ppi, 19.5:9 aspect ratio), supplied by LG Display[5],Samsung Display,[6] and BOE[7] **13 Mini:** 5.4 in (137 mm) diagonal Super Retina XDR OLED, 2340×1080 px (476 ppi, 19.5:9 aspect ratio), supplied by LG Display[5] and Samsung Display[6]
Sound	Spatial Audio, Dolby Atmos, Dolby Audio
Connectivity	Wi-Fi 6 (802.11ax), Bluetooth 5.0, Ultra-wideband (UWB) GPS, GLONASS, Galileo, QZSS, BeiDou
Data inputs	show **List of inputs:**
Water resistance	IP68 IEC standard 60529 (splash, water, and dust resistant 6 meters (19.6 feet) for 30 min)
Hearing aid compatibility	M3, T4[8]
Website	iPhone 13 at the Wayback Machine (archived April 30, 2022)
References	[9]

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List of iPhone models

 *Telephones portal*

The **iPhone 13** and **iPhone 13 Mini** (stylized as **iPhone 13 mini**) are smartphones developed and marketed by Apple. They are the fifteenth generation of iPhones, succeeding the iPhone 12 and 12 Mini. They were unveiled at an Apple Event in Apple Park in Cupertino, California, on September 14, 2021, alongside the higher-priced iPhone 13 Pro and iPhone 13 Pro Max flagships. They were released on September 24, 2021.[10][11]

The iPhone 13 Mini was discontinued in September 2023, and the iPhone 13 was discontinued in September 2024 with the announcement of the iPhone 16.

History

[edit]

The iPhone 13 and iPhone 13 Mini were officially announced alongside the ninth-generation iPad, 6th generation iPad Mini, Apple Watch Series 7, iPhone 13 Pro, and iPhone 13 Pro Max by a virtual press event filmed and recorded at Apple Park in Cupertino, California, on September 14, 2021. Pre-orders began on September 17, 2021, at 5:00 am PDT. Pricing starts at US$799 for the iPhone 13 and US$699 for the iPhone 13 Mini.[12]

Together with iPhone 12, the iPhone 13 Mini was discontinued on September 12, 2023, with the announcement of the iPhone 15 and 15 Pro. The iPhone 13 continued to be sold until the announcement of the iPhone 16 and 16 Pro on September 9, 2024, when it was discontinued alongside the iPhone 15 Pro.

Design

[edit]

The iPhone 13 has a flat chassis analogous to that of contemporaneous Apple products with some differences such as the rear cameras being larger and arranged diagonally. The Face ID True Depth sensor housing on the iPhone is 20% smaller yet taller than its predecessors.[13]

The iPhone 13 and iPhone 13 Mini are available in six colors: Midnight, Starlight, Product Red, Blue, Pink, and Green.[14][15]

On March 8, 2022, at Apple's Special Event "Peek Performance", Apple revealed a new Green color option, which became available and released on March 18, 2022. [14][15]

Color	Name
	Midnight
	Starlight

	(PRODUCT)RED
	Blue
	Pink
	Green

Specifications

[edit]

Hardware

[edit]

The iPhone 13 and iPhone 13 Mini use an Apple-designed A15 Bionic system on a chip. The iPhone 13 and 13 Mini feature a 6-core CPU, 4-core GPU, and 16-core Neural Engine, while the iPhone 13 Pro and 13 Pro Max feature a 5-core GPU.[16]

Display

[edit]

The iPhone 13 features a 6.1-inch (155 mm) display with Super Retina XDR OLED technology at a resolution of 2532×1170 pixels and a pixel density of about 460 PPI with a refresh rate of 60 Hz. The iPhone 13 Mini features a 5.4-inch (137 mm) display with the same technology at a resolution of 2340×1080 pixels and a pixel density of about 476 PPI. Both models have the Super Retina XDR OLED display with improved typical brightness up to 800 nits, and max brightness up to 1200 nits.[17]

Cameras

[edit]

The iPhone 13 and 13 Mini feature the same camera system with three cameras: one front-facing camera (12MP f/2.2) and two back-facing cameras: a wide (12MP f/1.6) and ultra-wide (12MP f/2.4) camera. The back-facing cameras both contain larger sensors for more light-gathering with new sensor shift optical image stabilization (OIS) on the main camera. The camera module on the back is arranged diagonally instead of vertically to engineer the larger sensors.[1]

The cameras use Apple's latest computational photography engine, called Smart HDR 4. Users can also choose from a range of photographic styles during capture, including rich contrast, vibrant, warm, and cool. Apple clarifies this is different from a filter because it works intelligently with the image processing algorithm during capture to apply local adjustments to an image and the effects will be baked into the photos, unlike filters which can be removed after applying.[1]

The camera app contains a new mode called Cinematic Mode, which allows users to rack focus between subjects and create (simulate) shallow depth of field using software algorithms. It is supported on wide and front-facing cameras in 1080p at 30 fps.[1]

Charging

[edit]

The iPhone 13 and 13 Mini have Lightning fast charging at 20 Watts, and wireless charging via MagSafe at 15 W (iPhone 13) or 12 W (13 Mini), or via the Qi protocol at 7.5 W.

Software

[edit]

See also: iOS, iOS 15, iOS 16, iOS 17, and iOS 18

Further information: iOS version history

iPhone 13 and iPhone 13 Mini were originally shipped with iOS 15 at launch.[18] They are compatible with iOS 16, which was released on September 12, 2022. iOS 17, which was revealed at Apple's WWDC 2023 event, is compatible with the iPhone 13 and 13 Mini.[19] The next-generation Qi2 wireless charging standard has been added to the iPhone 13 and iPhone 13 Mini with the update to iOS 17.2.[20] It is compatible with iOS 18, which was released on September 16, 2024.[21]

The 13 and 13 Mini are able to make calls via: FaceTime Audio / Video (not available in some regions); Voice over LTE (VoLTE); Wi-Fi Calling (not available in some regions models). Wi-Fi hotspotting is also possible

Manufacturing

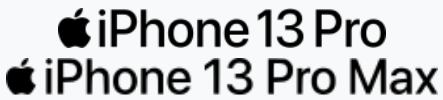
[edit]

The iPhone 13 and 13 Mini were manufactured on contract by Pegatron and Foxconn for Apple.[22]

iPhone 13 Pro

From Wikipedia, the free encyclopedia

iPhone 13 Pro
iPhone 13 Pro Max



iPhone 13 Pro in Sierra Blue

Brand	Apple Inc.
Manufacturers	Foxconn[1] (on contract)
	Luxshare[2] (on contract)
Type	Smartphone
Generation	15th
First released	September 24, 2021; 3 years ago

Availability by region	show **September 24, 2021** show **October 1, 2021** show **October 8, 2021** show **October 14, 2021** show **October 22, 2021** show **October 29, 2021** show **November 19, 2021**
Discontinued	September 7, 2022; 2 years ago
Predecessor	iPhone 12 Pro and Pro Max
Successor	iPhone 14 Pro and Pro Max
Related	iPhone 13 and 13 Mini
Compatible networks	GSM, CDMA, 3G, EVDO, HSPA+, 4G LTE, 5G
Form factor	Slate
Colors	Sierra Blue Graphite Gold Silver Alpine Green
Dimensions	**Pro:** H: 146.7 mm (5.78 in) W: 71.5 mm (2.81 in) D: 7.65 mm (0.301 in)

	Pro Max: H: 160.8 mm (6.33 in) W: 78.1 mm (3.07 in) D: 7.65 mm (0.301 in)
Weight	**Pro:** 204 g (7.2 oz) **Pro Max:** 240 g (8.5 oz)
Operating system	**Original**: iOS 15 **Current:** iOS 18.5, released May 12, 2025[5]
System-on-chip	A15 Bionic
CPU	Hexa-core (2× "high-performance" Avalanche – 3.23 GHz + 4× "energy-saving" Blizzard – 2.02 GHz)
GPU	Apple-designed 5 core, up to 1.71 TFLOPS[6]
Modem	Qualcomm Snapdragon X60 5G
Memory	6 GB LPDDR4X[7]
Storage	128 GB, 256 GB, 512 GB, or 1 TB NVMe
SIM	nanoSIM and eSIM (eSIM not available in mainland China models)
	Dual SIM in dual stand-by (mainland China, Hong Kong and Macau models)
Battery	**Pro:** 11.97 Wh (3,095 mAh) lithium-ion battery @ 3.83 V[8] **Pro Max:** 16.75 Wh (4352 mAh) lithium-ion battery @ 3.83 V[9]
Charging	Lightning charging (12 W) USB PD via Lightning fast charging (20-27 W) for the Pro Max and (20-23 W) for the Pro MagSafe wireless charging (15 W)

Rear camera	12 MP Sony IMX703 1.9µm,[10] f/1.5, 26 mm (wide), dual pixel PDAF, sensor-shift OIS, 3× optical zoom 12 MP Sony IMX713 1µm,[10] f/2.8, 77 mm (telephoto), PDAF, OIS 12 MP Sony IMX772 1µm,[10] f/1.8, 13 mm, 120˚ (ultrawide), PDAF, 2× optical zoom Sony IMX590 TOF 3D LiDAR scanner (depth)[10]
Front camera	**Both:** 12 MP Sony IMX514 1µm,[10] f/2.2
Display	**13 Pro:** 6.1 inch (155 mm) diagonal, 2532 × 1170 px at 460 ppi, (19.5:9 aspect ratio)[11] supplied by Samsung Display[12] **13 Pro Max:** 6.7 in (170 mm), 2778 × 1284 px at 458 ppi, (19.5:9 aspect ratio)[13] supplied by Samsung Display[14] Super Retina XDR P3 wide color gamut 1000 cd/m² max. brightness (typical), 1200 cd/m² max. brightness (HDR)[13] ProMotion 10-120 Hz variable refresh rate
Sound	Spatial Audio, Dolby Atmos, and lossless audio (Apple Music)
Connectivity	Wi-Fi 6 (802.11ax), Bluetooth 5.0, ultra-wideband (UWB) GPS, GLONASS, Galileo, QZSS, BeiDou
Data inputs	show **List of inputs:**
Water resistance	IP68 IEC standard 60529 (splash, water, and dust resistant)
Hearing aid compatibility	M3, T4[15]
Other	FaceTime Audio / Video (not available in some regions) Wi-Fi Hotspot

	Voice over LTE (VoLTE) Wi-Fi Calling (not available in some regions)
Website	iPhone 13 Pro and iPhone 13 Pro Max – Apple at the Wayback Machine (archived September 14, 2021)

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List of iPhone models  *Telephones portal*

The **iPhone 13 Pro** and **iPhone 13 Pro Max** are smartphones developed and marketed by Apple Inc. They were the flagship smartphones in the fifteenth generation of the iPhone, succeeding the iPhone 12 Pro and iPhone 12 Pro Max respectively. The devices were unveiled alongside the iPhone 13 and iPhone 13 Mini at an Apple Special Event at Apple Park in Cupertino, California on September 14, 2021, and became available ten days later, on September 24.[16][17] They were discontinued on September 7, 2022, as well as the iPhone 11 and iPhone 12 mini, following the announcement of the iPhone 14 and iPhone 14 Pro.

Major upgrades over its predecessor include improved battery life, improved cameras and computational photography, rack focus for video in a new "Cinematic Mode" at 1080p 30 fps, Apple ProRes video recording, a smaller notch by almost 20%, a new A15 Bionic system on a chip, and a variable 10–120Hz display, marketed as ProMotion.[17]

History

[edit]

Before announcement

[edit]

The successor to the iPhone 12 Pro models began in development to make the size of the notch 20% smaller as thanks to the front-firing speaker placed into the upper edge from the True-Depth sensor housing and utilizing the display refresh rate up to 120 Hz for smoother motion found. According to the early released rumors, the color options of the iPhone 13 Pro models were including Sunset Gold (a new Gold color option), Rosé (a rename of Gold), Pearl (rename of the Silver) and Matte Black.[18] However, Apple Inc. announced that no Sunset Gold color option of the

iPhone 13 Pro and iPhone 13 Pro Max would be unveiled, which Sierra Blue color option of the iPhone 13 Pro and iPhone 13 Pro Max would be instead unveiled on the September Event.[19]

After announcement

[edit]

The iPhone 13 Pro and iPhone 13 Pro Max were officially announced alongside the ninth-generation iPad, 6th generation iPad Mini, Apple Watch Series 7, iPhone 13, and iPhone 13 Mini by a virtual press event filmed and recorded at Apple Park in Cupertino, California on September 14, 2021. Pre-orders began on September 17 at 5:00 AM PST. Pricing starts at US$999 for the iPhone 13 Pro and US$1099 for the iPhone 13 Pro Max, the same as their respective previous generations.[20]

On September 7, 2022, Apple removed the iPhone 13 Pro and iPhone 13 Pro Max as well as the iPhone 11 and iPhone 12 Mini from their official website following the release of the iPhone 14, iPhone 14 Plus, iPhone 14 Pro and iPhone 14 Pro Max.

In March 2023, Apple began selling refurbished iPhone 13 Pro models on their official website.

Design

[edit]

An AR View of the Alpine Green Model of the iPhone 13 Pro

The iPhone 13 Pro and iPhone 13 Pro Max's design is mostly unchanged from their respective predecessors. However, the rear camera module now covers a larger area due to the larger lenses. The Face ID and camera module on the front display, or "notch", is now 20% smaller than in previous generations.[21]

The back side of the iPhone 13 Pro is made of a matte glass finish and the front is protected by Gorilla Glass.[22]

The iPhone 13 Pro and 13 Pro Max are available in five colors: Silver, Graphite, Gold, Sierra Blue, and Alpine Green. Sierra Blue is a new color replacing Pacific Blue.[13][23]

On March 8, 2022, at Apple's Special Event "Peek Performance", Apple revealed a new Alpine Green color option, which became available on March 18, 2022.[24][25]

Color	Name
	Silver
	Graphite
	Gold
	Sierra Blue
	Alpine Green

Specifications

[edit]

Hardware

[edit]

The iPhone 13 Pro and Pro Max use an Apple-designed A15 Bionic processor featuring a 16-core neural engine, 6-core CPU (with 2 performance cores and 4 efficiency cores), and 5-core GPU.[26] The A15 Bionic also contains a new image processor.[27]

The iPhone 13 Pro got an Antutu Score, or Antutu Benchmark Score of 846,433, which makes its graphic loading smooth.[28]

More 5G bands are available to support more carriers, especially outside the US.[29]

Display

[edit]

The iPhone 13 Pro has a 6.06 inch (154 mm) (marketed as 6.1-inch (15 cm)) OLED display with a resolution of 2532 × 1170 pixels (2.9 megapixels) at 460 PPI, while the iPhone 13 Pro Max has a 6.68 inch (170 mm) (marketed as 6.7-inch (17 cm)) OLED display with a resolution of 2778 × 1284 pixels (3.5 megapixels) at 458 PPI. Both models have the Super Retina XDR OLED display with improved typical brightness up to 1,000 nits from 800 nits, and max brightness up to 1,200 nits, and a variable 10–120 Hz ProMotion display, which can also go as low as 10 Hz to preserve battery. The ProMotion name was previously used on the iPad Pro (2nd Generation) and later models.[17]

Batteries

[edit]

Apple claims up to 1.5 more hours of battery life on the iPhone 13 Pro, and 2.5 more hours on the 13 Pro Max than their respective predecessors. Rated capacities are 11.97 Wh (3,095 mAh) on the 13 Pro an increase from the 10.78 Wh (2,815 mAh) battery found in the iPhone 12 Pro, while the 13 Pro Max is rated at 16.75 Wh (4,352 mAh) another increase from the 14.13 Wh (3,687 mAh) battery found in the iPhone 12 Pro Max.[30][31] Both models can charge with MagSafe up to 15 W, Qi wireless charging up to 7.5 W, and Lightning up to 20-23 W for the Pro model, 20-27 W for the Pro Max model.[32]

Cameras

[edit]

The iPhone 13 Pro features four cameras: one front-facing camera for selfie and three rear-facing cameras which includes a telephoto, wide, and ultra-wide camera. The rear-facing cameras all contain larger sensors than the iPhone 12 Pro, allowing for more light-gathering. The wide and ultra-wide also have larger apertures to capture more light and increase low-light performance. The ultra-wide camera also has autofocus for the first time. The 77 mm telephoto has a smaller aperture than the 12 Pro's, but has the advantage of being able to use Night Mode. The larger telephoto also increases the digital zoom capability to 15x.[17]

The cameras use a new computational photography engine, called Smart HDR 4. Smart HDR 4 processes recognized faces in photos separately using local adjustments. Users can also choose from a range of photographic styles during capture, including rich contrast, vibrant, warm, and

cool. Apple clarifies this is different than a filter because it works intelligently with the image processing algorithm during capture to apply local adjustments to an image.[33]

The camera app contains a new mode called Cinematic Mode, which allows users to rack focus between subjects and create a shallow depth of field using software algorithms. It is supported on wide, telephoto, and front-facing cameras in 1080p at 30 fps. Apple also added in iOS 15.1 the ability to record in Apple ProRes 4K at 30 fps and 1080p at 60 fps for models with at least 256 GB of storage, however base models with 128 GB of storage will be limited to ProRes recording at 1080p at 30 fps.[34]

The camera features a macro mode that can focus as close as 2 centimeters from a subject. It utilizes the autofocus from the ultra-wide camera and is automatically enabled when close enough to a subject.[35]

Software

[edit]

See also: iOS, iOS 15, iOS 16, iOS 17, and iOS 18

Further information: iOS version history

iPhone 13 Pro and iPhone 13 Pro Max originally shipped with iOS 15. They received the iOS 16 update, which was released on September 12, 2022, and iOS 17, which was released on September 18, 2023.[36] The Qi2 wireless charging standard has been added to the iPhone 13 Pro and iPhone 13 Pro Max with the update to iOS 17.2.[37] It is also compatible with iOS 18 released in late 2024.[38]

Reception

[edit]

The iPhone 13 Pro and iPhone 13 Pro Max were praised by reviewers and journalists for its marked improvement in battery life, improved set of cameras, and the addition of ProMotion to the iPhone. The devices have repeatedly been said to have "the best camera in a smartphone."[39][40][41]

iPhone 14
iPhone 14 Plus

iPhone 14 in Blue

Developer	Apple
Type	Smartphone
Series	iPhone
First released	**14**: September 16, 2022 **14 Plus**: October 7, 2022

Discontinued	February 19, 2025
Predecessor	iPhone 13 and 13 Mini
Successor	iPhone 15 and 15 Plus
Related	iPhone 14 Pro and Pro Max
Compatible networks	3G / 4G LTE / 5G NR
Form factor	Slate
Colors	Blue, Midnight, Product Red, Starlight, Purple, Yellow
Dimensions	**14:** H: 146.7 mm (5.78 in) W: 71.5 mm (2.81 in) D: 7.8 mm (0.31 in) **14 Plus:** H: 160.8 mm (6.33 in) W: 78.1 mm (3.07 in) D: 7.8 mm (0.31 in)
Weight	**14:** 172 g (6.1 oz) **14 Plus:** 203 g (7.2 oz)
Operating system	**Original:** iOS 16 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A15
Modem	Qualcomm Snapdragon X65 5G[2]
Memory	6 GB LPDDR4X[3]
Storage	128, 256 or 512 GB NVMe
SIM	Dual eSIM (US) Dual nano-SIM (Hong Kong, Macau and mainland China) nano-SIM and eSIM (elsewhere)
Battery	**14:** 12.68 Wh (3279 mAh) Li-ion **14 Plus:** 16.68 Wh (4325 mAh)[4]
Charging	MagSafe (up to 15W) and Qi (7.5W) wireless charging

	Wired charging via Lightning (fast-charge capable)
Rear camera	12 MP, f/1.5, 26mm (wide) 12 MP, f/2.4, 13mm (ultrawide) 4K@24/25/30/60fps, 1080p@25/30/60/120/240fps, HDR, Dolby Vision HDR (up to 60fps), Cinematic mode (4K@30fps), stereo sound rec.
Front camera	12 MP, f/1.9, 23mm (wide) SL 3D, (depth/biometrics sensor) 4K@24/25/30/60fps, 1080p@25/30/60/120fps, gyro-EIS
Display	**14:** 6.1 in (155 mm) 2532 × 1170 resolution, 19.5:9 aspect ratio (~460 ppi density) Super Retina XDR OLED, HDR10, 800 nits (typ), 1200 nits (peak) supplied by Samsung Display,[5] LG Display,[6] and BOE[6] **14 Plus:** 6.7 in (170 mm) 2778 × 1284 pixels, 19.5:9 ratio (~458 ppi density Super Retina XDR OLED, HDR10, Dolby Vision, 800 nits (HBM), 1200 nits (peak) supplied by Samsung Display[5]
Sound	Stereo speakers, Spatial Audio, Dolby Atmos
Connectivity	Wi-Fi 6 (802.11ax (a/b/g/n/ac)) dual-band, Bluetooth 5.3 (A2DP, LE), Ultra-wideband (UWB) GPS, GLONASS, Galileo, QZSS, BeiDou
Data inputs	show **List of inputs:**
Water resistance	IP68 dust/water resistant (up to 6m for 30 minutes)
Hearing aid compatibility	M3, T4
Other	FaceTime Audio / Video (not available in some regions models)

	Wi-Fi Hotspot Voice over LTE (VoLTE) Wi-Fi Calling (not available in some regions models)
Website	iPhone 14 at the Wayback Machine (archived September 7, 2022)
References	[7][8][9][10]

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The **iPhone 14** and **iPhone 14 Plus** are smartphones developed and marketed by Apple Inc. They are the sixteenth-generation iPhones, succeeding the iPhone 13 and iPhone 13 Mini, and were announced during Apple Event, Apple Park in Cupertino, California, on September 7, 2022, alongside the higher-priced iPhone 14 Pro and iPhone 14 Pro Max flagships. The iPhone 14 and iPhone 14 Plus feature a 6.1-inch (15 cm) and 6.7-inch (17 cm) display, improvements to the rear-facing camera, and satellite connectivity for contacting emergency services when a user in trouble is beyond the range of Wi-Fi or cellular networks.[11][12] The iPhone 14 was made available on September 16, 2022,[13] and iPhone 14 Plus was made available on October 7, 2022, priced at $799 and $899 respectively and was launched with iOS 16.[8][14] Pre-orders for the iPhone 14 and iPhone 14 Plus began on September 9, 2022.[15] Along with the 14 Pro and 14 Pro Max, the iPhone 14 and 14 Plus are the last iPhones to feature the Lightning port, as their successors, the iPhone 15 and 15 Plus (announced on September 12, 2023), use a USB-C port, per European Commission regulation.[16][17]

The iPhone 14 does not have a "Mini" version like its predecessor, the iPhone 13. Instead, Apple returned to a larger model with the iPhone 14 Plus. Apple had not introduced a "Plus" model iPhone since the iPhone 8 Plus in 2017. Both iPhone 14 models (as well as iPhone 14 Pro models) sold in the United States, ended support for physical SIM cards, making them the first iPhone models since the CDMA variant of the iPhone 4 not to come with a discrete SIM card reader, requiring activation by way of eSIM.[18]

To comply with mandates, the iPhone 14 models, along with the iPhone SE (third generation), were discontinued in the European Union in 2024, completing the iPhone's transition from a Lightning connection to USB-C. The iPhone 14 models alongside the iPhone SE (third generation) were later discontinued worldwide on February 19, 2025, following the unveil of the iPhone 16e.

History

[edit]

The iPhone 14 was originally rumored to come with 6.1-inch and 5.4-inch display size options. However, when the iPhone 14 was unveiled, no smaller display option was available. This may have been due to underwhelming sales of the iPhone 12 Mini and iPhone 13 Mini. Instead, a larger 6.7-inch display size option was added to the lower-priced iPhone 14 lineup.[19][20] The new 6.7-inch variant of the iPhone 14 was named "iPhone 14 Plus", rather than "iPhone 14 Max", which was predicted by previous rumors.[21][22]

The iPhone 14 and iPhone 14 Plus were officially announced at Apple's "Far Out" event, along with the iPhone 14 Pro, iPhone 14 Pro Max, Apple Watch Series 8, Apple Watch SE (2nd generation), Apple Watch Ultra, AirPods Pro (2nd generation) and an update to Apple Fitness+ via a virtual press conference filmed at Apple Park in Cupertino, California on September 7, 2022.[23][24]

Apple started taking pre-orders on September 9, with general availability from September 16 for the iPhone 14 and October 7 for the iPhone 14 Plus.[25]

Design

[edit]

Back of a Blue iPhone 14 Plus

The iPhone 14 and iPhone 14 Plus have an identical design to the iPhone 13, although the US models do not have a physical SIM tray.

The iPhone 14 and iPhone 14 Plus are available in six colors: Blue, Purple, Midnight, Starlight, Yellow, and Product Red.[26] Purple is a new color replacing Pink used on the iPhone 13 and iPhone 13 Mini. The yellow color option was added on March 7, 2023.[27]

The iPhone 14 and iPhone 14 Plus, along with the iPhone SE (3rd generation) are the final iPhone models to feature the Product Red color option.

Color	Name
	Blue
	Purple
	Midnight
	Starlight
	Yellow

PRODUCT(RED)

Hardware

[edit]

iPhone 14 and 14 Plus are available in three internal storage configurations: 128, 256, and 512 GB. Both models have 6 GB of RAM, an increase over the previous iPhone 13 and 13 mini models' 4 GB of RAM. The iPhone 14 and 14 Plus have the same IP68 rating for dust and water resistance as their predecessors.[7]

Chipset

[edit]

The iPhone 14 and 14 Plus use a 5-nanometer Apple-designed SOC, the A15 Bionic, while the iPhone 14 Pro and 14 Pro Max have a newer A16 Bionic.[28][29]

The iPhone 14's A15 chip has a 6-core CPU, 5-core GPU, and a 16-core Neural Engine. It is identical to the A15 in the previous year's iPhone 13 Pro and 13 Pro Max,[28][29] which has more memory and an additional GPU core compared to the A15 in the non-Pro iPhone 13 models.[30][31]

The iPhone 14 was the first flagship model since the 2008 iPhone 3G to have a chip that was unchanged from the previous year.[28] *The Verge*'s Mitchell Clark attributed the unchanged chip to an attempt to maintain costs during the ongoing chip shortage and inflation surge. Clark also said the A15 "still outperforms the latest chips from Qualcomm and Google in most benchmarks", though the older chip may lead to the iPhone 14 receiving fewer updates, similar to what happened with the iPhone 5c from 2013.[28][29]

Display

[edit]

The iPhone 14 features a 6.1-inch (155 mm) display with Super Retina XDR OLED technology at a resolution of 2532 × 1170 pixels and a pixel density of about 460 PPI with a refresh rate of 60 Hz. The iPhone 14 Plus features a 6.7-inch (170 mm) display with the same technology at a resolution of 2778 × 1284 pixels and a pixel density of around 458 PPI. Both models have typical brightness of up to 800 nits, and a max brightness of up to 1200 nits.[7]

Cameras

[edit]

The iPhone 14 and 14 Plus feature the same camera system with two cameras: one front-facing camera (12MP f/1.9), and two back-facing cameras: a wide (12MP f/1.5) and ultra-wide (12MP f/2.4) camera, with the wide and front-facing cameras having a faster aperture than the iPhone 13. The front-facing camera also has autofocus for the first time.[32]

The cameras use Apple's latest computational photography engine, called Smart HDR 4. Users can also choose from a range of photographic styles during capture, including rich contrast, vibrant, warm, and cool. Apple clarifies this is different from a filter because it works intelligently with the image processing algorithm during capture to apply local adjustments to an image, and the effects will be baked into the photos, unlike filters which can be removed after applying.[7]

The camera app contains Cinematic Mode, which allows users to rack focus between subjects and create (simulate) shallow depth of field using software algorithms. It is supported on wide and front-facing cameras in 4K at 30 fps and 60 fps.[7]

An "Action mode" feature was added to extend the electrical video stabilization. When activated, a smaller crop of the image sensor is read out for video recording. While reducing the field of view, a wider area around it can be used as buffer against shakes. The area read out from the image sensor is moved between frames to counteract hand movements.[33]

Battery

[edit]

The iPhone 14 is equipped with slightly longer battery life compared to the iPhone 13. According to Apple, the iPhone 14 (3,279 mAh) can provide up to 20 hours of video playback,[34] 16 hours of streaming video playback, and 80 hours of audio playback. Its predecessor, the iPhone 13 (3,240 mAh), is rated for up to 19 hours of video playback, 15 hours of streaming video playback, and 75 hours of audio playback. The larger iPhone 14 Plus (4,325 mAh) variant provides up to 26 hours of video playback.[35]

Software

[edit]

See also: iOS 16, iOS 17, and iOS 18

The iPhone 14 and 14 Plus originally shipped with iOS 16. The next-generation Qi2 wireless charging standard was added to the iPhone 14 and 14 Plus with the update to iOS 17.2.[36] The latest version of iOS, iOS 18, which was revealed at Apple's WWDC 2024 event, was released to the public on September 16, 2024, and is compatible with the iPhone 14 and 14 Plus.

Specifications

[edit]

showModel	iPhone 14 Plus	iPhone 14

Satellite connectivity

[edit]

Apple's new Emergency SOS via satellite service for iPhone 14 and iPhone 14 Pro models uses the spectrum in L and S bands designated for mobile satellite services by ITU Radio Regulations. When an iPhone user makes an Emergency SOS via satellite request, the message is received by an orbiting satellite operated by Globalstar. The satellite then sends the message down to ground stations located across the globe.[11]

As of November 2022, Globalstar operates a constellation of 25 satellites in low Earth orbit, with plans to enhance this in the future via its partnership with Apple.[11][42]

The service became available to US and Canada on November 15, 2022, and to the UK, Germany, Ireland, and France on December 13, 2022.[43] From May 15, 2023, the service became available in Australia and New Zealand.[44] It's however not the first mobile phone to combine both cellular and satellite connectivity.[45]

Criticism

[edit]

Crash Detection false positives

[edit]

Further information: Crash Detection § False positives

Crash Detection is a feature built into the iPhone 14 that is designed to detect severe car crashes and automatically initiates an emergency phone call 20 seconds after it is detected unless the user cancels it.[46] Since its release, there have been many reports saying that the feature was automatically turned on during rollercoaster rides, due to the fact that the rides suddenly stop after going at high speeds, as happens in a car crash.[47][48]

Emergency dispatchers have received many false alarm calls from iPhone 14 and Apple Watch users who have been skiing safely. In Colorado, a wave of false 9-1-1 calls led Aspen Mountain to advise device owners to upgrade their operating systems or disable the feature.[49] In Japan's Hida Mountains, emergency dispatchers reported 134 false emergency calls, more than 14% of the total emergency call volume, between December 16, 2022, and January 23, 2023, attributed to Crash Detection triggering while an iPhone 14 owner was skiing.[50]

Repairability

[edit]

While the iPhone 14 was originally lauded for its innovative new hardware design and recommended by iFixit, concerns over software limitations on parts not authorized by Apple caused iFixit to decrease their evaluation to a 4/10 or "not recommended" in September 2023.[51][52]

iPhone 14 Pro

From Wikipedia, the free encyclopedia

iPhone 14 Pro
iPhone 14 Pro Max

iPhone 14 Pro
iPhone 14 Pro Max

iPhone 14 Pro in Deep Purple

Developer	Apple Inc.
Type	Smartphone
Series	iPhone Pro
First released	September 16, 2022; 2 years ago
Availability by region	show **September 16, 2022** show **September 22, 2022** show **September 23, 2022** show **October 7, 2022** show **October 14, 2022** show **October 18, 2022** show **October 28, 2022** show **November 4, 2022** show **February 10, 2023**

Discontinued	September 12, 2023
Predecessor	iPhone 13 Pro and Pro Max
Successor	iPhone 15 Pro and Pro Max
Related	iPhone 14 and 14 Plus
Compatible networks	GSM/EDGE, UMTS/HSPA+, 4G LTE, 5G NR
Form factor	Slate
Colors	Deep Purple Gold Silver Space Black
Dimensions	**Pro:** H: 147.5 mm (5.81 in) W: 71.5 mm (2.81 in) D: 7.85 mm (0.309 in) **Pro Max:** H: 160.7 mm (6.33 in) W: 77.6 mm (3.06 in) D: 7.85 mm (0.309 in)
Weight	**Pro:** 206 g (7.3 oz) **Pro Max:** 240 g (8.5 oz)
Operating system	**Original:** iOS 16 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A16 Bionic
Modem	Qualcomm Snapdragon X65 5G

Memory	6 GB LPDDR5[2]
Storage	128 GB, 256 GB, 512 GB or 1 TB NVMe
SIM	Dual eSIM (US) Dual nano-SIM (Hong Kong, Macau and mainland China) nano-SIM and eSIM (elsewhere)
Battery	**14 Pro:** 12.38 Wh (3200 mAh) Li-ion @ 3.87 V **14 Pro Max:** 16.68 Wh (4323 mAh) Li-ion @ 3.86 V[3]
Charging	MagSafe (up to 15W) and Qi (7.5W) wireless charging Wired 27-29W charging via Lightning (fast-charging capable)
Rear camera	48 MP, f/1.78, 24 mm (main), 1/1.28",[4] 1.22 µm – 2.44 µm binned, dual pixel PDAF, Second generation sensor-shift OIS 12 MP, f/2.8, 77 mm (telephoto), 1/3.4", 1.0 µm, PDAF, OIS, 3x optical zoom 12 MP, f/2.2, 13 mm (ultrawide), 1/2.55", 1.4 µm, dual pixel PDAF TOF 3D LiDAR scanner (depth) Adaptive True Tone flash with grid of 9 LEDs, HDR (photo/panorama/video) 4K@24/25/30/60fps, 1080p@25/30/60/120/240fps, 10 bit HDR, Dolby Vision HDR (up to 60fps), stereo sound rec.
Front camera	12MP, ƒ/1.9 aperture Autofocus with Focus Pixels Six-element lens SL 3D, (depth/biometrics sensor) 4K@24/30/60fps, 1080p@30/60/120fps, gyro-EIS
Display	**14 Pro:** 6.1 in (155 mm) 2556 × 1179 resolution, 19.5:9 ratio (~460 ppi density)

	Super Retina XDR OLED, HDR10, 1000 nits (typ), 2000 nits (peak) supplied by Samsung Display[5] **14 Pro Max:** 6.7 in (170 mm) 2796 × 1290 resolution, 19.5:9 ratio (~460 ppi density) Super Retina XDR OLED, HDR10, 1000 nits (typ), 2000 nits (peak) supplied by Samsung Display and LG Display
Sound	32-bit/384kHz audio, active noise cancellation with dedicated mic
Connectivity	Wi-Fi 6, dual-band, hotspot Bluetooth 5.3 LE LEO satellite (Globalstar, limited) Dual-frequency GPS (L1, L5), GLONASS, Galileo, QZSS, BeiDou
Data inputs	show **List of inputs:**
Water resistance	IP68 dust and water resistant (up to 6 m for 30 mins)
Hearing aid compatibility	M3, T4
Website	iPhone 14 Pro and iPhone 14 Pro Max at the Wayback Machine (archived September 8, 2022)
References	[6][7]

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List of iPhone models

Telephones portal

The **iPhone 14 Pro** and **iPhone 14 Pro Max** are smartphones that were developed and marketed by Apple Inc. They are the sixteenth generation flagship iPhones, succeeding the iPhone 13 Pro and Pro Max. The devices were unveiled alongside the iPhone 14 and 14 Plus during the Apple Event at Apple Park in Cupertino, California, on September 7, 2022,[8][9] and were made available on September 16, 2022.[10]

The iPhone 14 Pro and iPhone 14 Pro Max were the first iPhones to have a new type of display cutout called "Dynamic Island", replacing the notch design that has been in use since the iPhone X was introduced. Along with the iPhone 14, iPhone 14 Pro models add bidirectional satellite connectivity to contact emergency services when out of range of Wi-Fi and cellular networks.[11][12]

Along with the iPhone 14 and 14 Plus, these were the last iPhones to use a Lightning port; the iPhone 14 Pro models were discontinued in September 2023, and their successors, the iPhone 15 Pro and 15 Pro Max, replaced the Lightning port with USB-C.[13][14] iPhone 14 Pro models (as well as the iPhone 14 models) sold in the United States dropped support for physical SIM cards, making them the first iPhone models since the CDMA variant of the iPhone 4 to lack a discrete SIM card reader.

History

[edit]

On November 6, 2022, COVID-19 affected product assembly in Chinese factories, resulting in longer shipment times for some customers.[15]

On September 12, 2023, Apple discontinued and removed iPhone 14 Pro and iPhone 14 Pro Max from their official website following the announcement of the iPhone 15 Pro, and 15 Pro Max as their successors.[16]

In May 2024, Apple began selling refurbished iPhone 14 Pro models on their official website.

Design

[edit]

Back of the iPhone 14 Pro Max Space Black

The design of the iPhone 14 Pro and iPhone 14 Pro Max is almost identical to older iPhone models, such as the iPhone 12 Pro and 13 Pro. The iPhone 14 Pro and iPhone 14 Pro Max have a new front camera called the Dynamic Island. The Dynamic Island can now bubble up alerts instead of having a notification. This new feature is on the new iPhone 15 series (iPhone 15, iPhone 15 Plus, iPhone 15 Pro, iPhone 15 Pro Max). The iPhone 14 Pro and 14 Pro Max are available in four colors: Silver, Space Black, Gold and Deep Purple. Deep Purple replaced the Sierra Blue color used on the iPhone 13 Pro and iPhone 13 Pro Max.

It is the final iPhone model in the exterior design to come with the stainless steel form factor along with the gold color option.[17] Following the launch of the iPhone 15 Pro and iPhone 15 Pro Max, the gold color option has been replaced by the new natural titanium color option alongside making the silver color replaced by the new white titanium and the space black color (formerly known as

the graphite color used in the iPhone 12 Pro and iPhone 13 Pro) and the space gray color (used in the iPhone X, iPhone XS and iPhone 11 Pro) replaced by the new black titanium.[18]

The iPhone 14 Pro and iPhone 14 Pro Max are available in four colors: Space Black, Silver, Gold, and Deep Purple.

Color	Name
	Space Black
	Silver
	Gold
	Deep Purple

Specifications

[edit]

Hardware

[edit]

Chipset

[edit]

The iPhone 14 Pro and Pro Max feature a new A16 Bionic system on a chip (SoC), built on TSMC's N4 fabrication process,[19][20] superseding the A15 Bionic seen on the iPhone 13 and 13 Pro lineup, the 3rd generation iPhone SE, and the iPhone 14 and 14 Plus.

Camera

[edit]

The camera sensors and lenses on the main and ultra-wide cameras have been upgraded. The main camera features a new 48-megapixel quad-pixel sensor that is 65% larger than the one on the iPhone 13 Pro. It defaults to 12 megapixels, achieved through a process called pixel binning. However, users can access the full capabilities of the sensor by activating the ProRAW feature. The ultra-wide camera features a new larger 12-megapixel sensor that has 100% focus pixels. The lens has also been improved for optical clarity and features a larger aperture.[21]

The new camera system also incorporates a new "Photonic Engine" for improved image and video quality. Additionally, the video feature now includes Action Mode, which offers video stabilization that can be accessed through the top right corner of the screen. The resolution of the picture can now be customized.[22] The TrueDepth camera has gained autofocus and a larger aperture. It is also capable of focusing on multiple subjects simultaneously.

Display

[edit]

The iPhone 14 Pro and Pro Max feature a Super Retina XDR OLED display with a typical maximum brightness of 1,000 nits. However, it can go all the way up to 1,600 nits while watching HDR videos, and 2,000 nits outdoors. The display has a refresh rate of 120 Hz and uses LTPO technology. The iPhone 14 Pro has a resolution of 2556×1179 pixels at 460 pixels per inch (ppi), while the Pro Max variant has a resolution of 2796×1290 pixels at 460 ppi. Both variants have an

"always on display" feature,[23] with an adaptive ProMotion 120 Hz refresh rate that can reduce down to 1 Hz to save battery life while in "always on" mode.[24]

Both models feature a new design for the area that surrounds the front-facing camera, which Apple previously referred to as the "TrueDepth camera array" and many users referred to as the "notch". The new design is called the "Dynamic Island", which is now a pill-shaped cutout slightly detached from the top of the screen.[25] This design was achieved by moving Face ID hardware components and some sensors previously housed in the "notch" behind the display, including the ambient light sensor, flood illuminator and proximity sensor. To make this new hardware blend more seamlessly with the software, software features are added to make the pill shape change shape and size according to app and features being used to display certain alerts and notifications.

Battery

[edit]

The iPhone 14 Pro has a 3200 mAh battery that provides 23 hours of video playback and 20 hours of streaming video playback. The Pro Max variant has a 4323 mAh battery that provides 29 hours of video playback and 25 hours of streaming video playback.[26][23]

Connectivity

[edit]

In addition to all the connectivity options offered on previous models, the iPhone 14 Pro and Pro Max can now use satellite connectivity to make calls or send texts in an emergency. The feature is marketed as "Emergency SOS via satellite". It uses the spectrum in L and S bands designated for mobile satellite services by ITU Radio Regulations. When an iPhone user makes an Emergency SOS via satellite request, the message is received by an orbiting satellite operated by Globalstar. The satellite then sends the message down to ground stations located across the globe.[27]

As of November 2022, Globalstar operates a constellation of 24 satellites in low Earth orbit, with plans to enhance this in the future via its partnership with Apple.[27]

The service became available to the public on November 15, 2022. On the same day, Apple announced that it will be extended to France, Germany, Ireland, and the UK in December 2022.[28]

On September 12, 2023, during a launch event, Apple announced Roadside Assistance via satellite, the next feature to make use of the satellite connection capabilities of the iPhone 15 series that was just revealed, as well as the iPhone 14 series. Through a collaboration with AAA, it allows users to request car assistance dispatch in areas without cell service.[29]

Software

[edit]

See also: iOS 16, iOS 17, and iOS 18

Like the iPhone 14 and 14 Plus, the iPhone 14 Pro and Pro Max were shipped with iOS 16. They also support iOS 17 and iOS 18 which was released to the public in September, 2024. The next-generation Qi2 wireless charging standard has been added to the iPhone 14 series of devices with the update to iOS 17.2.[30][31]

Detailed specs

[edit]

showModel	iPhone 14 Pro Max	iPhone 14 Pro

Reception

[edit]

The iPhone 14 Pro has received generally good reviews. Patrick Holland from CNET gave a generally positive review of the phone, highlighting the camera improvements as well as the functionality of the Dynamic Island, though wishing that more functionality for the feature was added. Holland additionally noted a bug on the new Apple Weather app that was later fixed, and how the battery was not improved from the previous year's Pro iPhones, though still deemed it Apple's best offer in iPhone technology of the year.[37]

Holland's opinion was echoed by Tom's Guide writer Jordan Palmer, praising the cameras especially, though noting poorer battery performance and the inconvenience of having no physical SIM card. Palmer still deemed the iPhone 14 Pro the best phone under $1000.[38] The lack of a SIM card slot was a concern similarly shared by IGN reviewer Kevin Lee, though Lee, like Palmer and Holland, praised the new technology as well as the lack of a price increase compared with the iPhone 13 Pro.[39]

iPhone 15

iPhone 15

iPhone 15 Plus

iPhone 15 in Blue

Developer	Apple
Type	Smartphone
Series	iPhone
First released	September 22, 2023; 19 months ago
Availability by region	show **September 22, 2023** show **September 29, 2023**

	show **October 13, 2023** show **October 20, 2023** show **October 26, 2023** show **November 3, 2023**
Predecessor	iPhone 14 and 14 Plus
Successor	iPhone 16 and 16 Plus
Related	iPhone 15 Pro and Pro Max
Compatible networks	2G, 3G, 4G, 4G LTE, 5G NR
Form factor	Slate
Colors	Blue Pink Yellow Green Black
Dimensions	**15**: H: 147.6 mm (5.81 in) W: 71.6 mm (2.82 in) D: 7.8 mm (0.31 in) **15 Plus**: H: 160.9 mm (6.33 in) W: 77.8 mm (3.06 in) D: 7.8 mm (0.31 in)[1]
Weight	**15**: 171 g (6.0 oz) **15 Plus**: 201 g (7.1 oz)[1]
Operating system	**Original**: iOS 17 **Current:** iOS 18.5, released May 12, 2025[2]
System-on-chip	Apple A16 Bionic

Modem	Qualcomm Snapdragon X70 5G[3]
Memory	6 GB LPDDR5[4]
Storage	128 GB, 256 GB or 512 GB NVMe
SIM	Dual eSIM (US) Dual nano-SIM (Hong Kong, Macau and mainland China) nano-SIM and eSIM (elsewhere)
Battery	**15:** 12.98 Wh (3349 mAh) Li-ion **15 Plus:** 16.95 Wh (4383 mAh) Li-ion[5]
Charging	MagSafe and Qi2 wireless charging[6] USB-C (fast-charge capable: up to 50% charge in 30–35 minutes with 20W adapter or higher)
Rear camera	48 MP, *ƒ*/1.6, 26 mm (wide) 12 MP, *ƒ*/2.4, 13 mm, (ultrawide)
Front camera	12 MP, *ƒ*/1.9, 23 mm (wide) SL 3D (depth/biometrics)
Display	**15:** 6.1 in (150 mm) 2556 × 1179 resolution, 19.5:9 aspect ratio (~460 ppi density) Super Retina XDR OLED, 60Hz, HDR10, 1000 nits (typ), 2000 nits (peak) supplied by Samsung Display[7] **15 Plus:** 6.7 in (170 mm) 2796 × 1290 resolution, 19.5:9 aspect ratio, (~460 ppi density) Super Retina XDR OLED, 60Hz, HDR10, 1000 nits (typ), 2000 nits (peak) supplied by Samsung Display
Connectivity	Bluetooth 5.3 (A2DP, LE), Ultra-wideband (UWB), USB-C (with DisplayPort support[8]), Wi-Fi 6 (802.11a/b/g/n/ac/ax) dual-band, NFC (reader mode, Express Cards) GPS, GLONASS, Galileo, QZSS, BeiDou
Data inputs	show **List of inputs:**

Water resistance	IP68 dust/water resistant (up to 6m for 30 minutes)
Hearing aid compatibility	M3, T4
Website	iPhone 15 at the Wayback Machine (archived August 29, 2024)
References	[9][10]

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 *Telephones portal*

The **iPhone 15** and **iPhone 15 Plus** are smartphones developed and marketed by Apple. They are the seventeenth generation of iPhones, succeeding the iPhone 14 and iPhone 14 Plus. The devices were announced on September 12, 2023, during the Apple Event at Apple Park in Cupertino, California, alongside the higher-priced flagship iPhone 15 Pro and 15 Pro Max. Pre-orders began on September 15, 2023, and the devices were made available on September 22, 2023.

Like the iPhone 15 Pro and Pro Max, the 15 and 15 Plus are the first iPhones to replace the proprietary Lightning connector with USB-C to comply with European Union mandates.

The iPhone 15 and 15 Plus are the last iPhones to feature 6 GB of RAM and the mute switch, as they do not feature the Action Button, unlike the 15 Pro series and subsequent models.

With the launch of the iPhone 16 series on September 20, 2024, the Action Button become standard on both the regular iPhone 16 models and the iPhone 16 Pro models. The iPhone 16e (an entry-level model of the iPhone 16 series, and the spiritual successor to the iPhone SE (3rd generation)) which was launched on February 28, 2025 also featured the Action Button.

History

[edit]

In September 2021, the European Commission began considering a proposal to mandate USB-C on all devices in the European Union, including iPhones.[11] Apple analyst Ming-Chi Kuo claimed that Apple would drop its proprietary Lightning connector by 2023. At the time of those claims,

Apple was considering switching to USB-C due to the likelihood that the EU proposal would pass.[12] The proposal was passed into law in October 2022, becoming the Radio Equipment Directive. Apple confirmed it would comply with the regulations later that month.[13]

Two weeks prior to the formal introduction of the iPhone 15, it was announced that some of the devices which were made in India would for the first time be sold around the world on the launch day.[14]

Design

[edit]

Face and back of iPhone 15 series

The iPhone 15 is the first major redesign since the iPhone 12, featuring rounder edges and a slightly curved display, and back glass. Both models are available in five colors: blue, pink, yellow, green and black.[1] This makes it the first entry level iPhone since the iPhone XR to not ship with a Product Red variant at launch.

Color	Name
	Blue
	Pink
	Yellow
	Green
	Black

Hardware

[edit]

Display

[edit]

The iPhone 15 features a 6.1-inch (155 mm) display with Super Retina XDR OLED technology at a resolution of 2556×1179 pixels and a pixel density of about 460 PPI with a refresh rate of 60 Hz. The iPhone 15 Plus features a 6.7-inch (170 mm) display with the same technology at a resolution of 2796×1290 pixels and a pixel density of about 460 PPI. Both models have an improved typical brightness of up to 1,000 nits, a peak HDR brightness of up to 1,600 nits, and a peak outdoor brightness of up to 2,000 nits.[9] The Dynamic Island feature, previously exclusive to iPhone 14 Pro, is now standard on iPhone 15, replacing the notch that was introduced in the iPhone X.[15]

iPhone 15 with 6.1-inch display

iPhone 15 Plus with 6.7-inch display

Charging and transfer speeds

[edit]

The iPhone 15 and iPhone 15 Plus use USB-C with USB 2.0 transfer speeds (up to 480 Mb/s or 60 MB/s),[16] compared to the iPhone 15 Pro and iPhone 15 Pro Max which have faster USB 3.2 Gen 2 transfer speeds (up to 10 Gb/s or 1.25 GB/s).[17] The iPhone 15 and iPhone 15 Plus, as well as the iPhone 15 Pro and iPhone 15 Pro Max, are the first iPhone models to use USB-C, as well as the first iPhones since the iPhone 5 to switch to a new charging port.

Video output

[edit]

All iPhone 15 models have support for DisplayPort Alternate Mode over USB-C video output with HDR up to 4K resolution.[9]

Previous iPhone models (from iPhone 5 until iPhone 14) had a maximum supported resolution of 1600 x 900 (slightly less than 1080p FHD) with the Lightning Digital AV Adapter due to technical constraints of the Lightning connector.[18]

Battery

[edit]

The iPhone 15 offers users up to 20 hours of video playback and up to 80 hours of audio playback, and the iPhone 15 Plus offers around 25 to 30% more, with up to 26 hours of video playback and up to 100 hours of audio playback.[19] Starting with iPhone 15, iPhone allows users to limit the battery charge level, in order to help with natural battery aging over time. [20]

Software

[edit]

See also: iOS, iOS 17, and iOS 18

The iPhone 15 and iPhone 15 Plus launched with iOS 17 and is compatible with iOS 18.[21][22][23]

Apple announced that the iPhone 15 and iPhone 15 Plus as well as its predecessors especially the iPhone 14, iPhone 14 Plus, iPhone 14 Pro and iPhone 14 Pro Max are not compatible with Apple Intelligence released with iOS 18.1 in October 2024.[24]

iOS 17 brought many new features, including Contact Posters to personalize specific contacts and satellite Emergency SOS for emergency situations.[25]

Consistent with the UK Product Security and Telecommunications Infrastructure regulation, it will continue to receive major software updates for a minimum of five years to at least 2028.[26]

Specifications

[edit]

showModel	iPhone 15 Plus	iPhone 15

Criticism

[edit]

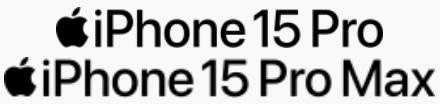
Overheating

[edit]

Some owners claimed that their iPhone 15s were experiencing overheating issues,[30] reportedly reaching temperatures as high as 47 °C (117 °F).[31] Apple later stated that there were several reasons why the phones heat up, mainly hinting at a software issue.[32] It was stated that it would be fixed with an update to iOS 17.0.3.[33] The overheating issues were reported to persist after the update.[34]

iPhone 15 Pro

iPhone 15 Pro
iPhone 15 Pro Max



iPhone 15 Pro in Natural Titanium

Developer	Apple Inc.
Type	Smartphone
First released	September 22, 2023
Availability by region	show **September 22, 2023** show **September 29, 2023** show **October 12, 2023** show **October 13, 2023** show **October 20, 2023** show **October 26, 2023** show **November 3, 2023**

Discontinued	September 9, 2024
Predecessor	iPhone 14 Pro and Pro Max
Successor	iPhone 16 Pro and Pro Max
Related	iPhone 15 and 15 Plus
Compatible networks	2G GSM/EDGE, 3G UMTS/HSPA+, 4G LTE, 5G NR
Form factor	Slate
Colors	White titanium Blue titanium Natural titanium Black titanium
Dimensions	**15 Pro:** H: 146.6 mm (5.77 in) W: 70.6 mm (2.78 in) D: 8.25 mm (0.325 in) **15 Pro Max:** H: 159.9 mm (6.30 in) W: 76.7 mm (3.02 in) D: 8.25 mm (0.325 in)
Weight	**15 Pro:** 187 g (6.6 oz) **15 Pro Max:** 221 g (7.8 oz)
Operating system	**Original:** iOS 17 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A17 Pro
Modem	Qualcomm Snapdragon X70 5G

Memory	8 GB LPDDR5[2]
Storage	128 GB, 256 GB, 512 GB or 1 TB NVMe
SIM	Dual eSIM (US) Dual nano-SIM (Hong Kong, Macau and mainland China) nano-SIM and eSIM (elsewhere)
Battery	**15 Pro:** 12.70 Wh (3274 mAh) Li-ion @ 3.88 V **15 Pro Max:** 17.32 Wh (4422 mAh) Li-ion @ 3.9 V[3]
Charging	MagSafe and Qi 2 wireless charging[4] USB-C fast-charge capable (25W) [5]
Rear camera	48 MP, *ƒ*/1.78, 24 mm (wide), 1/1.28", 1.22 µm, dual pixel PDAF, sensor-shift OIS 12 MP, *ƒ*/2.2, 13 mm, 120° (ultrawide), 1/2.55", 1.4 µm, dual pixel PDAF **15 Pro:** 12 MP, *ƒ*/2.8, 77 mm (telephoto), 1 µm, PDAF, OIS, 3× optical zoom, lidar sensor **15 Pro Max:** 12 MP, *ƒ*/2.8, 120 mm (telephoto), 1.12 µm, PDAF, 3D sensor-shift, OIS, 5× optical zoom, lidar sensor
Front camera	12 MP, *ƒ*/1.9, 23 mm (wide), 1/3.6", PDAF, OIS SL 3D (depth/biometrics)
Display	**15 Pro:** 6.1 in (155 mm) 2556 × 1179 resolution **15 Pro Max:** 6.7 in (170 mm) 2796 × 1290 resolution Super Retina XDR OLED, 120 Hz, HDR10, 19.5:9 aspect ratio (~460 ppi density), 1000 nits (typ), 2000 nits (peak) supplied by Samsung Display[6]
Sound	Dolby Atmos-tuned Spatial Audio
Connectivity	Wi-Fi 6E (802.11a/b/g/n/ac/ax) dual-band Bluetooth 5.3 (A2DP, LE) Ultra-wideband (UWB)

	Thread NFC (reader mode, Express Cards) LEO satellite (Globalstar, limited) USB-C: USB 3.2 10Gb/s Dual-frequency GPS (L1, L5), GLONASS, Galileo, QZSS, BeiDou, NavIC
Data inputs	show **List of inputs:**
Water resistance	IP68 dust/water resistant (up to 6 m for 30 mins)
Hearing aid compatibility	M3, T4
Made in	China
Website	iPhone 15 Pro and iPhone 15 Pro Max at the Wayback Machine (archived September 12, 2023)
References	[Z]

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 *Telephones portal*

The **iPhone 15 Pro** and **iPhone 15 Pro Max** are smartphones that were developed and marketed by Apple Inc. They are the seventeenth-generation flagship iPhones, succeeding the iPhone 14 Pro and 14 Pro Max.

The devices were unveiled alongside the lower-priced iPhone 15 and 15 Plus during the Apple Event at Apple Park in Cupertino, California, on September 12, 2023.[8][9] Pre-orders began on September 15, and the devices were made available to the general public on September 22. The iPhone 15 Pro and 15 Pro Max were discontinued on September 9, 2024, following the announcement of the iPhone 16 Pro and 16 Pro Max.

Similar to the iPhone 15, the 15 Pro replaced the proprietary Lightning connector with USB-C. They also support Apple Intelligence, which uses AI to prioritize privacy-centric functions.

Design

[edit]

The iPhone 15 Pro marks the first significant redesign of the device's outer shell since the iPhone 12 Pro in 2020, with rounded edges, a subtly curved display, and back glass. The enclosure of the iPhone 15 Pro and 15 Pro Max is made of grade 5 titanium, unlike the stainless steel frame of previous Pro models. The display bezels have also been reduced from 2.2 mm to 1.55 mm.[10] The phone is available in four colors: natural titanium, blue titanium, white titanium, and black titanium.[11] It is also the first premium iPhone since the iPhone X to not come in the gold color option.[12]

Color	Name
	Natural Titanium
	Blue Titanium
	White Titanium
	Black Titanium

Fronts and backs of the iPhone 15 Pro series

Specifications

[edit]

Hardware

[edit]

Like the iPhone 15 and 15 Plus, the iPhone 15 Pro and 15 Pro Max replace the proprietary Lightning connector with USB-C to comply with the European Union mandating the use of this connector in smartphones with Directive (EU) 2022/2380 in 2022.[13] Apple had already started to introduce USB-C to its handheld devices beginning with the third generation iPad Pro, released in 2018.

The iPhone 15 Pro and 15 Pro Max support AV1 video hardware decoding.[14]

In iOS 18, the iPhone 15 Pro and 15 Pro Max are the first iPhones to be capable of supporting the new Apple Intelligence AI features, due to the increased amount of DRAM in these models and their fast 35 trillion-operation-per-second Neural Engine.[15]

iPhone 15 Pro with 6.1-inch display

iPhone 15 Pro Max with 6.7-inch display

Chipset

[edit]

The iPhone 15 Pro and Pro Max feature the Apple A17 Pro system on a chip (SoC). It is built on TSMC's N3B fabrication process.[16] It features a redesigned Apple graphics processing unit (GPU) which adds hardware-accelerated ray tracing; during the reveal event, Apple announced that games such as *Death Stranding*, *Resident Evil Village* and *Assassin's Creed Mirage* (all games originally designed for consoles and PCs) would come to iOS in the future.[17]

Charging and transfer speeds

[edit]

The iPhone 15 Pro and 15 Pro Max use USB-C with USB 3.2 Gen 2 transfer speeds (est. up to 10 Gbit/s or 1.25 GB/s),[18][19] an improvement over the iPhone 14 Pro or 14 Pro Max and the iPhone 15 or 15 Plus base models which only have USB 2.0 transfer speeds (est. up to 480 Mbit/s or 60 MB/s).[20]

Video output

[edit]

All iPhone 15 models have support for DisplayPort Alternate Mode over USB-C video output with HDR up to 4K resolution.[7]

Action button

[edit]

The iPhone 15 Pro and 15 Pro Max feature an Action button, replacing the mute switch that was present on every iPhone before it. The function of the Action button can be configured by the user, but by default, the Action button toggles silent mode. Other options include: opening a desired app, recording a voice memo, toggling a focus mode, and actively translating speech. [11]

In 2025, Apple revealed that the ability to trigger Visual Intelligence via the action button would be added to the iPhone 15 Pro and 15 Pro Max through the iOS 18.4 update. [21]

Software

[edit]

See also: iOS, iOS 17, and iOS 18

The iPhone 15 Pro and 15 Pro Max launched with iOS 17[22] and is compatible with iOS 18 released in September 2024.[23]

Apple announced that the iPhone 15 Pro and 15 Pro Max are compatible with Apple Intelligence released with iOS 18.1 in October 2024.[24]

Consistent with the UK Product Security and Telecommunications Infrastructure regulations, it will continue to receive major software updates for a minimum of five years to at least 2028.[25]

Prior to the launch of iOS 18.4, Apple added the Visual Intelligence support for the iPhone 15 Pro and 15 Pro Max. The users of the iPhone 15 Pro or iPhone 15 Pro Max can open the Visual Intelligence by customizing the Action button or Lock Screen, or opening Control Center.

Detailed specs

[edit]

Model	iPhone 15 Pro Max	showiPhone 15 Pro

Hardware issues reported

[edit]

Overheating

[edit]

Some owners claimed that their iPhones were suffering from overheating issues,[28] reportedly reaching temperatures as high as 47 °C (117 °F).[29][30] Apple has also said that the phone's titanium frame "does not contribute to the heating issue."[31] In addition, Apple stated the cause of iPhones overheating was a software bug.[32] Apple has attempted to address the overheating issue with iOS 17.0.3 update.[33]

Power bank reverse charging

[edit]

Some owners have found that power banks designed for USB-C devices are not working correctly with the iPhone. Some banks will not charge the iPhone at all or the iPhone will attempt to charge the power bank instead.[34]

NFC

[edit]

Some owners of BMW vehicles using its wireless charging system with the iPhone have found that the NFC chip in charge of Apple Pay and also digital car keys can stop working correctly.[35] Apple has attempted to fix these issues with iOS 17.1.1 and 17.2 updates.[36]

Durability

[edit]

A durability test video for the iPhone 15 Pro Max showed that the back glass was more prone to cracking after the content creator JerryRigEverything applied pressure on the back glass, which caused it to crack, saying that it was unexpected. A later video, published by the same YouTuber, cited that the possible reason for this was that the back glass is no longer glued to a metal plate; this change, and the hollow spots on the phone, may cause the back glass to crack if pressure was applied on those hollow spots; on the durability test video, in some angles, the glass is noticeably caved in to the phone, further proving that it broke due to a hollow spot on the phone.[37] Additional testing by Consumer Reports found that the durability of the iPhone 15 Pro Max was generally excellent, with the back glass not breaking after 50 drops.[38]

Repairability

[edit]

A September 2023 report by iFixit found that repairability on the new iPhones was much worse compared to the 14 series due to various software locking issues, forcing people to buy new parts and repair machines specifically by Apple.[39]

Release and critical reception

[edit]

The devices were unveiled in 2023, alongside the iPhone 15 and 15 Plus during the September 12 Apple Event at Apple Park in Cupertino, California. Pre-orders began on September 15, and the devices were made available to the general public on September 22. The iPhone 15 Pro and 15 Pro Max were discontinued on September 9, 2024, following the announcement of the iPhone 16 Pro and 16 Pro Max.

GSMarena gave the phone 4.5 out of 5 stars. While its display, camera and speakers were praised, its high price was noted as a weak point.[40] *NotebookCheck* gave it 91 out of 100 and praised its durability.[41]

iPhone 16

iPhone 16
iPhone 16 Plus

iPhone 16 in Ultramarine

Developer	Apple
Type	Smartphone
Series	iPhone
First released	September 20, 2024; 7 months ago
Predecessor	iPhone 15 and 15 Plus
Related	iPhone 16 Pro and 16 Pro Max iPhone 16e
Compatible networks	2G GSM/EDGE, 3G UMTS/HSPA+, 4G LTE, 5G NR
Form factor	Slate
Colors	Ultramarine Teal Pink White

	■ Black
Dimensions	**16**: 147.6 × 71.6 × 7.8 mm (5.81 × 2.82 × 0.31 in)
	16 Plus: 160.9 × 77.8 × 7.8 mm (6.33 × 3.06 × 0.31 in)
Weight	**16:** 170 g (6.0 oz)
	16 Plus: 199 g (7.0 oz)
Operating system	**Original:** iOS 18 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A18
Modem	Qualcomm Snapdragon X71 5G
Memory	8 GB LPDDR5X[2]
Storage	128, 256 or 512 GB NVMe
SIM	Dual eSIM (US)
	Dual nano-SIM (Hong Kong, Macau and mainland China)
	nano-SIM and eSIM (elsewhere)
Battery	**16:** 13.84 Wh (3561 mAh) Li-ion @ 3.89 V
	16 Plus: 18.11 Wh (4674 mAh) Li-ion @ 3.88 V[3]
Charging	MagSafe and Qi 2 wireless
	USB-C fast-charge
Rear camera	48 MP, *ƒ*/1.6, 26 mm (wide)
	12 MP, *ƒ*/2.2, 13 mm (ultrawide)
Front camera	12 MP, *ƒ*/1.9, 23 mm (wide)
Display	**16:** 6.1 in (155 mm) 2556 × 1179 resolution at 60 hz
	16 Plus: 6.7 in (170 mm) 2796 × 1290 resolution at 60 hz
Sound	Dolby Atmos-tuned Spatial Audio

Connectivity	Wi-Fi 7 (802.11a/b/g/n/ac/ax/be) tri-band Bluetooth 5.3 (A2DP, LE) Ultra-wideband (UWB) Thread NFC (reader mode, Express Cards) USB-C: USB 2.0 480 Mbit/s GPS, GLONASS, Galileo, QZSS, BeiDou
Water resistance	IP68 dust/water resistant (up to 6 m for 30 mins)
Hearing aid compatibility	M3, T4
Other	Emergency SOS, Messages and Find My via satellite
Website	apple.com/iphone-16

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List of iPhone models

 *Telephones portal*

The **iPhone 16** and **iPhone 16 Plus** are smartphones developed and marketed by Apple. They are the eighteenth-generation iPhones, succeeding the iPhone 15 and iPhone 15 Plus. The devices were released alongside the higher-priced iPhone 16 Pro and 16 Pro Max during the Apple Event at Apple Park in Cupertino, California, on September 9, 2024.[4]

History

[edit]

The devices were unveiled during an event on September 9, 2024, marking the first time an iPhone release had been announced on a Monday.[5] It is also the first iPhone not to include Apple stickers in the box, as Apple removed them for environmental reasons. Stickers can be included if a customer asks for them at an Apple Store.[6]

Design

[edit]

The iPhone 16 is equipped with an aluminum design with a color infused (all but White) glass back. Like the iPhone 15, the device features rounded edges, a slightly curved display, and back glass. The iPhone 16 and 16 Plus have a vertical camera layout, similar to the iPhone 12, as opposed to the diagonal layout for iPhone 13, iPhone 14, and iPhone 15. The iPhone 16 and 16 Plus come in five colors: Ultramarine, Teal, Pink, White, and Black.[7]

Color	Name
	Ultramarine
	Teal
	Pink
	White
	Black

Hardware

[edit]

The iPhone 16 and the iPhone 16 Plus use an Apple A18 system on a chip. The chip is optimized for running generative artificial intelligence and features a Neural Engine that is twice as fast as its predecessor.

The iPhone 16 includes an updated 48-megapixel Fusion camera, the same resolution as the iPhone 15, with 2 µm, quad pixel PDAF, sensor-shift OIS, 100% Focus Pixels, support for super-high-resolution photos (24MP and 48MP). It has a new ultrawide camera with a wider aperture, automatic focus and 1.4 µm, 100% Focus Pixels.[8]

The iPhone 16 International model supports Nano-SIM + eSIM + eSIM, while the US model is eSIM only and the China model does not have any eSIM support. [9][10]

All iPhone 16 models have an improved thermal design. The main logic board has been updated, centralizing chip placement and optimizing the surrounding architecture. The recycled aluminum substructure dissipates heat for up to 30 percent higher sustained performance for gaming.[11]

Every model in the iPhone 16 lineup has support for WiFi 7.[12]

Display

[edit]

The iPhone 16 and iPhone 16 Plus retain their screen sizes of 6.1 inches and 6.7 inches, respectively. They use Super Retina XDR OLED display technology and feature a full-edge screen design with slim borders.[13][14] The iPhone 16 has a resolution of 2556x1179 pixels, while the iPhone 16 Plus has a resolution of 2796x1290 pixels. Both run on a 60 hz refresh rate and neither are flicker free due to the use of pulse-width modulation for brightness control.[15][16]

Camera

[edit]

Back view of iPhone 16

iPhone 16 features a more refined dual-lens array on the back, with a 48 megapixel Fusion wide-angle lens and 12 megapixel ultra-wide lens.[13] The cameras are now aligned vertically for the first time since the iPhone 12, instead of diagonally like on the iPhone 15, enabling spatial video capture.

There is also an improved Photographic Styles feature for real-time lighting and color adjustments, allowing specific tones and colors to be manipulated.[17]

Action Button

[edit]

The iPhone 16 and iPhone 16 Plus come with the Action Button, which was first featured on the iPhone 15 Pro lineup. By default, the Action Button toggles silent mode. However, users can change the button's feature to do different things other than silent mode, like open the Camera app or toggle a focus mode.

Camera Control button

[edit]

All iPhone 16 models now come with a new button called Camera Control. This button is on the right side of the device and allows the user to open the camera app, switch between different camera controls and features, and take photos and videos. The button can distinguish between light and hard presses. By pressing the button once, it opens the camera app. By lightly pressing it twice, it opens a small menu with different camera controls, such as zoom or tone. Pressing the button hard once takes a photo, while holding for a few seconds starts a video. The button can also be customized to open other apps that use the iPhone’s cameras, such as Magnifier, Code Scanner, or third party camera apps. [18]

Battery and charging

[edit]

The iPhone 16 has been upgraded in terms of battery capacity.[19]

The base iPhone 16 has a video playback duration of up to 22 hours, while the iPhone 16 Plus has a video playback of up to 27 hours. The iPhone 16 has a duration of audio playback of up to 80 hours, 20% less than the iPhone 16 Plus with 100 hours of audio playback.
The MagSafe wireless charging standard has been refreshed with a longer cable as an option, allowing the iPhone 16 and iPhone 16 Plus to charge at a faster speed of 25W with a 30W power adapter.

Software

[edit]

Main article: iOS 18

The iPhone 16 launched with iOS 18. While the device was announced alongside Apple Intelligence, these features were delayed until after release.[20]

iOS 18 includes RecoveryOS on the iPhone 16 series that allows users to recover and restore firmware wirelessly using another iPhone.[21]

Prior to the launch of iOS 18.4, Apple added the ability to open Visual Intelligence by customizing the Action button or Lock Screen, or opening Control Center on the iPhone 16 or iPhone 16 Plus,

in addition to the ability to press and hold the Camera Control button to open the Visual Intelligence.

Release and pricing

[edit]

The iPhone 16 has a starting price of US$799, while the iPhone 16 Plus starts at US$899. Pre-orders began on September 13, 2024, and sales started September 20.[22]

Indonesian sales ban

[edit]

On October 20, 2024, the Indonesian Ministry of Industry announced a formal ban on the sale and use of iPhone 16 models in Indonesia, citing that Apple has not fulfilled their promised investments in the country, and failing to meet the 40% local content requirement threshold for certification.[23] Apple subsequently offered a $100 million investment in exchange for lifting of the ban, but the Ministry of Industry rejected this offer, stating that it "has not met principles of fairness"[24] and demanded a larger amount,[25] which later said to be at least $1 billion.[26]

After further negotiations, which included the plan to build manufacturing, research and development facilities, the Ministry of Industry lifted the ban on February 26, 2025, with Apple now in the process of obtaining a local content certificate for selling the iPhone 16 models in Indonesia, starting from April 11.[27][28]

Reception

[edit]

The iPhone 16 has received positive feedback for several aspects but also shows a few limitations. The upgraded design is a favourite, bringing a refreshed aesthetic with the available vibrant color options, which feel more dynamic than past models. The display maintains Apple's Super Retina HDR quality but is limited to a 60 Hz refresh rate, which some users find outdated compared to faster displays on cheaper competitor phones.[29][30] The iPhone 16 Plus has been praised, weighing 30 grams less and having longer battery life than the iPhone 16 Pro Max, while having a similar screen size to the Pro Max.[31] The "base model iPhone has often felt like a notable downgrade from its Pro counterparts, but that's not the case this year", with the iPhone 16 and 16 Plus having enough features to make the 16 Pro and 16 Pro Max somewhat redundant.[29][30]

iPhone 16 Pro

iPhone 16 Pro
iPhone 16 Pro Max

iPhone 16 Pro Max

iPhone 16 Pro in Desert Titanium

Developer	Apple
Type	Smartphone
Series	iPhone Pro
First released	September 20, 2024; 7 months ago
Predecessor	iPhone 15 Pro and Pro Max
Related	iPhone 16 and 16 Plus iPhone 16e
Compatible networks	2G GSM/EDGE, 3G UMTS/HSPA+, 4G LTE, 5G NR
Form factor	Slate
Colors	Desert Titanium Natural Titanium White Titanium Black Titanium
Dimensions	**Pro**: 149.6 × 71.5 × 8.25 mm (5.890 × 2.815 × 0.325 in) **Pro Max**: 163.0 × 77.6 × 8.25 mm (6.417 × 3.055 × 0.325 in)
Weight	**Pro:** 199 g (7.0 oz) **Pro Max:** 227 g (8.0 oz)
Operating system	**Original:** iOS 18 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A18 Pro
Modem	Qualcomm Snapdragon X71 5G
Memory	8 GB LPDDR5[2]
Storage	128 GB, 256 GB, 512 GB or 1 TB NVMe

SIM	Dual eSIM (US) Dual nano-SIM (Hong Kong, Macau and mainland China) nano-SIM and eSIM (elsewhere)
Battery	**16 Pro:** 13.94 Wh (3582 mAh) Li-ion @ 3.89 V **16 Pro Max:** 18.17 Wh (4685 mAh) Li-ion @ 3.88 V[3]
Charging	MagSafe and Qi 2 wireless USB-C fast-charge
Rear camera	48 MP, *ƒ*/1.8, 24mm (wide) 12 MP, *ƒ*/2.8, 120mm (periscope telephoto) 48 MP, *ƒ*/2.2, 13mm (ultrawide) TOF 3D LiDAR scanner
Front camera	12 MP, *ƒ*/1.9, 23mm (wide)
Display	**16 Pro:** 6.3 in (160 mm) 2622 × 1206 resolution at up to 120 hz **16 Pro Max:** 6.9 in (175 mm) 2868 × 1320 resolution at up to 120 hz
Sound	Dolby Atmos-tuned Spatial Audio
Connectivity	Wi-Fi 7 dual-band, Bluetooth 5.3 (A2DP, LE), Ultra-wideband, Thread, NFC (reader mode, Express Cards), LEO satellite (Globalstar, limited), USB-C: USB 3.2 Gen 2 10 Gbit/s, Dual-frequency GPS (L1, L5), GLONASS, Galileo, QZSS, BeiDou, NavIC
Water resistance	IP68 dust/water resistant (up to 6 m for 30 mins)
Hearing aid compatibility	M3, T4
Other	Emergency SOS, Messages and Find My via satellite
Website	www.apple.com/iphone-16-pro/
References	[4]

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List of iPhone models

 *Telephones portal*

The **iPhone 16 Pro** and **iPhone 16 Pro Max** are high-end smartphones developed and marketed by Apple Inc. Alongside the iPhone 16 and iPhone 16 Plus, they form the eighteenth generation of the iPhone, succeeding the iPhone 15 Pro and iPhone 15 Pro Max, and were announced on September 9, 2024, and released on September 20, 2024. The iPhone 16 Pro and iPhone 16 Pro Max include a larger 6.3-inch and 6.9-inch display, a faster processor, upgraded wide and ultra-wide cameras, support for Wi-Fi 7, larger batteries, and come pre-installed with iOS 18 (operating system).

Specifications

[edit]

Design and display

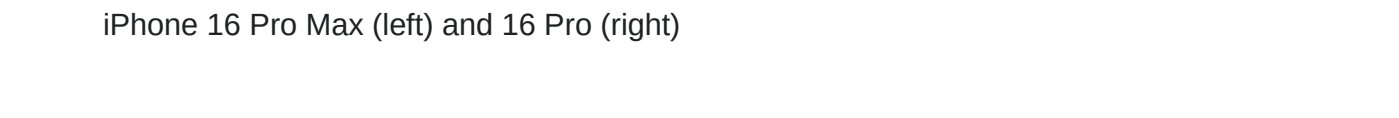
[edit]

The iPhone 16 Pro models continue the edge-to-edge display design but introduce thinner display borders, giving them the thinnest borders of any Apple product to date; iPhone 16 Pro and iPhone 16 Pro Max feature larger 6.3-inch and 6.9-inch Super Retina XDR OLED displays, respectively, with iPhone 16 Pro Max offering the largest iPhone display ever.[5] Both models have always-on 13:6 aspect ratio displays, with 460 ppi density from a 2622 × 1206 (Pro) and 2868 × 1320 (Pro Max) resolution. Both include a dynamic refresh rate of up to 120 Hz, HDR10, with 1000 nits brightness typical and 2000 nits at peak.

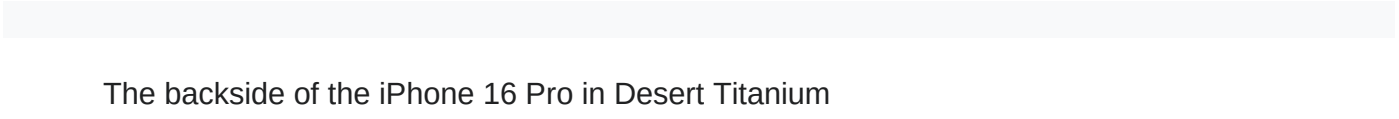
Both Pro models come in four colors, the new Desert Titanium, Natural Titanium, White Titanium and Black Titanium, offering a lightweight, scratch-resistant exterior.[6] The Desert Titanium color replaced the Blue Titanium color used on the iPhone 15 Pro and iPhone 15 Pro Max.

Color	Name
	Desert Titanium
	Natural Titanium
	White Titanium

Black Titanium



iPhone 16 Pro Max (left) and 16 Pro (right)



The backside of the iPhone 16 Pro in Desert Titanium

Hardware

[edit]

The iPhone 16 Pro models are powered by the Apple A18 Pro chip, built using a second-generation 3-nanometer process (TSMC N3E), significantly enhancing performance, especially in AI related tasks. The chip includes a 6-core CPU, 6-core GPU, and a 16-core Neural Engine with a speed of 35 trillion-operations-per-second (TOPS) that accelerates machine learning capabilities, allowing for seamless integration of Apple Intelligence features. Both models offer 8 GB of memory and storage options ranging from 128 GB (256 GB for Pro Max) to 1 TB.[7][8][9]

All iPhone 16 models have an improved thermal design. The main logic board has been updated, centralizing chip placement and optimizing the surrounding architecture. The iPhone 16 Pro lineup maximizes thermal capacity with a machined chassis that uses 100 percent recycled aluminum, bonded to the titanium frame using solid state diffusion. This is combined with a graphite clad aluminum substructure. The new thermal architecture enables a 20 percent improvement in sustained gaming performance compared to the A17 Pro.[10]

Every model in the iPhone 16 lineup has support for Wi-Fi 7 (802.11a/b/g/n/ac/ax/be).[11] In a teardown by iFixit, the US model's modem was shown to be a Qualcomm X71 (SDX71M-000).[12]

Camera

[edit]

The iPhone 16 Pro introduces an upgraded camera system, with three rear cameras and a lidar scanner. It features "wide", "ultrawide" and "telephoto" lenses. The wide camera is 48 megapixels, with sensor-shift optical image stabilization (OIS) and dual-pixel phase detection autofocus (PDAF). The ultrawide camera is 48 MP with a 120-degree field of view, optimized for low-light conditions. A 5× optical zoom telephoto camera, which was previously exclusive to the iPhone 15 Pro Max, now comes standard on both models. In addition, video recording now supports 4K at 120 frames per second (fps), offering the iPhone's highest resolution and frame rate combination yet and is the only iPhone to record in 4K in slow motion.[13]

Camera control button

[edit]

All iPhone 16 models now come with a new button called Camera Control. This button is on the right side of the device, and allows the user to open the camera app, switch between different camera controls and features, and taking photos and videos. The button can distinguish between light and hard presses. By pressing the button once, it opens the camera app. By lightly pressing it twice, it opens a small menu with different camera controls, such as zoom or tone, and if a user presses it hardly once, it takes a photo. If a user holds it for a few seconds, it starts a video. [14]

Software

[edit]

Main article: iOS 18

One of the iPhone 16 Pro's features is its integration with Apple Intelligence, a suite of AI-driven capabilities. Apple Intelligence enhances Siri's functionality, improving natural language understanding and introduces generative features such as custom emojis and Visual Intelligence, which can analyze photos and identify objects in real-time.

Prior to the launch of iOS 18.4, Apple added the ability to open Visual Intelligence by customizing the Action button or Lock Screen, or opening Control Center on the iPhone 16 Pro or iPhone 16 Pro Max, in addition to the ability to press and hold the Camera Control button to open the Visual Intelligence.

Release and pricing

[edit]

Pre-orders for iPhone 16 Pro and iPhone 16 Pro Max began on September 13, 2024, and they became available on September 20, 2024. The iPhone 16 Pro model starts at $999, while the Pro Max model starts at $1,199.[15]

Availability by region

[edit]

September 20, 2024

Indonesia

Indonesian sales ban

[edit]

On October 20, 2024, the Indonesian Ministry of Industry announced a formal ban on the sale and use of iPhone 16 models in Indonesia, citing that Apple has not fulfilled their promised investments in the country, and failing to meet the 40% local content requirement threshold for certification.[16] Apple subsequently offered a $100 million investment in exchange for lifting of the ban, but the Ministry of Industry rejected this offer, stating that it "has not met principles of fairness"[17] and demanded a larger amount,[18] which was later said to be at least $1 billion.[19]

After further negotiations, which included the plan to build manufacturing, research and development facilities, the Ministry of Industry lifted the ban on February 26, 2025, with Apple now in the process of obtaining a local content certificate for selling the iPhone 16 models in Indonesia, starting from April 11.[20][21]

iPhone 16e

From Wikipedia, the free encyclopedia

iPhone 16e

iPhone 16e

iPhone 16e in White

Developer	Apple
Type	Smartphone
Series	iPhone
First released	February 28, 2025; 2 months ago
Predecessor	iPhone SE (3rd generation)
Related	iPhone 16 and 16 Plus iPhone 16 Pro and Pro Max
Compatible networks	2G GSM/EDGE, 3G UMTS/HSPA+, 4G LTE, 5G NR
Form factor	Slate
Colors	☐ White ■ Black
Dimensions	146.7 × 71.5 × 7.8 mm (5.78 × 2.81 × 0.31 in)
Weight	167 g (5.9 oz)
Operating system	**Original:** iOS 18.3 **Current:** iOS 18.5, released May 12, 2025[1]
System-on-chip	Apple A18
Modem	Apple C1
Memory	8 GB
Storage	128, 256 or 512 GB NVMe
SIM	Dual eSIM (US) Dual nano-SIM (mainland China) nano-SIM and eSIM (elsewhere)
Battery	15.55 Wh (4005 mAh) Li-ion @ 3.88 V

Charging	Qi wireless up to 7.5W USB-C
Rear camera	48 MP, *ƒ*/1.6, 26 mm (wide)
Front camera	12 MP, *ƒ*/1.9, 23 mm (wide)
Display	6.1 in (150 mm) 2532 × 1170 resolution at 60 hz
Sound	Dolby Atmos-tuned Spatial Audio
Connectivity	Wi-Fi 6 (802.11a/b/g/n/ac/ax) tri-band Bluetooth 5.3 (A2DP, LE) NFC (reader mode, Express Cards) USB-C: USB 2.0 480 Mbit/s GPS, GLONASS, Galileo, QZSS, BeiDou, NavIC
Water resistance	IP68 dust/water resistant (up to 6 m for 30 mins)
Other	Emergency SOS, Messages and Find My via satellite, Action Button
Website	www.apple.com/iphone-16e/

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The **iPhone 16e** is a smartphone developed and marketed by Apple Inc. as part of its iPhone series. It is part of the eighteenth-generation iPhone line-up, together with the iPhone 16, the iPhone 16 Plus, and the Pro models iPhone 16 Pro and iPhone 16 Pro Max.[2] Announced on February 19, 2025, as part of the iPhone 16 lineup, the iPhone 16e was released with a starting price of US$599, marking a US$170 increase over the iPhone SE (3rd generation).

The iPhone 16e is the entry-level model of the iPhone 16 lineup, featuring an edge-to-edge display (albeit retaining the iPhone 14's notch instead of the Dynamic Island on the iPhone 15 and

16 lines), Face ID, and a USB-C port instead of Lightning. It shares its dimensions and front design with the 2021 iPhone 13, iPhone 13 Pro, and 2022 iPhone 14. Compared to the standard iPhone 16 and iPhone 16 Pro, the iPhone 16e omits features such as Camera Control, an ultra-wide camera, the second-generation ultra-wideband chip, and support for Qi2 and MagSafe charging. The iPhone 16e is positioned similarly to the entry-level iPhone 5c, which launched alongside the iPhone 5s with fewer features, and subsequent iPhone SE models.[3]

Powered by the A18 SoC (with 4 GPU cores instead of 5, unlike the regular iPhone 16), it features an action button replacing the mute switch, a single 48MP Fusion camera with optical zoom options (1x and 2x), a custom Apple C1 cellular modem, and support for Apple Intelligence.[4][5]

Following the iPhone 16e's announcement, the iPhone 14, iPhone 14 Plus, and iPhone SE (3rd generation) were discontinued, completing the transition from Lightning to USB-C across all iPhone models starting with the iPhone 15.[6]

History

[edit]

The successor to the iPhone SE (3rd generation) was originally rumored to be named as the "iPhone SE 4" but was later renamed as "iPhone 16e".[7]

On February 19, 2025, Apple announced the successor to the third generation iPhone SE named "iPhone 16e", which serves as the entry-level model of the iPhone 16 series.[8]

Apple started taking pre-orders on February 21, 2025, with general availability on February 28, 2025.[9]

Design

[edit]

The backside of the iPhone 16e in Black

The iPhone 16e features an aluminium frame, paired with a glass front and matte finished back glass. It also shares the same physical sizes and dimensions as among the iPhone 13, iPhone 13 Pro and iPhone 14.

The iPhone 16e is available in two colours: Black and White, reminiscent of the iPhone X and iPhone 4.

Specifications

[edit]

Hardware

[edit]

The iPhone 16e incorporates the Apple A18 system on a chip (SoC) with 4-core GPU. It is available in three internal storage configurations: 128 GB, 256 GB, and 512 GB. It has 8 GB of RAM, twice that of the third-generation iPhone SE's 4 GB of RAM.[10] The iPhone 16e also has an IP68 rating for dust and water resistance.

The iPhone 16e also features an Apple-designed modem, the Apple C1, instead of the Qualcomm modem found in all iPhone models since the iPhone 12 and including the iPhone

16 and iPhone 16 Pro. However, this resulted in the iPhone 16e not supporting mmWave 5G unlike its flagship counterparts. [11][12]

Like the previous SE models, the iPhone 16e lacks the ultra-wideband features enabled by the U2 chip which is found in other iPhone models since the iPhone 11.

The iPhone 16e International model has Nano-SIM + eSIM + eSIM support, whereas the US model is eSIM only and the Chinese model does not have any eSIM support. [13][14]

The iPhone 16e has been designed with a USB-C port rather than the older and proprietary Lightning port. However, the iPhone 16e's USB-C port does not support DisplayPort video output.[15]

Like the iPhone 15 Pro and all models of the iPhone 16 series, the iPhone 16e features the action button replacing the mute switch.

Unlike the standard iPhone 16 and 16 Pro, the iPhone 16e lacks the Camera Control button and Visual Intelligence can only be triggered using the action button. [16]

Display

[edit]

The iPhone 16e features a Super Retina XDR display, using an OLED panel rather than the iPhone SE line's LCD. The display has a resolution of 2532 × 1170 pixels, with a diagonal size of 6.1 in (150 mm) and a pixel density of 460 PPI. It can play HDR10 and Dolby Vision content. The display panel is identical to the one found on the iPhone 14 and is cross-compatible.

Unlike the other models of the iPhone 16 series, the iPhone 16e maintains the notch (a narrower notch design found on the iPhone 13, iPhone 13 Pro and iPhone 14, first introduced with the iPhone X in 2017) instead of the Dynamic Island (first introduced with the iPhone 14 Pro in 2022).

Camera

[edit]

The iPhone 16e has a 2-in-1 rear 48 MP Fusion camera with a single lens. Like the iPhone 15 and iPhone 16, it has optical-quality zoom in up to 2x, done by cropping a portion of the sensor. It is capable of recording 4K video at 24, 25, 30, or 60 fps, 1080p HD video at 25, 30 or 60 fps, or 720p HD video at 30 fps. The camera has an aperture of ƒ/1.6, autofocus, optical image stabilization, and a dual-LED True Tone flash. The front camera is a 12 MP TrueDepth module with an aperture of f/1.9 and autofocus, capable of shooting 4K video at 25, 30 or 60 fps and slow-motion video at 120 fps.

The iPhone 16e adds several camera functions enabled by the A18 with 4-core GPU (an entry-level successor to the A15 Bionic with 4-core GPU).[17] Like the iPhone 16 and iPhone 16 Pro, the rear camera supports Smart HDR 5, spatial audio recording, wind noise reduction, audio zoom and audio mix. Both the front and rear cameras of the iPhone 16e support Portrait mode and Portrait Lighting. However, the 16e's implementation of Portrait mode only supports human faces and lacks an option to change the focus point. Like the iPhone 16 and iPhone 16 Pro, Portrait mode has depth control and an advanced bokeh effect (blurring effect of the out-of-focus background around the portrait). The iPhone 16e supports Photonic Engine, Deep Fusion, Photographic Styles, and Night Mode but lacks some features such as Cinematic mode and Action mode.

Battery and charging

[edit]

The iPhone 16e has a video playback duration up to 26 hours and an audio playback duration up to 90 hours.[18]

Unlike other models in the family, the iPhone 16e does not have MagSafe connectivity. However, the iPhone still supports standard wireless charging up to 7.5W, via the Qi standard.[19]

Software

[edit]

See also: iOS and iOS 18

The iPhone 16e was originally supplied with iOS 18.3 at release on February 28, 2025, with a day one update available to iOS 18.3.1.

Like both the iPhone 16 and iPhone 16 Pro, the iPhone 16e also supports Apple Intelligence.

Reception

[edit]

iPhone 16e received generally positive reviews, with many praising the Apple C1 modem and battery life, but criticizing the price point and compromises, particularly at the lack of MagSafe.[20]

Patrick Holland at CNET gave it a score of 8.5 out of 10. Holland conducted a head-to-head test between iPhone 16e and iPhone 16 Pro Max to compare the download and upload speeds of iPhone 16e's Apple-designed C1 modem and iPhone 16 Pro Max's Qualcomm-designed modem. Holland conducted the test on AT&T's 5G network in both indoors and outdoors in San Francisco. Holland published the results of the test in a comparative table that shows iPhone 16e's Apple-designed C1 modem was able to match the download speed of iPhone 16 Pro Max's Qualcomm-designed modem, and iPhone 16e's Apple-designed C1 modem had a faster upload speed than iPhone 16 Pro Max's Qualcomm-designed modem.[21]

The Verge gave it a score of 7 out of 10, calling the device familiar, but when compared to the iPhone 16, video call quality and upload speeds on the 16e "would come out ahead", although there wasn't a consistent difference.[22]

Julian Chokkattu at *Wired*, also giving a score of 7 out of 10, was slightly more critical. Chokkattu said the US$599 price of the iPhone 16e felt $100 too high, and was for anyone who wanted a new phone that "just needs to be an iPhone." Chokkattu concluded that the 16e was perfectly reliable, but not a good value.[23]

Model	Storage Options	PTA Approved Price (PKR)	Non-PTA Price (PKR)	Key Specifications
iPhone 11	64GB / 128GB / 256GB	160,000 – 200,999	137,999 – 155,000	**Display**: 6.1" Liquid Retina HD**Chipset**: A13 Bionic**Camera**: Dual 12MP (Wide, Ultra-Wide)**Battery**: Up to 17 hrs video playback
iPhone 11 Pro	64GB / 256GB / 512GB	245,000 – 275,999	214,999 – 230,000	**Display**: 5.8" Super Retina XDR OLED**Chipset**: A13 Bionic**Camera**: Triple 12MP (Wide, Ultra-Wide, Telephoto)**Battery**: Up to 18 hrs video playback
iPhone 12	64GB / 128GB / 256GB	230,000 – 250,000	220,000 – 235,000	**Display**: 6.1" Super Retina XDR OLED**Chipset**: A14 Bionic**Camera**: Dual 12MP (Wide, Ultra-Wide)**Battery**: Up to 17 hrs video playback
iPhone 12 Pro	128GB / 256GB / 512GB	285,000 – 300,000	260,000 – 275,000	**Display**: 6.1" Super Retina XDR OLED**Chipset**: A14 Bionic**Camera**: Triple 12MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 17 hrs video playback
iPhone 13	128GB / 256GB / 512GB	250,000 – 270,000	230,000 – 245,000	**Display**: 6.1" Super Retina XDR OLED**Chipset**: A15 Bionic**Camera**: Dual 12MP (Wide, Ultra-Wide)**Battery**: Up to 19 hrs video playback
iPhone 13 Pro	128GB / 256GB / 512GB / 1TB	310,000 – 350,000	280,000 – 300,000	**Display**: 6.1" Super Retina XDR OLED with ProMotion**Chipset**: A15 Bionic**Camera**: Triple 12MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 22 hrs video playback
iPhone 14	128GB / 256GB / 512GB	350,000 – 420,999	274,999 – 310,000	**Display**: 6.1" Super Retina XDR OLED**Chipset**: A15 Bionic**Camera**: Dual 12MP (Wide, Ultra-Wide)**Battery**: Up to 20 hrs video playback
iPhone 14 Pro Max	128GB / 256GB / 512GB / 1TB	390,000 – 420,999	273,999 – 350,000	**Display**: 6.7" Super Retina XDR OLED with ProMotion**Chipset**: A16 Bionic**Camera**: Triple 48MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 29 hrs video playback
iPhone 15	128GB / 256GB / 512GB	310,000 – 354,999	223,999 – 270,000	**Display**: 6.1" Super Retina XDR OLED**Chipset**: A16 Bionic**Camera**: Dual 48MP (Wide) + 12MP (Ultra-Wide)**Battery**: Up to 20 hrs video playback
iPhone 15 Pro Max	256GB / 512GB / 1TB	440,000 – 481,500	382,000 – 430,000	**Display**: 6.7" Super Retina XDR OLED with ProMotion**Chipset**: A17 Pro**Camera**: Triple 48MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 29 hrs video playback
iPhone 16	128GB / 256GB / 512GB	365,000 – 414,999	289,999 – 340,000	**Display**: 6.1" Super Retina XDR OLED, 120Hz**Chipset**: A18**Camera**: Dual 48MP (Wide) + 12MP (Ultra-Wide)**Battery**: Up to 26 hrs video playback
iPhone 16 Pro	128GB / 256GB / 512GB / 1TB	460,000 – 664,999	375,000 – 420,000	**Display**: 6.3" Super Retina XDR OLED with ProMotion**Chipset**: A18 Pro**Camera**: Triple 48MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 28 hrs video playback
iPhone 16 Pro Max	256GB / 512GB / 1TB	490,000 – 590,999	369,999 – 430,000	**Display**: 6.9" Super Retina XDR OLED with ProMotion**Chipset**: A18 Pro**Camera**: Triple 48MP (Wide, Ultra-Wide, Telephoto) + LiDAR**Battery**: Up to 33 hrs video playback

Model	Storage Options	PTA Approved Price (PKR)	Non-PTA Price (PKR)	Key Specifications
iPhone 16e	128GB / 256GB	291,000 – 291,500	283,799 – 289,000	**Display**: 6.1" OLED**Chipset**: A18**Camera**: Dual 48MP (Wide) + 12MP (Ultra-Wide)**Battery**: Up to 26 hrs video playback