

**Bypass your Bluetooth device.** To use the iPhone receiver or speaker for phone calls:

- Answer a call by tapping the iPhone screen.
- During a call, tap Audio, then choose iPhone or Speaker Phone.
- Turn off the Bluetooth device, unpair it, or move out of range.
- Turn off Bluetooth in Settings > Bluetooth.

**Unpair a device.** Go to Settings > Bluetooth, tap ⓘ next to the device, then tap Forget this Device. If you don't see the Devices list, make sure Bluetooth is on.

## Continuity

Continuity connects iPhone with your iPad, iPod touch, and Mac so they work together as one. You can [use Handoff](#) to start an email or document on iPhone, for example, then pick up where you left off on your iPad or Mac. You can [use Continuity to make phone calls](#) and [send SMS and MMS text messages](#) from your other iOS devices or Mac computer. You can [use Instant Hotspot](#) to provide Internet access to your other iOS devices or Mac computer. And if you shop on your Mac at a site that supports Apple Pay, you can [quickly pay with your iPhone](#).

Continuity requires iOS 8 or later, or OS X v10.10 or later, and works with the following:

- iPhone 5 and later
- iPod touch (5th generation) and later

- iPad Pro
- iPad (4th generation) and later
- iPad mini and later
- Supported Mac computers

For more information, go to the [Use Continuity to connect your iPhone, iPad, iPod touch, and Mac website](#).

## Handoff

Pick up on one device where you left off on another. You can use Handoff with Mail, Safari, Pages, Numbers, Keynote, Maps, Messages, Reminders, Calendar, Contacts, and even some third-party apps. For Handoff to work, you must be signed in to iCloud using the same Apple ID on all your devices, and they must be within Bluetooth range of one another (about 33 feet or 10 meters).

**Switch devices.** Swipe up from the bottom-left edge of the Lock screen (where you see the app’s activity icon), or go to the multitasking screen, then tap the app. On your Mac, open the app you were using on your iOS device.

**Tip:** If you have Handoff set up, you can [cut or copy something](#), (a word or an image, for example), on one Apple device and paste it on another.

**Disable Handoff on your devices.** Go to Settings > General > Handoff & Suggested Apps.

**Disable Handoff on your Mac.** Go to System Preferences > General, then turn off “Allow Handoff between this Mac and your iCloud devices.”

## Universal Clipboard

Cut or copy content (a word or an image, for example) on your iPhone, then paste it on another iOS device or Mac computer.

For Universal Clipboard to work, you must be signed into iCloud using the same Apple ID on all your devices and you must cut, copy, and paste your content within a short period of time. All your devices must be connected to the same Wi-Fi network, within Bluetooth range of one another (about 33 feet or 10 meters), and have Bluetooth turned on.

**Cut or copy.** Touch and hold a word or image to display the selection options, then choose Copy or Cut.

**Paste.** Double tap to place an insertion point and display the selection options, then choose Paste.

For more information about selecting text or placing the insertion point see [Edit text](#).

## Instant Hotspot

You can use Instant Hotspot to provide Internet access to your other iOS devices (iOS 8 or later) and Mac computers (OS X v10.10 or later) where you're signed in to iCloud using the same Apple ID. Instant Hotspot uses your iPhone Personal Hotspot, without you having to enter a password or even turn on Personal Hotspot.

**Use Instant Hotspot.** Go to Settings > Wi-Fi on your other iOS device, then simply choose your iPhone network under Personal Hotspots. On your Mac, choose your iPhone network from your Wi-Fi settings.

When you're not using using the hotspot, your devices disconnect to save battery life. For more information see [Personal Hotspot](#).

**Note:** This feature may not be available with all carriers. Additional fees may apply. Contact your carrier for more information.

## Personal Hotspot


Use Personal Hotspot to share your iPhone Internet connection. Computers can share your Internet connection using Wi-Fi, Bluetooth, or a USB cable. Other iOS devices can share the connection using Wi-Fi. Personal Hotspot works only if iPhone is connected to the Internet over the cellular data network.

**Note:** This feature may not be available with all carriers. Additional fees may apply. Contact your carrier for more information.

**Share an Internet connection.** Go to Settings > Cellular, then tap Personal Hotspot—if it appears—to set up the service with your carrier.

After you turn on Personal Hotspot, other devices can connect in the following ways:

- *Wi-Fi:* On the device, choose your iPhone from the list of available Wi-Fi networks.
- *USB:* Connect iPhone to your computer using the cable that came with it. In your computer's Network preferences, choose iPhone and configure the network settings.
- *Bluetooth:* On iPhone, go to Settings > Bluetooth, then turn on Bluetooth. To pair and connect iPhone with your Bluetooth device, refer to the documentation that came with your device.

**Note:** When a device is connected, a blue band appears at the top of the iPhone screen. The Personal Hotspot icon  appears in the status bar of iOS devices using Personal Hotspot.

**Change the Wi-Fi password for iPhone.** Go to Settings > Personal Hotspot > Wi-Fi Password, then enter a password of at least eight characters.

**Change the name of your Personal Hotspot.** You can change the name of your Personal Hotspot by changing the name of your iPhone. Go to Settings > General > About > Name.

**Monitor your cellular data network usage.** Go to Settings > Cellular. See [Cellular data settings](#).

## Use iTunes to transfer files

You can transfer files between iPhone and your computer or other iOS devices with iCloud Drive, AirDrop, or by connecting iPhone to your computer and using iTunes.

**Transfer files using iTunes.** Connect iPhone to your computer using the included cable. In iTunes on your computer, select iPhone, then click Apps. Use the File Sharing section to transfer documents between iPhone and your computer.

Apps that support file sharing appear in the File Sharing Apps list in iTunes. To delete a file, select it in the Documents list on your computer, then press the Delete key. For more information, go to the Apple support article [About File Sharing](#).

You can also view files received as email attachments. See [Attachments](#).

With some apps, you can transfer files using AirDrop. See [Share files with AirDrop](#).

# CarPlay

## About CarPlay

CarPlay puts key iPhone apps on your car's built-in display. With CarPlay and your iPhone, you can get turn-by-turn directions, make phone calls, exchange text messages, listen to music, and more. CarPlay uses the contacts on your iPhone to help you make calls, send texts, and find destinations.

CarPlay is available on select automobiles (go to the [CarPlay available models website](#)) and on select after-market navigation systems. CarPlay works with iPhone 5 and later.

**Note:** CarPlay is available only in certain areas (go to the [iOS 9 Feature Availability website](#)). Siri must be enabled on your iPhone. Go to Settings > General > Siri.

**WARNING:** For important information about avoiding distractions that could lead to dangerous situations, see [Important safety information](#).

You operate CarPlay using your car's built-in controls—a touchscreen, a rotary knob controller, or both. To learn how to operate your display, see the owner's guide that came with your car.

Or just use Siri voice control to tell CarPlay what you want. Without looking at or touching iPhone, you can ask Siri to call people, select and play music, hear and compose text messages, get directions, read your notifications, find calendar information, add reminders, and more. (Siri often steps in automatically to help you, depending on the app you're using.)

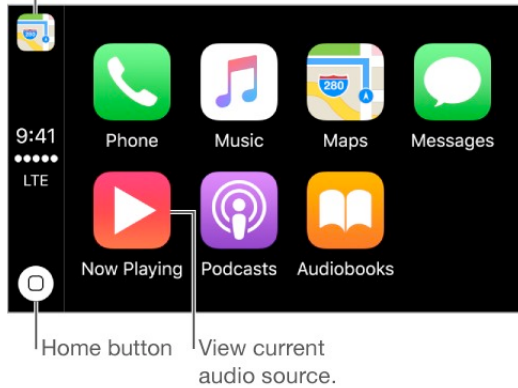
## Get started

If your car supports wireless CarPlay, press and hold the voice control button on your steering wheel to start the CarPlay setup. To connect iPhone to your car's USB port, use an Apple-approved Lightning to USB cable. It may be labeled with the CarPlay logo, the word *CarPlay*, or an image of a smartphone.

Depending on your car, the CarPlay Home screen may appear automatically.

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Return to a call, or to turn-by-turn directions.



If the CarPlay Home screen doesn't appear, select the CarPlay logo on your car's display.



**Connect wirelessly to CarPlay.** First, make sure your car supports wireless CarPlay and is in wireless or Bluetooth pairing mode (see the owner's guide). Then on iPhone, go to Settings > General > CarPlay > Available Cars, and choose your car.

**Speak to Siri.** Press and hold the voice control button on the steering wheel, or touch and hold the Home button on the CarPlay Home screen, until Siri beeps. Then make your request.

**Open an app.** Tap the app on the touchscreen. Or twist the rotary knob to select the app, then press down on the knob.

**Return to the CarPlay Home screen.** Tap the Home button on the touchscreen. Or twist the rotary knob to select Home, then press down on the knob.

You can also press the "back" button near the rotary knob—or press and hold the "back" button—until you get back to the Home screen.

**Return to your car's Home screen.** Tap the gray icon with your car's logo if it appears, or press the physical Home button on your radio if your car has one.

**View additional apps.** If you have more than eight apps, some apps may appear on another page of the Home screen. Swipe left on the touchscreen, or twist the rotary knob.

**Return to a phone call or to turn-by-turn directions.** Tap the icon in the upper-left corner of the touchscreen. Or twist the rotary knob to the icon, then press down on the knob.

**Scroll quickly through a list.** Slide or tap the letters along the list at the right side of the touchscreen. Or twist the rotary knob.

**View and control the current audio source.** Select Now Playing to see the current audio app.

**Rearrange the icons on the CarPlay Home screen.** When you're not operating your car, go to Settings > General > CarPlay on your iPhone, then select your car. Touch and hold any icon, then drag it. To remove an icon, tap it. To add it back, tap it again. (An icon that can be removed appears with a gray circle in its upper-left corner.)

Your icon changes appear on the CarPlay Home screen the next time you connect to CarPlay.

## Maps

Use Siri or open Maps to get turn-by-turn directions, traffic conditions, and estimated travel time. CarPlay generates likely destinations using addresses from your email, text messages, contacts, and calendars—as well as places you frequent. You can also search for a location, use locations you bookmarked, and find nearby attractions and services.

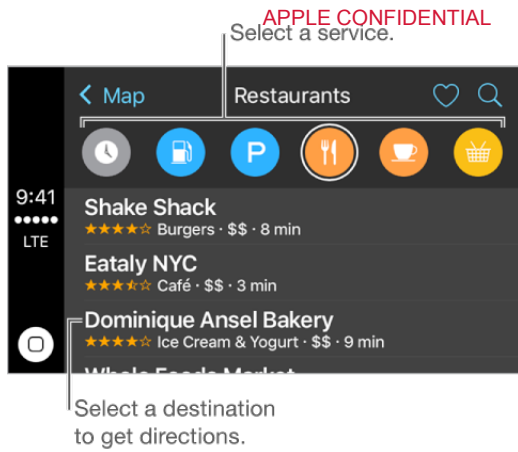
You can use other apps even when getting directions. CarPlay lets you know when it's time to make a turn.

**Ask Siri.** Say something like:

- “Take me home”
- “Get directions to the nearest coffee shop”
- “What’s my ETA?”
- “Find a gas station”

**Display likely destinations.** Open Maps, then select Destinations. Select a destination in the list to get directions. To get directions to a nearby service, select a category (such as Gas, Parking, or Coffee), then select a destination. (For availability of nearby suggestions, go to the [Maps: Nearby website](#).)

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## Phone

Use Siri to help you make calls, or open Phone, then select Show Contacts to bring up your favorites, recent calls, voicemail, a list of contacts, or a keypad.

**Ask Siri.** Say something like:

- “Call Emily”
- “Return my last call”
- “What voicemails have I gotten?”

## Messages

Use Siri to help you send, hear, and reply to text messages. Or, open Messages, then select Show Messages to see a list of past conversations. Select a conversation to hear unread messages or respond to a thread. Select  to start a new conversation.

**Ask Siri.** Say something like:

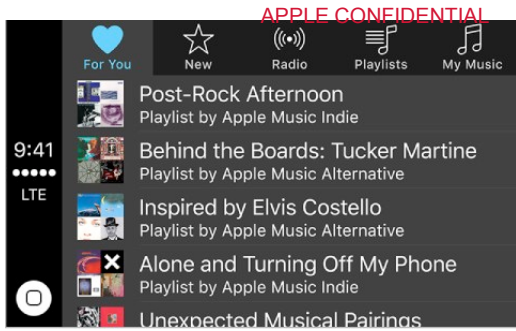
- “Text my wife”
- “Tell Emily I’m in traffic and I’ll be 15 minutes late to the meeting”
- “Read my text messages”

## Music

Use Siri or open Music to access your Apple Music membership, For You, New, and the music on your iPhone—including songs, artists, albums, and playlists. Or tune in to Radio.

 TK New screenshot to refresh content





**Ask Siri.** Say something like:

- “Play,” followed by the name of the artist, album, song, playlist, or station that you want to play. If Siri doesn’t find what you asked for, be more specific. For example, say “play the radio station ‘Pure Pop’” rather than saying “play ‘Pure Pop.’”
- “Let’s hear the Acoustic playlist”
- “Play more songs like this one”
- “Skip this song”
- “Create a radio station based on this song”

On some systems, Music displays only a partial list of choices while you’re driving. To choose among options not in the list, use Siri by selecting More at the bottom of the list, or by pressing and holding the voice control button on your steering wheel.

To control playback, use Siri, the Now Playing screen, or the controls on your car’s steering wheel.

## Podcasts

Use Siri or open Podcasts to find a podcast on your iPhone and play it with CarPlay.

**Ask Siri.** Say something like:

- “Play the Freakonomics Radio podcast”
- “Skip ahead 45 seconds”

## Other apps

CarPlay works with select third-party audio apps that you download to your iPhone, as well as apps made by your car maker. Compatible apps show up automatically on the CarPlay Home screen.

You can also use Siri with CarPlay to access many of the apps on iPhone, including Calendar, Reminders, Clock, and more.

**Ask Siri.** Say something like:


- “What’s my next meeting?”
- “Remind me to pack an umbrella when I get home”
- “Add milk to my grocery list”
- “Set my alarm for 6:00 AM tomorrow”

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# Privacy and security

## Privacy

Privacy settings let you see and control which apps and system services have access to Location Services, and to contacts, calendars, reminders, and photos.

Location Services lets location-based apps such as Reminders, Maps, Camera, and Wallet gather and use data indicating your location. Your approximate location is determined using available information from cellular network data, local Wi-Fi networks (if you have Wi-Fi turned on), and GPS (may not be available in all areas). The location data collected by Apple isn't collected in a form that personally identifies you. When an app is using Location Services,  appears in the status bar.

**Turn Location Services on or off.** Go to Settings > Privacy > Location Services. You can turn it off for some or for all apps and services. If you turn off Location Services, you're asked to turn it on again the next time an app or service tries to use it.

**Turn Location Services off for system services.** Several system services, such as compass calibration and location-based ads, use Location Services. To see their status, turn them on or off, or show  in the status bar when these services use your location, go to Settings > Privacy > Location Services > System Services.

**Turn off access to private information.** Go to Settings > Privacy. You can see which apps and features have requested, and you have granted, access to private information. You can turn off each app's access to each of these categories of information:

- Contacts
- Calendars
- Reminders
- Photos
- Bluetooth Sharing
- Microphone
- Camera
- Health
- HomeKit

- Media Library
- Motion & Fitness
- Twitter
- Facebook

Review the terms and privacy policy for each third-party app to understand how it uses the data it's requesting. For more information, see the Apple Support article [About privacy and Location Services](#).

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# Security

## Use a passcode with data protection

For better security, you can set a passcode that must be entered each time you turn on or wake up iPhone.

**Set, change, or turn off the passcode.** Go to Settings > Touch ID & Passcode (iPhone 5s and later) or Settings > Passcode (other models).

To adjust when iPhone automatically locks (and then requires the passcode to unlock), go to Settings > Display & Brightness > Auto-Lock.

Setting a passcode turns on data protection, using your passcode as a key to encrypt Mail messages and attachments stored on iPhone, using 256-bit AES encryption. (Other apps may also use data protection.)

**Add fingerprints and set options for the Touch ID sensor.** (iPhone models with Touch ID) Go to Settings > Touch ID & Passcode. See [Touch ID](#).

**Allow access to features when iPhone is locked.** Go to Settings > Touch ID & Passcode (iPhone models with Touch ID) or Settings > Passcode (other models).

Optional features include:

- Today (see [Notifications](#))
- Notifications View (see [Notifications](#))
- Reply with Message (see [Messages at a glance](#))
- Siri (if enabled; see [Make requests](#))
- Wallet (see [Wallet at a glance](#))

**Allow access to Control Center when iPhone is locked.** Go to Settings > Control Center. See [Control Center](#).

**Erase data after ten failed passcode attempts.** Go to Settings > Touch ID & Passcode (iPhone models with Touch ID) or Settings > Passcode (other models), then tap Erase Data. After ten failed passcode attempts, all settings are reset, all your information and media are erased, and you must [restore your device from a backup](#) or [set it up again as new](#).

## Use two-factor authentication for security

Two-factor authentication is an extra layer of security for your Apple ID designed to ensure that all the photos, documents, and other important data you store with Apple can be accessed only by you, and only with your devices. It's built into iOS 9 and later, and OS X v10.11 and later.

If your account meets all the requirements for two-factor authentication, you are prompted to turn it on when you set up iPhone with iOS 10. If you are signed in to iCloud, you can also turn it on by going to Settings > iCloud. Tap your account at the top of the screen, then tap Password & Security. For more information, see the Apple Support article [Availability of two-factor authentication](#).

Once enrolled, when you enter your Apple ID and password for the first time on a new device, you're asked to verify your identity with a six-digit verification code. This code is displayed automatically on your other devices or sent to a phone number you trust. Just enter the code to sign in and access your information on your new device.

You won't be asked for a verification code again on that device unless you sign out completely, erase your device, or need to change your password for security reasons.

For more help with two-factor authentication, see the Apple Support article [Two-factor authentication for Apple ID](#).

## Touch ID

On iPhone 5s and later, you can unlock iPhone by placing a finger on the Home button. Touch ID also lets you:

- Use your Apple ID password to make purchases in the iTunes Store, App Store, or iBooks Store.
- Authorize credit or debit card payments using Apple Pay.
- Provide debit and credit card info, billing and shipping addresses, and contact info when paying in an app that offers Apple Pay as a method of payment.

**Set up the Touch ID sensor.** Go to Settings > Touch ID & Passcode. Set whether you want to use a fingerprint to unlock iPhone, and to make purchases. Tap Add a Fingerprint, then follow the onscreen instructions. You can add multiple fingerprints (both of your thumbs and forefingers, for example, and one for your spouse).

**Note:** If you turn iPhone off after setting up the Touch ID sensor, you'll be asked to confirm your passcode when you turn iPhone back on and unlock it the first time. You'll also be asked for your Apple ID password for the first purchase you make in the iTunes Store, App Store, or iBooks Store.

**Delete a fingerprint.** Tap the fingerprint, then tap Delete Fingerprint. If you have more than one fingerprint, place a finger on the Home button to find out which fingerprint it is.

**Name a fingerprint.** Tap the fingerprint, then enter a name, such as “Thumb.”

**Use the Touch ID sensor to make a payment in the iTunes Store, App Store, or iBooks Store.** When purchasing from the iTunes Store, App Store, or iBooks Store, follow the instructions to enable purchases with your fingerprint. Or go to Settings > Touch ID & Passcode, then turn on iTunes & App Store.

**Use Touch ID for Apple Pay.** Go to Settings > Touch ID & Passcode to ensure that Apple Pay is enabled with your Touch ID. For more information about Apple Pay, go to the [Apple Pay website](#).

## iCloud Keychain

iCloud Keychain keeps your Safari website user names and passwords, credit card information, and Wi-Fi network information up to date across all of your approved devices (iOS 7 or later) and Mac computers (OS X v10.9 or later). iCloud Keychain is secured with 256-bit AES encryption during storage and transmission, and cannot be read by Apple.

iCloud Keychain works with Safari Password Generator and AutoFill. When you're setting up a new account, Safari Password Generator suggests unique, hard-to-guess passwords. You can [use AutoFill](#) to have iPhone enter your user name, password, and credit card info automatically. To protect your personal information, [set a passcode](#) if you turn on iCloud Keychain and AutoFill.

**Note:** Some websites do not support AutoFill.

iCloud Keychain can also keep the accounts you use in Mail, Contacts, Calendar, and Messages up to date across all of your Mac computers. If you sign in to Facebook, Twitter, Linked In, or any other accounts in Internet Accounts on OS X v10.9 or later, iCloud can push those accounts to your Mac computers as well.

To learn more about iCloud Keychain, see the Apple Support article [Frequently asked questions website](#).

**Set up iCloud Keychain.** Go to Settings > iCloud > Keychain. Turn on iCloud Keychain, then follow the onscreen instructions.

When you set up iCloud Keychain, you create an iCloud Security Code. You can use your iCloud Security Code to authorize additional devices to use your iCloud Keychain. It's also used to verify your identity so that you can perform other iCloud Keychain actions, such as recovering your iCloud Keychain if you lose all your devices.

**Set up iCloud Keychain on additional devices.** Set up iCloud Keychain for each device that you want to add. When you turn on iCloud Keychain on an additional device, your other devices that use iCloud Keychain receive a notification requesting approval for the additional device. After you approve the additional device, your iCloud Keychain automatically begins updating on that device.

To approve iCloud Keychain on an additional device when you don't have access to your other devices, follow the onscreen instructions to use your iCloud Security Code.

**Forgot your iCloud Security Code?** If you enter your iCloud Security Code incorrectly too many times, you can't use that iCloud Keychain. You can go to the [iCloud Support website](#) for help verifying your identity so that you can try to enter your iCloud Security Code again. After a number of incorrect attempts, your iCloud Keychain is removed from Apple's servers. However, you can set up iCloud Keychain again and create a new iCloud Security Code.

## Advertising

**Turn off location-based ads and offers.** Go to Settings > Privacy > Location Services > System Services, then turn off Location-Based iAds.

**Reset or limit Ad Tracking.** Go to Settings > Privacy > Advertising (at the bottom of the screen). To clear the data used to determine which ads might be relevant to you, tap Reset Advertising Identifier. To opt out of targeted advertising, turn on Limit Ad Tracking.

**Note:** If you turn on Limit Ad Tracking, you may still receive the same number of ads, but they may be less relevant to you.

**View the information Apple uses to deliver targeted ads.** Go to Settings > Privacy > Advertising > View Ad information. The information is used by Apple to deliver more relevant ads in Apple News, the App Store, and Wallet. Your personal data is not provided to other parties.

For more information, go to Settings > Privacy > Advertising > About Advertising & Privacy.

## Find My iPhone

If you misplace your iPhone, Find My iPhone can help you locate it and protect your data. Use the Find My iPhone app on another iPhone, iPad, iPod touch, or Mac or go to the [Find My iPhone web app](#) to locate your iPhone on a map, lock it remotely, play a sound, display a message, or erase all its data.

**Note:** For more information about Find My iPhone, please refer to the Help in the app.



**Turn Find My iPhone on or off.** Go to Settings > iCloud > Find My iPhone. (See [iCloud](#) if you need help setting up iCloud.)

**Important:** To use these features, Find My iPhone must be turned on *before* your iPhone is lost. iPhone must be able to connect to the Internet for you to locate and secure the device. iPhone sends its last location prior to the battery running out when Send Last Location is turned on in Settings > iCloud > Find My iPhone.

**Use Find My iPhone.** Open Find My iPhone on an iOS device, or go to the [Find My iPhone web app](#) on your computer. Sign in, then select your device.

- *Play Sound:* Play a sound at full volume for two minutes, even if the ringer is set to silent.
- *Lost Mode:* Immediately lock your missing iPhone with a passcode and display a custom message on the screen with a contact number. Find My iPhone tracks and reports the location of your iPhone, so you can see where it's been.

When iPhone is in Lost Mode on devices that support Apple Pay, Find My iPhone attempts to suspend the ability to pay with credit and debit cards used for Apple Pay. See [About Apple Pay](#).

- *Erase iPhone:* Protect your privacy by erasing all the information and media on your iPhone and restoring it to its original factory settings. On devices that support Apple Pay, erasing iPhone also removes the ability to pay with credit and debit cards used for Apple Pay.

**Note:** Before you sell or give away your iPhone, you should erase it and turn off Find My iPhone. The next owner can then activate and use the device normally. See the Apple Support article [Sell or give away iPhone](#).

# Restart, update, reset, and restore

## Restart an app or iPhone

If something isn't working right, try restarting the problem app or iPhone.

**Restart an app.** If an app isn't working properly, you can force it to quit, then try to reopen it. (Typically, there is no reason to quit an app; quitting it doesn't save battery power, for example.) Double-click the [Home button](#), then drag the app up from the app switcher display to quit the app. Opening it again may resolve the problem.

**Restart iPhone.** Hold down the [Sleep/Wake button](#) until the slider appears. Slide your finger across the slider to turn off iPhone. To turn iPhone back on, hold down the Sleep/Wake button until the Apple logo appears.

**Force restart iPhone.** If iPhone isn't responding, hold down the Sleep/Wake button and the Home button at the same time for at least ten seconds, until the Apple logo appears.

If iPhone still doesn't respond or turn on, see the Apple Support article [If your device doesn't respond or won't turn on](#).

## Update iOS software

You can update the iOS software in Settings or by using iTunes. Your data and settings remain unchanged.

**Update wirelessly on iPhone.** Go to Settings > General > Software Update. iPhone checks for available software updates.

**Update software in iTunes.** iTunes checks for available software updates each time you [sync your device using iTunes](#).

For more information, see the Apple Support articles [Update the iOS software](#) and [If you can't update or restore your device](#).

## Reset iPhone settings

Without erasing your content, you can return iPhone settings to their defaults. If you want to save your settings, [make a backup in iCloud](#) or [make a back up with iTunes](#) before resetting them.

**Return settings to their defaults.** Go to Settings > General > Reset, then choose an option:

- *Reset All Settings:* All settings are reset.
- *Reset Network Settings:* Only network settings are removed.

When you reset network settings, previously used networks and VPN settings that weren't installed by a configuration profile are removed. (To remove VPN settings installed by a configuration profile, go to Settings > General > Profile, select the profile, then tap Remove. This also removes other settings and accounts provided by the profile.) Wi-Fi is turned off and then back on, disconnecting you from any network you're on. The Wi-Fi and "Ask to Join Networks" settings remain turned on.

- *Reset Keyboard Dictionary:* You add words to the keyboard dictionary by rejecting words iPhone suggests as you type. Resetting the keyboard dictionary erases only the words you've added.
- *Reset Home Screen Layout:* Returns the built-in apps to their original layout on the Home screen.
- *Reset Location & Privacy:* Resets the location services and privacy settings to their defaults.

**WARNING:** If you choose the Erase All Content and Settings option, all of your content is removed. See [Erase iPhone](#).

## Restore iPhone


Before restoring iPhone, you must create a backup of your content and settings. See [Back up iPhone with iCloud Backup](#) and [Back up iPhone with iTunes](#). (To reset iPhone without restoring from a backup, see [Erase iPhone](#).)

**Erase then restore iPhone from a backup.** Go to Settings > General > Reset, then tap Erase All Content and Settings. After iPhone restarts, [follow the setup assistant](#) to restore iPhone from an iCloud or iTunes backup.

**Restore iPhone from an iTunes backup.** [Connect your device to the computer](#) you normally sync with, then in iTunes choose File > Devices > Restore from Backup.

For more information, see the Apple Support articles [Restore your device from an iCloud or iTunes backup](#) and [If you can't update or restore your device](#).

## Restore purchased items

You can download items purchased from the App Store, iTunes Store, and iBooks Store again, free of charge. If you see  next to an item, you've already purchased it, and you can download it again.

**Restore an app.** See [Purchase, redeem, and download](#).

**Restore an item from the iTunes Store.** See [Purchase, rent, or redeem](#).

**Restore a book from the iBooks Store.** See [Organize books](#).

**Restore an audiobook from the iBooks Store.** You can download an audiobook again, free of charge, from the Purchased list in the iBooks Store. See [Listen to an audiobook](#).

## Erase iPhone

When you delete data, it's no longer accessible through the iPhone interface, but it isn't erased from iPhone. To remove all of your content and settings, such as when you sell or give away iPhone, erase iPhone. If you want to save your content and settings, [back up your device with iCloud](#) or [back up with iTunes](#) before erasing.

**Erase iPhone (from Settings).** Go to Settings > General > Reset, then tap Erase All Content and Settings. After iPhone restarts, [follow the setup assistant](#) to set up iPhone again as new. (From the setup assistant, you can also choose to restore iPhone from an iCloud or iTunes backup.)

**Erase iPhone using iTunes.** [Connect your device to a Mac or PC](#), open iTunes on the computer, select iPhone in the iTunes window, then click Restore iPhone in the Summary pane. iTunes erases all of the content and settings on iPhone and installs the latest iOS software. After iPhone restarts, [follow the setup assistant](#) to set up iPhone as new. (From the setup assistant, you can also choose to restore iPhone from an iCloud or iTunes backup.)

# Accessibility

## Accessibility features

iPhone offers many accessibility features:

### Vision

- [VoiceOver](#)
- [Support for braille displays](#)
- [Zoom](#)
- [Magnifier](#)
- [Set display accommodations](#)
- [Speak Selection](#)
- [Speak Screen](#)
- [Typing feedback](#)
- [Large, bold, and high-contrast text](#)
- [Button Shapes](#)
- [Reduce screen motion](#)
- [On/off switch labels](#)
- [Assignable ringtones and vibrations](#)
- [Audio Descriptions](#)

## Hearing

- [Hearing aids](#)
- [Built-in TTY software](#)
- [Call audio routing](#)
- [Phone noise cancelation](#)
- [LED Flash for Alerts](#)
- [Mono audio and balance](#)
- [Subtitles and closed captions](#)

## Interaction

- [Siri](#)
- [3D Touch](#)
- [Reachability](#)
- [Widescreen keyboards](#)
- [Guided Access](#)
- [Switch Control](#)
- [AssistiveTouch](#)
- [Touch Accommodations](#)
- [Software and hardware keyboards](#)

**Turn on accessibility features.** You can turn on many accessibility features just by asking Siri (“turn on VoiceOver,” for example). See [Siri](#) and [Make requests](#). Or go to Settings > General > Accessibility, or use the Accessibility Shortcut. See [Accessibility Shortcut](#).

**Use iTunes on your computer to configure accessibility on iPhone.** In iTunes you can enable a limited number of accessibility features, including VoiceOver, zoom, invert colors, speak auto-text, mono audio, and show closed captions where available. Click Summary, then click Configure Accessibility at the bottom of the Summary screen.

For more information about iPhone accessibility features, go to the [Apple Accessibility website](#).

# Accessibility Shortcut

**Enable the Accessibility Shortcut.** Go to Settings > General > Accessibility, tap Accessibility Shortcut, then choose a shortcut.

After setting up an accessibility shortcut, triple-click the Home button to engage the associated feature. Features include:

- Touch Accommodations
- VoiceOver
- Invert Colors
- Zoom
- Color Filters
- Magnifier
- Switch Control
- AssistiveTouch
- Guided Access (The shortcut starts Guided Access if it's already turned on. See .)
- Hearing Aid Control (if you have paired Made for iPhone hearing aids)

**Slow down the double-click or triple-click speed for the Home button.** Go to Settings > General > Accessibility > Home Button.

**Adjust the click sensitivity for the Home button. (2016 IPHONE and 2016 IPHONE PLUS)** Go to Settings > General > Accessibility > Home Button. You can adjust the force needed to click the Home button.

# VoiceOver

## VoiceOver

VoiceOver describes aloud what appears onscreen, so that you can use iPhone without seeing its screen.

VoiceOver tells you about each item you select. The VoiceOver cursor (a black outline) encloses the item and VoiceOver speaks its name or describes it.

Touch the screen or drag your finger over it to hear the items on the screen. When you select text, VoiceOver reads the text. If you turn on Speak Hints, VoiceOver may tell you the name of the item and provide instructions—for example, “double-tap to open.” To interact with items, such as buttons and links, use the gestures described in [Learn VoiceOver gestures](#).

When you go to a new screen, VoiceOver plays a sound, then selects and speaks the first item on the screen (typically in the upper-left corner). It lets you know when the display changes to landscape or portrait orientation, when the screen becomes dimmed or locked, and is active on the Lock screen when you wake iPhone.

**Note:** VoiceOver is available in many languages. Go to Settings > General > Language & Region to choose a language.

## Use iPhone with VoiceOver

**Turn VoiceOver on or off.** Press and hold the Home button and tell Siri “turn VoiceOver on.” To turn VoiceOver off, tell Siri “turn VoiceOver off.” You can also go to Settings > General > Accessibility > VoiceOver, or use the Accessibility Shortcut. See [Accessibility Shortcut](#).

**Unlock iPhone.** Press either the Sleep/Wake or Home button, tap the slider to focus on it, then double-tap the screen. On iPhone 5s and later, you can unlock iPhone by placing your finger on the Home button if you set up Touch ID. See [Home button](#).

**Enter your passcode silently.** To avoid having your passcode spoken as you enter it, use handwriting; see [Write with your finger](#).

**Open an app, toggle a switch, or tap an item.** Select the item, then double-tap the screen.

**Double-tap the selected item.** To invoke a command normally executed by tapping twice on the screen—selecting a word or zooming an image, for example—tap three times.



**Adjust a slider.** Select the slider, then swipe up or down with one finger.

**Use a standard gesture.** Double-tap and hold your finger on the screen until you hear three rising tones, then make the gesture. When you lift your finger, VoiceOver gestures resume. For example, to drag a volume slider with your finger instead of swiping up and down, select the slider, double-tap and hold, wait for the three tones, then slide left or right.

**Scroll a list or area of the screen.** Swipe up or down with three fingers.

- *Scroll continuously through a list:* Double-tap and hold until you hear three rising tones, then drag up or down.
- *Use the list index:* Some lists have an alphabetical table index along the right side. Select the index, then swipe up or down to move through the index. You can also double-tap, hold, then slide your finger up or down.
- *Reorder a list:* You can change the order of items in some lists, such as the Rotor items in Accessibility settings. Select the reorder icon (≡) to the right of an item, double-tap and hold until you hear three rising tones, then drag up or down.

**Open Notification Center.** Select any item in the status bar, then swipe down with three fingers. To dismiss Notification Center, do a two-finger scrub (move two fingers back and forth three times quickly, making a “z”) or press the Home button.

**Open Control Center.** Select any item in the status bar, then swipe up with three fingers. To dismiss Control Center, do a two-finger scrub or press the Home button.

**Switch apps.** Double-click the Home button to display open apps, swipe left or right with one finger to select an app, then double-tap to switch to it. Or, set the rotor to Actions while viewing open apps, then swipe up or down.

**Rearrange your Home screen.** Select an icon on the Home screen, double-tap and hold your finger on the screen until you hear three rising tones. The item’s relative location is described as you drag. Lift your finger when the icon is in its new location. Drag an icon to the edge of the screen to move it to another Home screen. You can continue to select and move items until you press the Home button.

**Speak iPhone status information.** Tap the status bar at the top of the screen, then swipe left or right to hear information about the time, battery state, Wi-Fi signal strength, and more.

**Speak notifications.** Go to Settings > General > Accessibility > VoiceOver, then turn on Always Speak Notifications. Notifications, including the text of incoming text messages, are spoken as they occur, even if iPhone is locked. Unacknowledged notifications are repeated when you unlock iPhone.

**Turn the screen curtain on or off.** Triple-tap with three fingers. When the screen curtain is on, the screen contents are active even though the display is turned off.

**Set audio routing options.** Go to Settings > General > Accessibility > VoiceOver > Audio. Device-specific options are shown if you connect additional devices.

## Learn VoiceOver gestures

**Important:** VoiceOver changes the gestures you use to control iPhone. When VoiceOver is on, you must use VoiceOver gestures to operate iPhone—even to turn VoiceOver off.

When VoiceOver is on, standard touchscreen gestures have different effects, and additional gestures let you move around the screen and control individual items. VoiceOver gestures include two-, three-, and four-finger taps and swipes. For best results using multifinger gestures, let your fingers touch the screen with some space between them.

You can use different techniques to perform VoiceOver gestures. For example, you can perform a two-finger tap using two fingers on one hand, or one finger on each hand. You can even use your thumbs. Some people use a split-tap gesture: instead of selecting an item and double-tapping, touch and hold an item with one finger, then tap the screen with another finger. If your iPhone supports it, you can use 3D Touch to perform gestures. See [3D Touch](#).

Try different techniques to discover which works best for you. If a gesture doesn't work, try a quicker movement, especially for a double-tap or swipe gesture. To swipe, try brushing the screen quickly with your finger or fingers.

In VoiceOver settings, you can enter a special area where you can practice VoiceOver gestures without affecting iPhone or its settings.

**Practice VoiceOver gestures.** Go to Settings > General > Accessibility > VoiceOver, then tap VoiceOver Practice. When you finish practicing, tap Done. If you don't see the VoiceOver Practice button, make sure VoiceOver is turned on.

Here are some key VoiceOver gestures:

**Navigate and read**

- *Tap*: Select and speak the item.
- *Swipe right or left*: Select the next or previous item.
- *Swipe up or down*: Depends on the rotor setting. See [Use the VoiceOver rotor](#).
- *Two-finger swipe up*: Read all from the top of the screen.
- *Two-finger swipe down*: Read all from the current position.
- *Two-finger tap*: Stop or resume speaking.
- *Two-finger scrub*: Move two fingers back and forth three times quickly (making a “z”) to dismiss an alert or go back to the previous screen.
- *Three-finger swipe up or down*: Scroll one page at a time.
- *Three-finger swipe right or left*: Go to the next or previous page (on the Home screen, for example).
- *Three-finger tap*: Speak additional information, such as position within a list or whether text is selected.
- *Four-finger tap at top of screen*: Select the first item on the page.
- *Four-finger tap at bottom of screen*: Select the last item on the page.

**Activate**

- *Double-tap*: Activate the selected item.
- *Triple-tap*: Double-tap an item.
- *Split-tap*: As an alternative to selecting an item and double-tapping to activate it, touch an item with one finger, then tap the screen with another.
- *Double-tap and hold (1 second) + standard gesture*: Use a standard gesture. The double-tap and hold gesture tells iPhone to interpret the next gesture as standard. For example, you can double-tap and hold your finger on the screen until you hear three rising tones, and then without lifting your finger, drag your finger to slide a switch.
- *Two-finger double-tap*: This gesture initiates an action or halts or pauses an action in progress. For example, you can:
  - Answer or end a call.
  - Play or pause in Music, Videos, Voice Memos, or Photos (slideshows).
  - Take a photo in Camera.
  - Start or pause recording in Camera or Voice Memos.
  - Start or stop the stopwatch.
- *Two-finger double-tap and hold*: Change an item's label to make it easier to find.
- *Two-finger triple-tap*: Open the Item Chooser.
- *Three-finger double-tap*: Mute or unmute VoiceOver.
- *Three-finger triple-tap*: Turn the screen curtain on or off.

**Use the VoiceOver rotor**

Use the rotor to choose what happens when you swipe up or down with VoiceOver turned on, or to select special input methods such as Braille Screen Input or Handwriting.

**Operate the rotor.** Rotate two fingers on the screen around a point between them.



**Choose your rotor options.** Go to Settings > General > Accessibility > VoiceOver > Rotor, then select the options you want to include in the rotor.

The available rotor options and their effects depend on what you're doing. For example, if you're reading an email, you can use the rotor to switch between hearing text spoken word-by-word or character-by-character when you swipe up or down. If you're browsing a webpage, you can set the rotor to speak all the text (either word-by-word or character-by-character), or to jump from one item to another of a certain type, such as headers or links.

When you use an Apple Wireless Keyboard to control VoiceOver, the rotor lets you adjust settings such as volume, speech rate, use of pitch or phonetics, typing echo, and reading of punctuation. See [Use VoiceOver with an Apple Wireless Keyboard](#).

## VoiceOver basics

**Explore.** Drag your finger over the screen. VoiceOver speaks each item you touch. Lift your finger to leave an item selected.

- *Select an item:* Tap once to select an item, double-tap to invoke it.
- *Select the next or previous item:* Swipe right or left with one finger. Item order is left-to-right, top-to-bottom.
- *Select the item above or below:* Set the rotor to Vertical Navigation, then swipe up or down with one finger. If you don't find Vertical Navigation in the rotor, you can add it; see [Use the VoiceOver rotor](#).
- *Select the first or last item on the screen:* Tap with four fingers at the top or bottom of the screen.
- *Select an item by name:* Triple-tap with two fingers anywhere on the screen to open the Item Chooser. Then type a name in the search field, or swipe right or left to move through the list alphabetically, or tap the table index to the right of the list and swipe up or down to move quickly through the list of items. You can also use handwriting to select an item by writing its name; see [Write with your finger](#). To dismiss the Item Chooser without making a selection, double-tap.
- *Change an item's name so it's easier to find:* Select the item, then double-tap and hold with two fingers anywhere on the screen.
- *Speak the text of the selected item:* Set the rotor to characters or words, then swipe down or up with one finger. See [Use the VoiceOver rotor](#).
- *Hear additional detail about using a button or feature:* Go to Settings > General > Accessibility > VoiceOver, then turn Speak Hints on or off.

- *Use phonetic spelling:* Go to Settings > General > Accessibility > VoiceOver > Phonetic Feedback.
- *Speak the entire screen, from the top:* Swipe up with two fingers.
- *Speak from the current item to the bottom of the screen:* Swipe down with two fingers.
- *Pause speaking:* Tap once with two fingers. Tap again with two fingers to resume, or select another item.
- *Mute VoiceOver:* Double-tap with three fingers; repeat to unmute. If you're using an external keyboard, press the Control key.
- *Silence sound effects:* Go to Settings > General > Accessibility > VoiceOver, then turn off Use Sound Effects.

**Use a larger VoiceOver cursor.** Go to Settings > General > Accessibility > VoiceOver, then turn on Large Cursor.

**Adjust the speaking voice.** You can adjust the VoiceOver speaking voice:

- *Change the volume:* Use the volume buttons on iPhone. You can also add volume to the rotor, then swipe up and down to adjust; see [Use the VoiceOver rotor](#).
- *Change the speech rate:* Go to Settings > General > Accessibility > VoiceOver, then drag the Speaking Rate slider. You can also set the rotor to Speech Rate, then swipe up or down to adjust.
- *Use pitch change:* VoiceOver uses a higher pitch when speaking the first item of a group (such as a list or table) and a lower pitch when speaking the last item of a group. Go to Settings > General > Accessibility > VoiceOver.
- *Speak punctuation:* Set the rotor to Punctuation, then swipe up or down to select how much you want to hear.
- *Control audio ducking:* To choose whether audio that's playing is turned down while VoiceOver speaks, set the rotor to Audio Ducking, then swipe up or down.
- *Change the language for iPhone:* Go to Settings > General > Language & Region. VoiceOver pronunciation of some languages is affected by the Region Format you choose there.
- *Change pronunciation:* Set the rotor to Language, then swipe up or down. Language is available in the rotor only if you select more than one pronunciation in Settings > General > Accessibility > VoiceOver > Speech > Rotor Languages.

- *Choose which dialects are available in the rotor:* Go to Settings > General > Accessibility > VoiceOver > Speech > Rotor Languages. To adjust voice quality or speaking rate, tap a language. To remove languages from the rotor or change their order, tap Edit, tap the Delete button or drag (≡) up or down, then tap Done.
- *Set the default voice for the current iPhone language:* Go to Settings > General > Accessibility > VoiceOver > Speech.
- *Download an enhanced quality reading voice:* Go to Settings > General > Accessibility > VoiceOver > Speech, tap a language, then choose an enhanced voice. By default, VoiceOver uses the Siri voice. If you're using English, you can choose to download Alex (869 MB), the same high-quality U.S. English voice used for VoiceOver on Mac computers.
- *Specify the pronunciation of certain words:* Go to Settings > General > Accessibility > VoiceOver > Speech > Pronunciations. Tap +, enter a phrase, then dictate or spell out how you want the phrase to be pronounced.

## Use the onscreen keyboard

When you activate an editable text field, the onscreen keyboard appears (unless you have an Apple Wireless Keyboard attached).

**Activate a text field.** Select the text field, then double-tap. The insertion point and the onscreen keyboard appear.

**Choose a typing style.** Go to Settings > General > Accessibility > VoiceOver > Typing Style. Or, set the rotor to Typing Mode, then swipe up or down.

**Enter text.** Type characters using the onscreen keyboard:

- *Standard typing:* Select a key on the keyboard by swiping left or right, then double-tap to enter the character. Or move your finger around the keyboard to select a key and, while continuing to touch the key with one finger, tap the screen with another finger. VoiceOver speaks the key when it's selected, and again when the character is entered.
- *Touch typing:* Touch a key on the keyboard to select it, then lift your finger to enter the character. If you touch the wrong key, slide your finger to the key you want. VoiceOver speaks the character for each key as you touch it, but doesn't enter a character until you lift your finger.
- *Direct Touch typing:* VoiceOver is disabled for the keyboard only, so you can type just as you do when VoiceOver is off.

**Move the insertion point.** Swipe up or down to move the insertion point forward or backward in the text. Use the rotor to choose whether you want to move the insertion point by character, by word, or by line. To jump to the beginning or end, double-tap the text.


VoiceOver makes a sound when the insertion point moves, and speaks the character, word, or line that the insertion point moves across. When moving forward by words, the insertion point is placed at the end of each word, before the space or punctuation that follows. When moving backward, the insertion point is placed at the end of the preceding word, before the space or punctuation that follows it.

**Move the insertion point past the punctuation at the end of a word or sentence.** Use the rotor to switch back to character mode.

When moving the insertion point by line, VoiceOver speaks each line as you move across it. When moving forward, the insertion point is placed at the beginning of the next line (except when you reach the last line of a paragraph, when the insertion point is moved to the end of the line just spoken). When moving backward, the insertion point is placed at the beginning of the line that's spoken.

**Change typing feedback.** By default, VoiceOver speaks characters as well as words when you type. To hear no feedback, hear characters only, or hear words only, go to Settings > General > Accessibility > VoiceOver > Typing Feedback, then choose an option.

**Use phonetics in typing feedback.** Go to Settings > General > Accessibility > VoiceOver > Phonetic Feedback. Text is read character by character. VoiceOver first speaks the character, then its phonetic equivalent—for example, “f” and then “foxtrot.”

**Delete a character.** Use  with any of the VoiceOver typing styles. VoiceOver speaks each character as it's deleted. If Use Pitch Change is turned on, VoiceOver speaks deleted characters in a lower pitch.

**Select text.** Set the rotor to Edit, swipe up or down to choose Select or Select All, then double-tap. If you choose Select, the word closest to the insertion point is selected when you double-tap. To increase or decrease the selection, do a two-finger scrub to dismiss the pop-up menu, then pinch.

**Cut, copy, or paste.** Set the rotor to Edit, select the text, swipe up or down to choose Cut, Copy, or Paste, then double-tap.

**Undo.** Shake iPhone, swipe left or right to choose the action to undo, then double-tap.

**Enter an accented character.** In standard typing style, select the plain character, then double-tap and hold until you hear a sound indicating alternate characters have appeared. Drag left or right to select and hear the choices. Release your finger to enter



the current selection. In touch typing style, touch and hold a character until the alternate characters appear.

**Change the keyboard language.** Set the rotor to Language, then swipe up or down. Choose “default language” to use the language specified in Language & Region settings. The Language rotor item appears only if you select more than one language in Settings > General > Accessibility > VoiceOver > Speech.

## Write with your finger

Handwriting mode lets you enter text by writing characters on the screen with your finger. In addition to normal text entry, use handwriting mode to enter your iPhone passcode silently or open apps from the Home screen.

**Enter handwriting mode.** Use the rotor to select Handwriting. If Handwriting isn't in the rotor, go to Settings > General > Accessibility > VoiceOver > Rotor, then add it.

**Choose a character type.** Swipe up or down with three fingers to choose lowercase, numbers, uppercase, or punctuation.

**Hear the currently selected character type.** Tap with three fingers.

**Enter a character.** Trace the character on the screen with your finger.

**Enter an alternate character.** To use an alternate character (a character with an accent or umlaut, for example), write the character, then swipe up or down with two fingers until you hear the type of character you want.

**Enter a space.** Swipe right with two fingers.

**Go to a new line.** Swipe right with three fingers.

**Delete the character before the insertion point.** Swipe left with two fingers.

**Select an item on the Home screen.** Start writing the name of the item. If there are multiple matches, continue to spell the name until it's unique, or swipe up or down with two fingers to choose from the current matches.

**Enter your passcode silently.** Set the rotor to Handwriting on the passcode screen, then write the characters of your passcode.

**Use a table index to skip through a long list.** Select the table index to the right of the table (for example, next to your Contacts list or in the VoiceOver Item Chooser), then write the letter.

**Set the rotor to a web browsing element type.** Write the first letter of a page element type. For example, write “l” to have up or down swipes skip to links, or “h” to skip to headings.

**Exit handwriting mode.** Do a two-finger scrub, or set the rotor to a different selection.

## Type onscreen braille

With Braille Screen Input enabled, you can use your fingers to enter 6-dot or contracted braille directly on the iPhone screen. Enter braille with iPhone laying flat in front of you (tabletop mode), or hold iPhone with the screen facing away so your fingers curl back to tap the screen (screen away mode).

**Turn on Braille Screen Input.** Use the rotor to select Braille Screen Input. If you don’t find it in the rotor, go to Settings > General > Accessibility > VoiceOver > Rotor, then add it.

**Enter braille.** Place iPhone flat in front of you or hold it with the screen facing away, then tap the screen with one or several fingers at the same time.

**Adjust entry dot positions.** To move the entry dots to match your natural finger positions, tap and lift your right three fingers all at once to position dots 4, 5, and 6, followed immediately by your left three fingers for dots 1, 2, and 3.

**Switch between 6-dot and contracted braille.** Swipe to the right with three fingers. To set the default, go to Settings > General > Accessibility > VoiceOver > Braille > Braille Screen Input.

**Enter a space.** Swipe right with one finger. (In screen away mode, swipe to *your* right.)

**Delete the previous character.** Swipe left with one finger.

**Move to a new line (typing).** Swipe right with two fingers.

**Cycle through spelling suggestions.** Swipe up or down with one finger.

**Select an item on the Home screen.** Start entering the name of the item. If there are multiple matches, continue to spell the name until it is unique, or swipe up or down with one finger to select a partial match.

**Open the selected app.** Swipe right with two fingers.

**Turn braille contractions on or off.** Swipe to the right with three fingers.

**Translate immediately (when contractions are enabled).** Swipe down with two fingers.

**Stop entering braille.** Do a two-finger scrub, or set the rotor to another setting.

## Use VoiceOver with an Apple Wireless Keyboard

You can control VoiceOver using an Apple Wireless Keyboard paired with iPhone. See [Use an Apple Wireless Keyboard](#).

Use the following VoiceOver keyboard commands to navigate the screen, select items, read screen contents, adjust the rotor, and perform other VoiceOver actions. For the commands, you can use the Control-Option key combination or the Caps Lock key, abbreviated in the list that follows as “VO.” (To choose a modifier key, go to Settings > General > Accessibility > VoiceOver > Modifier Keys.)

You can use VoiceOver Help to learn the keyboard layout and the actions associated with various key combinations. VoiceOver Help speaks keys and keyboard commands as you type them, without performing the associated action.

### VoiceOver keyboard commands

VO = Control-Option

- *Turn on VoiceOver Help:* VO-K
- *Turn off VoiceOver Help:* Escape
- *Select the next or previous item:* VO-Right Arrow or VO-Left Arrow
- *Double-tap to activate the selected item:* VO-Space bar
- *Press the Home button:* VO-H
- *Touch and hold the selected item:* VO-Shift-M
- *Move to the status bar:* VO-M
- *Read from the current position:* VO-A
- *Read from the top:* VO-B
- *Pause or resume reading:* Control
- *Copy the last spoken text to the clipboard:* VO-Shift-C
- *Search for text:* VO-F
- *Mute or unmute VoiceOver:* VO-S
- *Open Notification Center:* Fn-VO-Up Arrow
- *Open Control Center:* Fn-VO-Down Arrow
- *Open the Item Chooser:* VO-I

- *Change the label of the selected item:* VO–/
- *Double-tap with two fingers:* VO–”-”
- *Adjust the rotor:* Use Quick Nav (see below)
- *Swipe up or down:* VO–Up Arrow or VO–Down Arrow
- *Adjust the speech rotor:* VO–Command–Left Arrow or VO–Command–Right Arrow
- *Adjust the setting specified by the speech rotor:* VO–Command–Up Arrow or VO–Command–Down Arrow
- *Turn the screen curtain on or off:* VO–Shift–S
- *Return to the previous screen:* Escape
- *Switch apps:* Command–Tab or Command–Shift–Tab

### Quick Nav

Turn on Quick Nav to control VoiceOver using the arrow keys.

- *Turn Quick Nav on or off:* Left Arrow–Right Arrow
- *Select the next or previous item:* Right Arrow or Left Arrow
- *Select the next or previous item specified by the rotor:* Up Arrow or Down Arrow
- *Select the first or last item:* Control–Up Arrow or Control–Down Arrow
- *Tap an item:* Up Arrow–Down Arrow
- *Scroll up, down, left, or right:* Option–Up Arrow, Option–Down Arrow, Option–Left Arrow, or Option–Right Arrow
- *Adjust the rotor:* Up Arrow–Left Arrow or Up Arrow–Right Arrow

You can also use the number keys on an Apple Wireless Keyboard to dial a phone number in Phone or enter numbers in Calculator.

### Single-key Quick Nav for web browsing

When you view a webpage with Quick Nav on, you can use the following keys on the keyboard to navigate the page quickly. Typing the key moves to the next item of the indicated type. To move to the previous item, hold the Shift key as you type the letter.

- *Turn on Single-key Quick Nav:* VO–Q
- *Heading:* H

- *Link*: L
- *Text field*: R
- *Button*: B
- *Form control*: C
- *Image*: I
- *Table*: T
- *Static text*: S
- *ARIA landmark*: W
- *List*: X
- *Item of the same type*: M
- *Level 1 heading*: 1
- *Level 2 heading*: 2
- *Level 3 heading*: 3
- *Level 4 heading*: 4
- *Level 5 heading*: 5
- *Level 6 heading*: 6

## **Text editing**

Use these commands (with Quick Nav turned off) to work with text. VoiceOver reads the text as you move the insertion point.

- *Go forward or back one character*: Right Arrow or Left Arrow
- *Go forward or back one word*: Option–Right Arrow or Option–Left Arrow
- *Go up or down one line*: Up Arrow or Down Arrow
- *Go to the beginning or end of the line*: Command–Left Arrow or Command–Down Arrow
- *Go to the beginning or end of the paragraph*: Option–Up Arrow or Option–Down Arrow
- *Go to the previous or next paragraph*: Option–Up Arrow or Option–Down Arrow

- *Go to the top or bottom of the text field:* Command–Up Arrow or Command–Down Arrow
- *Select text as you move:* Shift + any of the insertion point movement commands above
- *Select all text:* Command–A
- *Copy, cut, or paste the selected text:* Command–C, Command–X, or Command–V
- *Undo or redo last change:* Command–Z or Shift–Command–Z

## Support for braille displays

You can use a Bluetooth braille display to read VoiceOver output, and you can use a braille display with input keys and other controls to control iPhone when VoiceOver is turned on. For a list of supported braille displays, go to the [Braille Displays for iOS website](#).

**Connect a braille display.** Turn on the display, then go to Settings > Bluetooth and turn on Bluetooth. Then, go to Settings > General > Accessibility > VoiceOver > Braille and choose the display.

**Adjust Braille settings.** Go to Settings > General > Accessibility > VoiceOver > Braille, where you can:

- Choose contracted, uncontracted 8-dot, or uncontracted 6-dot braille input or output
- Turn on the status cell and choose its location
- Turn on Nemeth code for equations
- Display the onscreen keyboard
- Choose to have the page turned automatically when panning
- Change the braille translation from Unified English
- Change the alert display duration

For information about common braille commands for VoiceOver navigation, and for information specific to certain displays, see the Apple Support article [Common braille commands for VoiceOver navigation using iPhone, iPad, and iPod touch](#).

**Set the language for VoiceOver.** Go to Settings > General > Language & Region.

If you change the language for iPhone, you may need to reset the language for VoiceOver and your braille display.

You can set the leftmost or rightmost cell of your braille display to provide system status and other information. For example:

- Announcement History contains an unread message
- The current Announcement History message hasn't been read
- VoiceOver speech is muted
- The iPhone battery is low (less than 20% charge)
- iPhone is in landscape orientation
- The screen display is turned off
- The current line contains additional text to the left
- The current line contains additional text to the right

**Set the leftmost or rightmost cell to display status information.** Go to Settings > General > Accessibility > VoiceOver > Braille > Status Cell, then tap Left or Right.

**See an expanded description of the status cell.** On your braille display, press the status cell's router button.

## Make phone calls with VoiceOver

**Answer or end a call.** Double-tap the screen with two fingers.

When a phone call is established with VoiceOver on, the screen displays the numeric keypad by default, instead of showing call options.

**Display call options.** Select the Hide Keypad button in the lower-right corner and double-tap.

**Display the numeric keypad again.** Select the Keypad button near the center of the screen and double-tap.

**Note:** You may find it easier to use Siri. Tell Siri the phone number you want to call (“Call 555-555-1212”) or ask to call a contact (“Call John Appleseed”).

## Read math equations

VoiceOver can read aloud math equations encoded using:

- MathML on the web
- MathML or LaTeX in iBooks Author

**Hear an equation.** Have VoiceOver read the text as usual. VoiceOver says “math” before it starts reading an equation.

**Explore the equation.** Double-tap the selected equation to display it full screen and move through it one element at a time. Swipe left or right to read elements of the equation. Use the rotor to select Symbols, Small Expressions, Medium Expressions, or Large Expressions, then swipe up or down to hear the next element of that size. You can continue to double-tap the selected element to “drill down” into the equation to focus on the selected element, then swipe left or right, up or down to read one part at a time.

Equations read by VoiceOver can also be output to a braille device using Nemeth code, as well as the codes used by Unified English Braille, British English, French, and Greek. See [Support for braille displays](#).

## Use VoiceOver with Safari

**Search the web.** Select the search field, double-tap to invoke the keyboard, enter your search, then swipe right or left to move down or up the list of suggested search phrases. Then double-tap the screen to search the web using the selected phrase.

**Skip to the next page element of a particular type.** Set the rotor to the element type—such as headings, links, and form controls—then swipe up or down.

**Set the rotor options for web browsing.** Go to Settings > General > Accessibility > VoiceOver > Rotor. Tap to select or deselect options, or drag the reorder icon (≡) up or down to reposition an item.

**Skip images while navigating.** Go to Settings > General > Accessibility > VoiceOver > Navigate Images. You can choose to skip all images or only those without descriptions.

**Reduce page clutter for easier reading and navigation.** Select the Reader item in the Safari address field (not available for all pages).

If you pair an Apple Wireless Keyboard with iPhone, you can use single-key Quick Nav commands to navigate webpages. See [Use VoiceOver with an Apple Wireless Keyboard](#).

## Use VoiceOver with Maps

You can use VoiceOver to explore a region, browse points of interest, follow roads, zoom in or out, select a pin, or get information about a location.



**Explore the map.** Drag your finger around the screen, or swipe left or right to move to another item.

**Zoom in or out.** Select the map, set the rotor to Zoom, then swipe down or up with one finger.

**Pan the map.** Swipe with three fingers.

**Browse visible points of interest.** Set the rotor to Points of Interest, then swipe up or down with one finger.

**Follow a road.** Hold your finger down on the road, wait until you hear “pause to follow,” then move your finger along the road while listening to the guide tone. The pitch increases when you stray from the road.

**Select a pin.** Touch a pin, or swipe left or right to select the pin.

**Get information about a location.** With a pin selected, double-tap to display the information flag. Swipe left or right to select the More Info button, then double-tap to display the information page.

**Hear location cues as you move about.** Turn on Tracking With Heading in Maps to hear street names and points of interest as you approach them.

## Edit videos and voice memos with VoiceOver

You can use VoiceOver gestures to trim Camera videos and Voice Memo recordings.

**Trim a video.** While viewing a video in Photos, double-tap the screen to display the video controls, then select the beginning or end of the trim tool. Then swipe up to drag to the right, or swipe down to drag to the left. VoiceOver announces the amount of time the current position will trim from the recording. To complete the trim, select Trim, then double-tap.

**Trim a voice memo.** Select the memo in Voice Memos, tap Edit, then tap Start Trimming. Select the beginning or end of the selection, double-tap and hold, then drag to adjust. VoiceOver announces the amount of time the current position will trim from the recording. Tap Play to preview the trimmed recording. When you’ve got it the way you want it, tap Trim.

# Zoom

Many apps let you zoom in or out on specific items. For example, you can double-tap or pinch to look closer in Photos or expand webpage columns in Safari. There's also a general Zoom feature that lets you magnify the screen no matter what you're doing. You can zoom the entire screen (Full Screen Zoom) or zoom part of the screen in a resizable window and leave the rest of the screen unmagnified (Window Zoom). And, you can use Zoom together with VoiceOver.

**Turn Zoom on or off.** Go to Settings > General > Accessibility, then turn Zoom on or off. Or use the Accessibility Shortcut. See [Accessibility Shortcut](#).

**Zoom in or out.** With Zoom turned on, double-tap the screen with three fingers.

**Adjust the magnification.** Double-tap with three fingers, then drag up or down. This gesture is similar to a double-tap, except you don't lift your fingers after the second tap—instead, drag your fingers on the screen. You can also triple-tap with three fingers, then drag the Zoom Level slider in the zoom controls that appear. To limit the maximum magnification, go to Settings > General > Accessibility > Zoom, then drag the Maximum Zoom Level slider all the way to the left.

**Pan to see more.** Drag the screen with three fingers. Or, hold your finger near the edge of the screen to pan to that side. Move your finger closer to the edge to pan more quickly.

**Switch between Full Screen Zoom and Window Zoom.** Triple-tap with three fingers, then tap Window Zoom or Full Screen Zoom in the zoom controls that appear. To choose the mode that's used when you turn on Zoom, go to Settings > General > Accessibility > Zoom > Zoom Region.

**Resize the zoom window (Window Zoom).** Triple-tap with three fingers, tap Resize Lens, then drag any of the round handles that appear.

**Move the zoom window (Window Zoom).** Drag the handle at the bottom of the zoom window.

**Show the zoom controller.** Go to Settings > General > Accessibility > Zoom, then turn on Show Controller, or triple-tap with three fingers, then choose Show Controller. Then you can double-tap the floating Zoom Controls button to zoom in or out, single-tap the button to display the zoom controls, or drag it to pan. To move the Zoom Controls button, touch and hold the button, then drag it to a new location. To adjust the transparency of the zoom controller, go to Settings > General > Accessibility > Zoom > Idle Visibility.

**Have Zoom track your selections or the text insertion point.** Go to Settings > General > Accessibility > Zoom, then turn on Follow Focus. Then, for example, if you use VoiceOver, the zoom window magnifies each element on the screen as you select it.

**Zoom in on your typing without magnifying the keyboard.** Go to Settings > General > Accessibility > Zoom, then turn on Follow Focus. When you zoom in while typing (in Messages or Notes, for example), the area immediately around the text you type is magnified while all of the keyboard remains visible. Turn on Smart Typing, and the entire window (except the keyboard) is magnified.

**Display the magnified part of the screen in grayscale or inverted color.** Go to Settings > General > Accessibility > Zoom > Zoom Filter, then choose an option. Or triple-tap with three fingers, then tap Choose Filter in the zoom controls that appear.

While using Zoom with an Apple Wireless Keyboard, the screen image follows the insertion point, keeping it in the center of the display. See [Use an Apple Wireless Keyboard](#).

If you have iPhone 6, iPhone 6 Plus, iPhone 6s, or iPhone 6s Plus, you can turn on Display Zoom to see larger onscreen controls. Go to Settings > Display & Brightness > View.

## Magnifier

**Use the magnifier to magnify objects near you.**


**Enable the magnifier.** Go to Settings > General > Accessibility > Magnifier.




**Use the magnifier.** Triple-click the Home button, then choose Magnifier.

**Adjust the magnification level.** Drag the Zoom Level slider.

**Add more light.** Tap  to turn the flashlight on or off.

**Lock the focus.** Tap . Tap again to unlock the focus.

**Freeze the frame.** Tap . To adjust the magnification, drag the Zoom Level slider. To unfreeze the frame, tap  again.

**Apply color filters.** Tap . Tap the different color filters to preview their effects. To adjust the brightness and contrast, drag the sliders. To invert the colors, tap . To apply the currently selected filter and return to the Magnifier screen, tap  again.

**Turn the magnifier off.** Click the Home button.

## Set display accommodations

You can invert the colors, apply color filters, or reduce the white point to make the screen easier to read.

**Invert the screen colors.** Go to Settings > General > Accessibility > Display Accommodations, then turn on Invert Colors. Or, you can triple-click the Home button, then choose Invert Colors.

**Apply color filters.** Go to Settings > General > Accessibility > Display Accommodations > Color Filters, then turn on Color Filters. Or, you can triple-click the Home button, then choose Color Filters. Tap a filter to apply it. To adjust the intensity or hue, drag the sliders.

**Reduce the intensity of bright colors.** Go to Settings > General > Accessibility > Display Accommodations, then turn on Reduce White Point.

You can also apply these effects to only the contents of the zoom window. See [Zoom](#).

## Speak Selection

Even with VoiceOver turned off, you can have iPhone read aloud any text you select. iPhone analyzes the text to determine the language, then reads it to you using the appropriate pronunciation.

**Turn on Speak Selection.** Go to Settings > General > Accessibility > Speech. There you can also:

- Adjust the speaking rate
- Choose to have individual words highlighted as they're read

**Have text read to you.** Select the text, then tap Speak.

You can also have iPhone read the entire screen to you. See [Speak Screen](#).

## Speak Screen

iPhone can read the contents of the screen to you, even if you don't use VoiceOver.

**Turn on Speak Screen.** Go to Settings > General > Accessibility > Speech.

**Have iPhone speak the screen.** Swipe down from the top of the screen with two fingers. Use the controls that appear to pause speaking or adjust the rate.

**Highlight what’s being spoken.** Turn on Highlight Content (a command that appears when you turn on Speak Screen), and the current word is highlighted as it’s spoken.

**Ask Siri.** Say “speak screen.”

You can also have iPhone read just text you select—see [Speak Selection](#).

## Typing feedback

As you type, iPhone can provide feedback and speak text corrections and suggestions. You can choose to have iPhone speak each character, entire words, auto-corrections, and auto-capitalizations. You can also enable typing predictions, where you touch and hold each word to hear it spoken.

Typing feedback also works with VoiceOver and Zoom.

**Turn on and configure typing feedback.** Go to Settings > General > Accessibility > Speech > Typing Feedback.

## Large, bold, and high-contrast text

**Display larger text in apps such as Settings, Calendar, Contacts, Mail, Messages, and Notes.** Go to Settings > General > Accessibility > Larger Text, then turn on Larger Accessibility Sizes.

**Display bolder text on iPhone.** Go to Settings > General > Accessibility, then turn on Bold Text.

**Increase text contrast where possible.** Go to Settings > General > Accessibility, then turn on Increase Contrast.

## Button Shapes

iPhone can add a colored background shape or an underline to buttons so they’re easier to see.

**Emphasize buttons.** Go to Settings > General > Accessibility, then turn on Button Shapes.

## Reduce screen motion

You can stop the movement of some screen elements, for example, the parallax effect of icons and alerts against the wallpaper, or motion transitions.

**Reduce motion.** Go to Settings > General > Accessibility, then turn on Reduce Motion.

## On/off switch labels

To make it easier to distinguish whether a setting is on or off, you can have iPhone show an additional label on on/off switches.

**Add switch-setting labels.** Go to Settings > General > Accessibility, then turn on the On/Off Labels switch.

## Assignable ringtones and vibrations

You can assign distinctive ringtones to people in your contacts list for audible caller ID. You can also assign vibration patterns for notifications from specific apps, for phone calls, for FaceTime calls or messages from special contacts, and to alert you of a variety of other events, including new voicemail, new mail, sent mail, Tweet, Facebook Post, and reminders. Choose from existing patterns, or create new ones. See [Sounds and silence](#).

You can purchase ringtones from the iTunes Store on iPhone. See [iTunes Store at a glance](#).

## Audio Descriptions

Audio Descriptions provides an audible description of video scenes. If you have a video that includes audio descriptions, iPhone can play them for you.

**Hear audio descriptions.** Go to Settings > General > Accessibility > Audio Descriptions, then turn on Prefer Audio Descriptions.

## Hearing aids

### Made for iPhone hearing aids

If you have Made for iPhone hearing aids, you can use iPhone to adjust their settings, stream audio, or use iPhone as a remote mic.

**Pair with iPhone.** If your hearing aids aren't listed in Settings > General > Accessibility > Hearing Aids, you need to pair them with iPhone. To start, open the battery door on each hearing aid. Next, on iPhone, go to Settings > Bluetooth, then make sure Bluetooth is turned on. Then go to Settings > General > Accessibility > Hearing Aids. Close the battery doors on your hearing aids and wait until their name appears in the list of devices (this could take a minute). When the name appears, tap it and respond to the pairing request.


When pairing is finished, you hear a series of beeps and a tone, and a checkmark appears next to the hearing aids in the Devices list. Pairing can take as long as 60 seconds—don't try to stream audio or otherwise use the hearing aids until pairing is finished.

You should only need to pair once (and your audiologist might do it for you). After that, each time you turn your hearing aids back on, they reconnect to iPhone.

**Adjust hearing aid settings and view status.** Go to Settings > General > Accessibility > Hearing Aids, or choose Hearing Aids from the Accessibility Shortcut. See [Accessibility Shortcut](#). Hearing aid settings appear only after you pair your hearing aids with iPhone.

For shortcut access from the Lock screen, go to Settings > General > Accessibility > Hearing Aids, then turn on Control on Lock Screen. Use the settings to:

- Check hearing aid battery status.
- Adjust ambient microphone volume and equalization.
- Choose which hearing aids (left, right, or both) receive streaming audio.
- Control Live Listen.
- Choose whether call audio and media audio are routed to the hearing aid.
- Choose to play ringtones through the hearing aid. (Not all hearing aids support this feature.)

**Stream audio to your hearing aids.** Stream audio from Phone, Siri, Music, Videos, and more by choosing your hearing aids from the AirPlay menu .

**Use iPhone as a remote microphone.** You can use Live Listen to stream sound from the microphone in iPhone to your hearing aids. This can help you hear better in some situations by positioning iPhone nearer the sound source. Triple-click the Home button, choose Hearing Aids, then tap Start Live Listen.

**Use your hearing aids with more than one iOS device.** If you pair your hearing aids with more than one iOS device (both iPhone and iPad, for example), the connection for your hearing aids automatically switches from one to the other when you do something that generates audio on the other device, or when you receive a phone call on iPhone.

Changes you make to hearing aid settings on one device are automatically sent to your other iOS devices. To take advantage of this, all of the devices must be on the same Wi-Fi network and signed in to iCloud using the same Apple ID.

### **Hearing Aid Mode**

iPhone has a Hearing Aid Mode that, when activated, may reduce interference with some hearing aid models. Hearing Aid Mode reduces the transmission power of the cellular radio in the GSM 1900 MHz band and may result in decreased 2G cellular coverage.

**Turn on Hearing Aid Mode.** Go to Settings > General > Accessibility > Hearing Aids.

### **Hearing aid compatibility**

The FCC has adopted hearing aid compatibility (HAC) rules for digital wireless phones. These rules require certain phones to be tested and rated under the American National Standard Institute (ANSI) C63.19-2007 or C63.19-2011 hearing aid compatibility standards.

The ANSI standard for hearing aid compatibility contains two types of ratings:

- An “M” rating for reduced radio frequency interference to enable acoustic coupling with hearing aids that are not operating in telecoil mode
- A “T” rating for inductive coupling with hearing aids operating in telecoil mode

These ratings are given on a scale from one to four, where four is the most compatible. A phone is considered hearing aid compatible under FCC rules if it is rated M3 or M4 for acoustic coupling and T3 or T4 for inductive coupling.

For iPhone hearing aid compatibility ratings, see the Apple Support article [About Hearing Aid Compatibility \(HAC\) requirements for iPhone](#).

Hearing aid compatibility ratings don’t guarantee that a particular hearing aid works with a particular phone. Some hearing aids may work well with phones that don’t meet particular ratings. To ensure interoperability between a hearing aid and a phone, try using them together before purchase.

This phone has been tested and rated for use with hearing aids for some of the wireless technologies it uses. However, there may be some newer wireless technologies used in this phone that have not been tested yet for use with hearing aids. It is important to try the different features of this phone thoroughly and in different locations, using your hearing aid or cochlear implant, to determine if you hear any interfering noise. Consult your carrier or Apple for information on hearing aid compatibility. If you have questions about return or exchange policies, consult your carrier or phone retailer.




## Mono audio and balance

Mono Audio combines the sound from the left and right channels into a mono signal played on both channels. This way you can hear everything with either ear, or through both ears with one channel set louder.

**Turn on Mono Audio.** Go to Settings > General > Accessibility > Mono Audio.

**Adjust the balance.** Go to Settings > General > Accessibility, then drag the Left Right Stereo Balance slider.

## Subtitles and closed captions

The Videos app includes an Alternate Track button  you can tap to choose subtitles and captions offered by the video you're watching. Standard subtitles and captions are usually listed, but if you prefer special accessible captions, such as subtitles for the deaf and hard of hearing (SDH), you can set iPhone to list them instead, if they're available.

**Prefer accessible subtitles and closed captions for SDH.** Go to Settings > General > Accessibility > Subtitles & Captioning, then turn on Closed Captions + SDH. This also turns on subtitles and captions in the Videos app.

**Choose from available subtitles and captions.** Tap  while watching a video in Videos.

**Customize your subtitles and captions.** Go to Settings > General > Accessibility > Subtitles & Captioning > Style, where you can choose an existing caption style or create a new style based on your choice of:

- Font, size, and color
- Background color and opacity
- Text opacity, edge style, and highlight

**Note:** Not all videos include subtitles or closed captions.

## Siri

Siri is often the easiest way to start using accessibility features with iPhone. With Siri, you can open apps, turn many settings on or off (for example, VoiceOver), or use Siri for what it does best—acting as your assistant. Siri knows when VoiceOver is on, so will often read more information back to you than appears on the screen. You can also use VoiceOver to read what Siri shows on the screen. See [Make requests](#).

## 3D Touch

On devices that support 3D Touch, you can control the sensitivity of 3D Touch or turn it off.

**Adjust 3D Touch sensitivity.** Go to Settings > General > Accessibility, then choose Light, Medium, or Firm sensitivity to adjust the amount of pressure needed to activate 3D Touch. Light sensitivity reduces the amount of pressure required; Firm sensitivity increases it.

**Turn off 3D Touch.** Go to Settings > General > Accessibility, then turn off 3D Touch.

## Reachability

Reachability helps you more easily interact with items at the top of the screen on iPhone 6, iPhone 6 Plus, iPhone 6s, and iPhone 6s Plus.

**Bring items within reach.** Go to Settings > General > Accessibility, turn on Reachability, then lightly double-tap the Home button to bring the top of the screen into reach.

## Widescreen keyboards

Many apps, including Mail, Safari, Messages, Notes, and Contacts, let you rotate iPhone when you're typing, so you can use a larger keyboard.

## Large phone keypad

Make phone calls simply by tapping entries in your contacts and favorites lists. When you need to dial a number, the large numeric keypad on iPhone makes it easy. See [Make a call](#).

## LED Flash for Alerts

If you can't hear the sounds that announce incoming calls and other alerts, you can have iPhone flash its LED (next to the camera lens on the back of iPhone). This works only when iPhone is locked or asleep.

**Note:** This is a great feature for all users who, when in a loud environment, may miss the tones associated with calls, texts, and other alerts.

**Turn on LED Flash for Alerts.** Go to Settings > General > Accessibility > LED Flash for Alerts.

## Call audio routing

You can have the audio of incoming or outgoing calls automatically routed through a headset or speaker phone instead of iPhone.

**Reroute audio for calls.** Go to Settings > General > Accessibility > Call Audio Routing, then choose how you want to hear and speak your calls.

You can also have audio from calls routed to your hearing aids; see [Hearing aids](#).

## Phone noise cancellation

iPhone uses ambient noise cancellation to reduce background noise.

**Turn noise cancellation on or off.** Go to Settings > General > Accessibility > Phone Noise Cancellation.

## Guided Access

Guided Access helps an iPhone user stay focused on a task. Guided Access dedicates iPhone to a single app, and lets you control which app features are available. Use Guided Access to:

- Temporarily restrict iPhone to a particular app
- Disable areas of the screen that aren't relevant to a task, or areas where an accidental gesture might cause a distraction
- Limit how long someone can use an app
- Disable the iPhone Sleep/Wake or volume buttons

**Use Guided Access.** While using an app, tell Siri “turn on Guided Access” or go to Settings > General > Accessibility > Guided Access, then turn on Guided Access. Within the Guided Access screen you can:

- Turn Guided Access on or off
- Tap Passcode Settings to set a passcode that controls the use of Guided Access (preventing someone from leaving a session), and turn on Touch ID (as a way to end Guided Access)
- Tap Time Limits to set a sound or have the remaining Guided Access time spoken before time ends
- Set whether other accessibility shortcuts are available during a session

**Start a Guided Access session.** After turning on Guided Access, open the app you want to run, then triple-click the Home button. Adjust settings for the session, then tap Start.

- *Disable app controls and areas of the app screen:* Draw a circle or rectangle around any part of the screen you want to disable. Drag the mask into position or use the handles to adjust its size.
- *Enable the Sleep/Wake or volume buttons:* Tap Options below Hardware Buttons.
- *Keep iPhone from switching from portrait to landscape or from responding to other motions:* Tap Options, then turn off Motion.
- *Prevent typing:* Tap Options, then turn off Keyboards.
- *Ignore all screen touches:* Turn off Touch at the bottom of the screen.
- *Set a session time limit:* Tap Time Limit Options at the bottom of the screen.

**End the session.** Triple-click the Home button, then enter the Guided Access passcode, or use Touch ID (if enabled).

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# Switch Control

## Switch Control

Switch Control lets you control iPhone using your touchscreen as a switch or using a connected single switch or multiple switches. Use any of several methods to perform actions such as selecting, tapping, pressing, dragging, typing, and even free-hand drawing. Basically, you use a switch to select an item or location on the screen, and then use the same (or different) switch to choose an action to perform on that item or location. Three basic methods are:

- *Item scanning (default)*, which highlights different items on the screen until you select one.
- *Point scanning*, which lets you use scanning crosshairs to pick a screen location.
- *Manual selection*, which lets you move from item to item on demand (requires multiple switches).

Whichever method you use, when you select an individual item (rather than a group), a menu appears so you can choose how to act on the selected item (tap, press, drag, or pinch, for example).

If you use multiple switches, you can set up each switch to perform a specific action and customize your item selection method. For example, instead of automatically scanning screen items, you can set up switches to move to the next or previous item on demand.

You can adjust the behavior of Switch Control in a variety of ways, to suit your specific needs and style.

## Add a switch and turn on Switch Control

You can use any of these as a switch:

- *An external adaptive switch*: Choose from a variety of popular USB or Bluetooth switches.
- *The iPhone screen*: Tap the screen to trigger the switch. (Or, on devices that support 3D Touch, press the screen.)
- *The iPhone FaceTime camera*: Move your head to trigger the switch. You can use the camera as two switches: one switch triggers when you move your head to the left, and the other when you move your head to the right.

**Add a switch and choose its action.** Go to Settings > General > Accessibility > Switch Control > Switches. If you use only one switch, it is your Select Item switch by default.

If you're adding an external switch, you need to connect it to iPhone before it will appear in the list of available switches. Follow the instructions that came with the switch. If it connects using Bluetooth, you need to pair it with iPhone—turn on the switch, go to Settings > Bluetooth, tap the switch, then follow the onscreen instructions. For more information, see [Bluetooth devices](#).

**Turn on Switch Control.** Go to Settings > General > Accessibility > Switch Control, then turn on Switch Control. Or triple-click the Home button. See [Accessibility Shortcut](#).

**Turn off Switch Control.** Use any scanning method to select and tap Settings > General > Accessibility > Switch Control, then turn off Switch Control. Or triple-click the Home button.

## Basic techniques

Whether you use item scanning or point scanning, the Switch Control basics are the same.

**Select an item.** While the item is highlighted, trigger the switch you've set up as your Select Item switch. If you are using a single switch, it is your Select Item switch by default.

**Perform an action on the selected item.** Choose a command from the control menu that appears when you select the item. The layout of the menu depends on how you configure tap behavior. (To choose an option, go to Settings > General > Accessibility > Switch Control > Tap Behavior.)

- *With Default on:* The control menu usually includes only the Tap button and the More button (two dots at the bottom). If you're in a scrollable area of the screen, a Scroll button also appears. To tap the highlighted item, trigger your Select Item button when Tap is highlighted. To see additional action buttons, choose More at the bottom of the menu. If you have multiple switches, you can set one up specifically for tapping.
- *With Auto Tap on:* To tap the item, do nothing—the item is automatically tapped when the Auto Tap interval expires (0.75 seconds if you haven't changed it). To see the control menu, trigger your Select Item button before the Auto Tap interval expires. The control menu skips the Tap button and goes right to the full set of action buttons.
- *With Always Tap on:* Tap to select the highlighted item rather than display the control menu. Wait until the end of the scan cycle, then tap a button to display the control menu.

**Note:** Always Tap applies only when you choose item scanning. When point scanning, the default behavior applies.

**Work with recipes.** A recipe lets you temporarily assign a special action to a switch. For example, you can choose a recipe to turn pages in iBooks or control a game. To use a recipe, go to Settings > General > Accessibility > Switch Control > Recipes, then choose a recipe.

**Dismiss the control menu without choosing an action.** Tap while the original item is highlighted and all the icons in the control menu are dimmed. Or choose Escape from the control menu. The menu goes away after cycling the number of times you specify at Settings > General > Accessibility > Switch Control > Loops.

**Perform screen gestures.** Choose Gestures from the control menu.

**Scroll the screen.** Select an item in a scrollable part of the screen, then:

- *With Auto Tap off:* Choose the Scroll Down button (next to the Tap button) in the control menu. Or, for more scrolling options, choose More, then choose Scroll.
- *With Auto Tap on:* Choose Scroll from the control menu. If many actions are available, you might have to choose More first.

**Tap the Home button.** Choose Home from the control menu.

**Perform other hardware actions.** Select any item, then choose Device from the menu that appears. Use the menu to mimic these actions:

- Double-click the Home button for multitasking
- Open Notification Center or Control Center
- Press the Sleep/Wake button to lock iPhone
- Rotate iPhone
- Flip the Ring/Silent switch
- Press the volume buttons
- Hold down the Home button to open Siri
- Triple-click the Home button
- Shake iPhone
- Press the Home and Sleep/Wake buttons simultaneously to take a screenshot
- Swipe down from the top with two fingers to speak the screen (if you have Speak Screen turned on)

- On devices that support 3D Touch, replicate 3D Touch to preview the contents of an email message

## Item scanning

Item scanning alternately highlights each item or group of items on the entire screen until you trigger your Select Item switch. If there are many items, Switch Control highlights them in groups. When you select a group, highlighting continues with the items in the group. When you select a unique item, scanning stops and the control menu appears. Item scanning is the default when you first turn on Switch Control.

You can choose from three scanning styles—auto scanning, manual scanning, and single-switch step scanning. Auto scanning automatically highlights items, one after the other. With manual scanning, you use one switch to highlight an item and another to activate it. Single-switch step scanning uses a switch to move the highlight from item to item. If you take no action after a period of time, the highlighted item activates.

**Select an item or enter a group.** Watch (or listen) as items are highlighted. When the item you want to control (or the group containing the item) is highlighted, trigger your Select Item switch. Work your way down in the hierarchy of items until you select the individual item you want to control.

**Back out of a group.** Trigger your Select Item switch when the dashed highlight around the group or item appears.

**Dismiss the control menu without performing an action.** Trigger your Select Item switch when the item itself is highlighted. Or choose Escape from the control menu.

**Hear the names of items as they are highlighted.** Go to Settings > General > Accessibility > Switch Control, then turn on Speech. Or choose Settings from the control menu, then choose Speech On.

**Slow down or speed up the scanning.** Go to Settings > General > Accessibility > Switch Control > Auto Scanning Time.

## Point scanning

Point scanning lets you select an item on the screen by pinpointing it with scanning crosshairs.

**Switch to point scanning.** Use item scanning to choose Point Mode from the control menu. The vertical crosshair appears when you close the menu.

**Select an item.** Trigger your Select Item switch when the item you want is within the broad, horizontal scanning band, then trigger again when the fine scanning line is on the item. Repeat for vertical scanning.



**Refine your selection point.** Choose Refine Selection from the control menu.

**Return to item scanning.** Choose Item Mode from the control menu.

## Settings and adjustments

**Adjust basic settings.** Go to Settings > General > Accessibility > Switch Control, where you can:

- Add switches and specify their function
- Choose, create, and edit recipes
- Choose a scanning style
- Adjust how rapidly items are scanned
- Turn off auto scanning (only if you've added a Move to Next Item switch)
- Set scanning to pause on the first item in a group
- Choose how many times to cycle through the screen before hiding Switch Control
- Choose a tap behavior and set the interval for performing a second switch action to show the control menu
- Set whether a movement action is repeated when you hold down a switch, and how long to wait before repeating
- Add another action to a switch by holding down the switch for a long duration
- Choose which items appear in menus and the order in which they appear
- Set whether and how long you need to hold a switch down before it's accepted as a switch action
- Have Switch Control ignore accidental repeated switch triggers
- Adjust the point scanning speed
- Turn on sound effects or have items read aloud as they are scanned
- Choose what to include in the Switch Control menu
- Set whether items should be grouped while item scanning
- Make the selection cursor larger or a different color
- Save custom gestures to the control menu (in Gestures > Saved)

**Fine-tune Switch Control.** Choose Settings from the control menu to:

- Adjust scanning speed
- Change the location of the control menu
- Turn sound or speech accompaniment on or off
- Turn off groups to scan items one at a time

## AssistiveTouch

AssistiveTouch helps you use iPhone if you have difficulty touching the screen or pressing the buttons. You can use AssistiveTouch without any accessory to perform gestures that are difficult for you. You can also use a compatible adaptive accessory (such as a joystick) together with AssistiveTouch to control iPhone. To configure the AssistiveTouch menu, go to Settings > General > Accessibility > AssistiveTouch.

The AssistiveTouch menu lets you perform actions such as these by just tapping (or the equivalent on your accessory):

- Press the Home button
- Summon Siri
- Perform multifinger gestures
- Access Control Center or Notification Center
- Adjust iPhone volume
- Shake iPhone
- Capture a screenshot
- Add more actions (for a total of eight)
- Double-tap
- On devices that support 3D Touch, replicate 3D Touch to peek at previews and pop open items

**Turn on AssistiveTouch.** Tell Siri “turn on AssistiveTouch,” go to Settings > General > Accessibility > AssistiveTouch, or use the Accessibility Shortcut. See [Accessibility Shortcut](#). When AssistiveTouch is on, the floating menu button appears on the screen.

**Show or hide the menu.** Tap the floating menu button, or click the secondary button on your accessory.

**Simulate pressing the Home button.** Tap the menu button, then tap Home.

**Lock or rotate the screen, adjust iPhone volume, or simulate shaking iPhone.** Tap the menu button, then tap Device.

**Perform a swipe or drag that uses 2, 3, 4, or 5 fingers.** Tap the menu button, tap Device > More > Gestures, then tap the number of digits needed for the gesture. When the corresponding circles appear on the screen, swipe or drag in the direction required by the gesture. When you finish, tap the menu button.

**Perform a pinch gesture.** Tap the menu button, tap Custom, then tap Pinch. When the pinch circles appear, touch anywhere on the screen to move the pinch circles, then drag them in or out to perform a pinch gesture. When you finish, tap the menu button.

**Create your own gesture.** You can add your own favorite gestures to the control menu (for example, touch and hold or two-finger rotation). Tap the menu button, tap Custom, then tap an empty gesture placeholder. Or go to Settings > General > Accessibility > AssistiveTouch > Create New Gesture.

*Example 1:* To create the rotation gesture, go to Settings > General > Accessibility > AssistiveTouch > Create New Gesture. On the gesture recording screen that asks you to touch to create a gesture, rotate two fingers on the iPhone screen around a point between them. (You can do this with a single finger or stylus—just create each arc separately, one after the other.) If it doesn't turn out quite right, tap Cancel, then try again. When it looks right, tap Save, then give the gesture a name—maybe “Rotate 90.” Then, to rotate the view in Maps, for example, open Maps, tap the AssistiveTouch menu button, and choose Rotate 90 from Custom. When the blue circles representing the starting finger positions appear, drag them to the point around which you want to rotate the map, then release. You might want to create several gestures with different degrees of rotation.

*Example 2:* Let's create the touch-and-hold gesture that you use to start rearranging icons on your Home screen. This time, on the gesture recording screen, hold down your finger in one spot until the recording progress bar reaches halfway, then lift your finger. Be careful not to move your finger while recording, or the gesture will be recorded as a drag. Tap Save, then name the gesture. To use the gesture, tap the AssistiveTouch menu button, then choose your gesture from Custom. When the blue circle representing your touch appears, drag it over a Home screen icon and release.

If you record a sequence of taps or drags, they're all played back at the same time. For example, using one finger or a stylus to record four separate, sequential taps at four locations on the screen creates a simultaneous four-finger tap.

**Exit a menu without performing a gesture.** Tap anywhere outside the menu. To return to the previous menu, tap the arrow in the middle of the menu.

**Move the menu button.** Drag it anywhere along the edge of the screen.

## Touch Accommodations

If you have trouble using the touchscreen, use Touch Accommodations to change how the screen responds to touches.

**Choose how long you must touch the screen before a touch is recognized.** You can configure iPhone to respond only to touches of a certain duration. Go to Settings > General > Accessibility > Touch Accommodations, turn on Hold Duration, then use the Gesture Delay plus and minus buttons to choose a duration (the default is 0.10 seconds).

**Choose the duration in which multiple touches are treated as a single touch.** If you have trouble touching the screen just once, turn on Ignore Repeat. Then, if you touch the screen several times quickly, iPhone treats the touches as one. To change the amount of time between touches before iPhone treats them as one, go to Settings > General > Accessibility > Touch Accommodations, turn on Ignore Repeat, then use the Gesture Delay plus and minus buttons to adjust the timing.

**Choose the location where iPhone responds to the first or the last place you touch.** Go to Settings > General > Accessibility > Touch Accommodations, then choose a Tap Assistance option (Use Initial Touch Location or Use Final Touch Location).

When you choose Use Initial Touch Location, iPhone uses the location of your first tap—when you tap an app on the Home screen, for example. Choose Use Final Touch Location, and iPhone registers the tap where you lift your finger. iPhone responds to a tap when you lift your finger within a certain period of time. Use the Gesture Delay plus and minus buttons to adjust the timing. Your device can respond to other gestures, like drags, if you wait longer than the gesture delay.

## Software and hardware keyboards

If you have difficulty distinguishing characters on the iPhone keyboard or manipulating a hardware keyboard, find help by going to Settings > General > Accessibility > Keyboard. You can adjust settings to:

- Show only uppercase keys on the iPhone keyboard.
- Adjust the key repeat rate on hardware keyboards.
- Use the Sticky Keys feature to hold down modifier keys, such as Command and Option, as you press another key.

- Use Slow Keys to adjust the time between when a key is pressed and when it's activated.

## Built-in TTY software

iPhone has built-in TTY software, which does not require additional hardware.

**Enable and configure TTY software.** Go to Settings > Accessibility > TTY. You can enable software TTY and real-time TTY. You can also choose to answer all calls as TTY.

## Support for TTY hardware

You can use the iPhone TTY Adapter cable (sold separately in many areas) to connect iPhone to a TTY machine. Go to the [Apple Accessibility website](#) (may not be available in all areas) or check with your local Apple retailer.

**Connect iPhone to a TTY machine.** Go to Settings > Phone, then turn on TTY. Then connect iPhone to your TTY machine using the iPhone TTY Adapter.

When TTY on iPhone is turned on, the TTY icon  appears in the status bar at the top of the screen. For information about using a particular TTY machine, see the documentation that came with the machine.

**Note:** Continuity features are not available for TTY support.

## Visual voicemail

**Ask Siri.** Say something like:

- “Play my voicemail”
- “Play the message again”
- “Call back that number”

The play and pause controls in visual voicemail let you control the playback of messages. Drag the playhead on the scrubber bar to repeat a portion of the message that's hard to understand. See [Visual voicemail](#).

## Voice Control

Voice Control lets you make phone calls and control Music playback using voice commands. See [Make a call](#), and [Siri and Voice Control](#).

## Accessibility in OS X

Take advantage of the accessibility features in OS X when you use iTunes to sync information and content from your iTunes library to iPhone. In the Finder, choose Help > Help Center (or Help > Mac Help in OS X v10.11 or later), then search for “accessibility.”

For more information about iPhone and OS X accessibility features, go to the [Apple Accessibility website](#).

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# Safety, handling, and support

## Important safety information

**WARNING:** Failure to follow these safety instructions could result in fire, electric shock, injury, or damage to iPhone or other property. Read all the safety information below before using iPhone.

**Handling** Handle iPhone with care. It is made of metal, glass, and plastic and has sensitive electronic components inside. iPhone can be damaged if dropped, burned, punctured, or crushed, or if it comes in contact with liquid. Don't use a damaged iPhone, such as one with a cracked screen, as it may cause injury. If you're concerned about scratching the surface of iPhone, consider using a case or cover.

**Repairing** Don't open iPhone and don't attempt to repair iPhone yourself.

Disassembling iPhone may damage it, result in loss of water resistance (2016 IPHONE and 2016 IPHONE PLUS), or cause injury to you. For example, 2016 IPHONE and 2016 IPHONE PLUS contain a laser that could be damaged during repair or disassembly, which could result in hazardous exposure to infrared laser emissions that are not visible. This equipment should be serviced by Apple or an authorized service provider. You can find more information about getting service at the [iPhone Support website](#).

**Battery** Don't attempt to replace the iPhone battery yourself—you may damage the battery, which could cause overheating and injury. The lithium-ion battery in iPhone should be replaced by Apple or an authorized service provider, and must be recycled or disposed of separately from household waste. Don't incinerate the battery. For information about battery service and recycling, go to the [Battery Service and Recycling website](#).

**Distraction** Using iPhone in some circumstances may distract you and might cause a dangerous situation (for example, avoid using headphones while riding a bicycle and avoid typing a text message while driving a car). Observe rules that prohibit or restrict the use of mobile devices or headphones.

**Navigation** Maps depends on data services. These data services are subject to change and may not be available in all areas, resulting in maps and location-based information that may be unavailable, inaccurate, or incomplete. Compare the information provided in Maps to your surroundings. Use common sense when navigating. Always observe current road conditions and posted signs to resolve any discrepancies. Some Maps features require Location Services.

**Charging** Charge iPhone with the included USB cable and power adapter, or with other third-party “Made for iPhone” cables and power adapters that are compatible with USB 2.0 or later, or power adapters compliant with applicable country regulations and with one or more of the following standards: EN 301489-34, IEC 62684, YD/T 1591-2009, CNS 15285, ITU L.1000, or another applicable mobile phone power adapter interoperability standard.

Using damaged cables or chargers, or charging when moisture is present, can cause fire, electric shock, injury, or damage to iPhone or other property. When you use the Apple USB Power Adapter to charge iPhone, make sure the USB cable is fully inserted into the power adapter before you plug the adapter into a power outlet.

**Lightning cable and connector** Avoid prolonged skin contact with the connector when the Lightning to USB Cable is plugged into a power source because it may cause discomfort or injury. Sleeping or sitting on the Lightning connector should be avoided.

**Prolonged heat exposure** iPhone and its power adapter comply with applicable surface temperature standards and limits. However, even within these limits, sustained contact with warm surfaces for long periods of time may cause discomfort or injury. Use common sense to avoid situations where your skin is in contact with a device or its power adapter when it’s operating or plugged into a power source for long periods of time. For example, don’t sleep on a device or power adapter, or place them under a blanket, pillow, or your body, when it’s plugged into a power source. It’s important to keep iPhone and its power adapter in a well-ventilated area when in use or charging. Take special care if you have a physical condition that affects your ability to detect heat against the body.

**Hearing loss** Listening to sound at high volumes may damage your hearing. Background noise, as well as continued exposure to high volume levels, can make sounds seem quieter than they actually are. Turn on audio playback and check the volume before inserting anything in your ear. For information about how to set a maximum volume limit, see [Play music](#). For more information about hearing loss, go to the [Sound and Hearing website](#).

To avoid hearing damage, use only compatible receivers, earbuds, headphones, speakerphones, or earpieces with . The headsets sold with iPhone 4s or later in China (identifiable by dark insulating rings on the plug) are designed to comply with Chinese standards and are only compatible with iPhone 4s and later, iPad 2 and later, iPad Pro, iPad mini and later, and iPod touch 5th generation and later.

**WARNING:** To prevent possible hearing damage, do not listen at high volume levels for long periods.

**Radio frequency exposure** iPhone uses radio signals to connect to wireless networks. For information about radio frequency (RF) energy resulting from radio signals and steps you can take to minimize exposure, go to Settings > General > About > Legal > RF Exposure or go to the [RF Exposure website](#).



**Radio frequency interference** Observe signs and notices that prohibit or restrict the use of electronic devices (for example, in healthcare facilities or blasting areas). Although iPhone is designed, tested, and manufactured to comply with regulations governing radio frequency emissions, such emissions from iPhone can negatively affect the operation of other electronic equipment, causing them to malfunction. Turn off iPhone or use Airplane Mode to turn off the iPhone wireless transmitters when use is prohibited, such as while traveling in aircraft, or when asked to do so by authorities.

**Medical device interference** iPhone contains components and radios that emit electromagnetic fields. iPhone also contains magnets and the included headphones also have magnets in the earbuds. These electromagnetic fields and magnets may interfere with pacemakers, defibrillators, or other medical devices. Maintain a safe distance of separation between your medical device and iPhone and the earbuds. Consult your physician and medical device manufacturer for information specific to your medical device. If you suspect iPhone is interfering with your pacemaker, defibrillator, or any other medical device, stop using iPhone.

**Not a medical device** iPhone and the Health app are not designed or intended for use in the diagnosis of disease or other conditions, or in the cure, mitigation, treatment, or prevention of disease.

**Medical conditions** If you have any medical condition that you believe could be affected by iPhone (for example, seizures, blackouts, eyestrain, or headaches), consult with your physician prior to using iPhone.

**Explosive atmospheres** Charging or using iPhone in any area with a potentially explosive atmosphere, such as areas where the air contains high levels of flammable chemicals, vapors, or particles (such as grain, dust, or metal powders), may be hazardous. Obey all signs and instructions.

**Repetitive motion** When you perform repetitive activities such as typing or playing games on iPhone, you may experience discomfort in your hands, arms, wrists, shoulders, neck, or other parts of your body. If you experience discomfort, stop using iPhone and consult a physician.

**High-consequence activities** This device is not intended for use where the failure of the device could lead to death, personal injury, or severe environmental damage.

**Choking hazard** Some iPhone accessories may present a choking hazard to small children. Keep these accessories away from small children.

## Important handling information

**Cleaning** Clean iPhone immediately if it comes in contact with anything that may cause stains—such as dirt, ink, makeup, or lotions. To clean:

- Disconnect all cables and turn iPhone off (press and hold the Sleep/Wake button, then slide the onscreen slider).
- Use a soft, lint-free cloth.
- Avoid getting moisture in openings.
- Don't use cleaning products or compressed air.

The front or back cover of iPhone may be made of glass with a fingerprint-resistant oleophobic (oil repellent) coating. This coating wears over time with normal usage. Cleaning products and abrasive materials will further diminish the coating, and may scratch the glass.

**Exposure to liquid** 2016 IPHONE and 2016 IPHONE PLUS are water resistant but not waterproof. You may, for example, use 2016 IPHONE or 2016 IPHONE PLUS in the rain and with wet hands. If water splashes on to 2016 IPHONE or 2016 IPHONE PLUS, wipe it off with a nonabrasive, lint-free cloth.

Try to minimize exposing iPhone to these substances, and follow the instructions above in the “Cleaning” section if iPhone comes into contact with them:

- Soap, detergent, acids or acidic foods, and any liquids other than fresh water, such as salt water, soapy water, pool water, perfume, insect repellent, lotions, sunscreen, oil, adhesive remover, hair dye, or solvents.

Submerging 2016 IPHONE or 2016 IPHONE PLUS is not recommended. These devices have a water resistance rating of IPX7 under IEC standard 60529. Water resistance is not a permanent condition, and 2016 IPHONE or 2016 IPHONE PLUS cannot be rechecked or resealed for water resistance. The following may affect the water resistance and should be avoided:

- Dropping 2016 IPHONE or 2016 IPHONE PLUS or subjecting it to other impacts.
- Submerging 2016 IPHONE or 2016 IPHONE PLUS in water for long periods of time.
- Swimming or bathing with 2016 IPHONE or 2016 IPHONE PLUS.
- Exposing 2016 IPHONE or 2016 IPHONE PLUS to pressurized water or high velocity water, such as when showering, water skiing, wake boarding, surfing, jet skiing, and so on.
- Wearing 2016 IPHONE or 2016 IPHONE PLUS in the sauna or steam room.

**Using connectors, ports, and buttons** Never force a connector into a port or apply excessive pressure to a button, because this may cause damage that is not covered under the warranty. If the connector and port don't join with reasonable ease, they probably don't match. Check for obstructions and make sure that the connector matches

the port and that you have positioned the connector correctly in relation to the port.

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**Lightning to USB Cable** Discoloration of the Lightning connector after regular use is normal. Dirt, debris, and exposure to moisture may cause discoloration. If your Lightning cable or connector become warm during use or iPhone won't charge or sync, disconnect it from your computer or power adapter and clean the Lightning connector with a soft, dry, lint-free cloth. Do not use liquids or cleaning products when cleaning the Lightning connector.

Certain usage patterns can contribute to the fraying or breaking of cables. The Lightning to USB Cable, like any other metal wire or cable, is subject to becoming weak or brittle if repeatedly bent in the same spot. Aim for gentle curves instead of angles in the cable. Regularly inspect the cable and connector for any kinks, breaks, bends, or other damage. Should you find any such damage, discontinue use of the Lightning to USB Cable.

**Operating temperature** iPhone is designed to work in ambient temperatures between 32° and 95° F (0° and 35° C) and stored in temperatures between -4° and 113° F (-20° and 45° C). iPhone can be damaged and battery life shortened if stored or operated outside of these temperature ranges. Avoid exposing iPhone to dramatic changes in temperature or humidity. When you're using iPhone or charging the battery, it is normal for iPhone to get warm.

If the interior temperature of iPhone exceeds normal operating temperatures (for example, in a hot car or in direct sunlight for extended periods of time), you may experience the following as it attempts to regulate its temperature:

- iPhone stops charging.
- The screen dims.
- A temperature warning screen appears.
- Some apps may close.

**Important:** You may not be able to use iPhone while the temperature warning screen is displayed. If iPhone can't regulate its internal temperature, it goes into deep sleep mode until it cools. Move iPhone to a cooler location out of direct sunlight and wait a few minutes before trying to use iPhone again.

For more information, see the Apple Support article [Keeping your device within acceptable operating temperatures](#).

## Forgot your Apple ID or iPhone passcode?

**Recover your Apple ID or reset your Apple ID password.** Go to Apple's [I Forgot website](#).

**Reset the iPhone passcode.** If you enter the wrong passcode six times in a row, you'll be locked out, and a message will say that iPhone is disabled. If you can't remember your passcode, you can [erase your device](#), then set a new passcode. (If you made an iCloud or iTunes backup before you forgot your passcode, you can restore your data and settings from the backup.) For more information, see the Apple Support article [If you forgot the passcode or your device is disabled](#).

## iPhone Support site

Comprehensive support information is available online at the [iPhone Support website](#). To contact Apple for personalized support (not available in all areas), go to the [Apple Support website](#).

## Get information about your iPhone

**View overall storage availability and storage used per app.** Go to Settings > General > Storage & iCloud Usage, where you can manage iCloud storage. For more information, see the Apple Support articles [Check your storage on your iPhone, iPad, and iPod touch](#) and [Manage your iCloud storage](#).

**See Battery Usage.** Go to Settings > Battery to see the elapsed time since iPhone has been charged and usage by app. You can also display battery level as a percentage, and turn Low Power Mode on or off. See also [Charge and monitor the battery](#) and [Low Power Mode](#) in this guide.

**View call time and cellular usage.** Go to Settings > Cellular. See [Cellular data settings](#) in this guide.

**See more information about iPhone.** Go to Settings > General > About. The items you can view include:

- Name
- Network addresses
- Number of songs, videos, photos, and apps
- Capacity and available storage space
- iOS version
- Carrier
- Model number

- Serial number
- Wi-Fi and Bluetooth addresses
- IMEI (International Mobile Equipment Identity)
- ICCID (Integrated Circuit Card Identifier, or Smart Card) for GSM networks
- MEID (Mobile Equipment Identifier) for CDMA networks
- Modem firmware
- Legal (including legal notices and license, warranty, and RF exposure information)

To copy the serial number and other identifiers, touch and hold the identifier until Copy appears.

To see regulatory marks, go to Settings > General > Regulatory.

**View or turn off diagnostic information.** Go to Settings > Privacy > Diagnostics & Usage.

To help Apple improve products and services, iPhone sends diagnostic and usage data. This data doesn't personally identify you, but may include location information.

## Cellular data settings

To turn cellular data and roaming on or off, set which apps and services use cellular data, see call time and cellular data usage, and set other cellular options, go to Settings > Cellular.

**Note:** For help with cellular network services, voicemail, and billing, contact your wireless service provider.

If iPhone is connected to the Internet via the cellular data network, the LTE, 4G, 3G, E, or GPRS icon appears in the status bar.

LTE, 4G, and 3G service on GSM cellular networks support simultaneous voice and data communications. For all other cellular connections, you can't use Internet services while you're talking on the phone unless iPhone also has a Wi-Fi connection to the Internet. Depending on your network connection, you may not be able to receive calls while iPhone transfers data over the cellular network—when downloading a webpage, for example.

- *GSM networks:* On an EDGE or GPRS connection, incoming calls may go directly to voicemail during data transfers. For incoming calls that you answer, data transfers are paused.

- *CDMA networks*: On EV-DO connections, data transfers are paused when you answer incoming calls. On 1xRTT connections, incoming calls may go directly to voicemail during data transfers. For incoming calls that you answer, data transfers are paused.

Data transfer resumes when you end the call.

If Cellular Data is off, all data services use only Wi-Fi—including email, web browsing, push notifications, and other services. If Cellular Data is on, carrier charges may apply. For example, using certain features and services that transfer data, such as Siri and Messages, could result in charges to your data plan.

**Turn Cellular Data on or off.** Go to Settings > Cellular, then tap Cellular Data. The following options may also be available:

- *Turn Voice Roaming on or off (CDMA)*: Turn Voice Roaming off to avoid charges from using other carrier's networks. When your carrier's network isn't available, iPhone won't have cellular (data or voice) service.
- *Turn Data Roaming on or off*: Data Roaming permits Internet access over a cellular data network when you're in an area not covered by your carrier's network. When you're traveling, you can turn off Data Roaming to avoid roaming charges.
- *Enable or disable 4G/LTE (varies by carrier)*: Using 4G or LTE loads Internet data faster in some cases, but may decrease battery performance. If you're making a lot of phone calls, you may want to turn 4G/LTE off to extend battery life. This option is not available in all areas. On iPhone SE, iPhone 6, iPhone 6 Plus, and later, there are options for turning off 4G/LTE or for selecting Voice & Data (VoLTE) or Data Only.
- *Voice & Data (some carriers)*: Choose LTE to load data faster. (This also turns on VoLTE.) Choose slower speeds to increase battery life.
- *Set up Personal Hotspot*: Personal Hotspot shares the Internet connection on iPhone with your computer and other iOS devices. See [Personal Hotspot](#).
- *Turn Wi-Fi Assist on or off*: If Wi-Fi connectivity is poor, Wi-Fi Assist uses cellular data to boost the signal.

**Note:** Using data over a cellular network may incur additional fees.

**Set whether cellular data is used for apps and services.** Go to Settings > Cellular, then turn cellular data on or off for any app that can use cellular data. If a setting is off, iPhone uses only Wi-Fi for that service. The iTunes setting includes both iTunes Match and automatic downloads from the iTunes Store and the App Store.

For more information about GSM, CDMA, and LTE cellular data networks, see the Apple Support article [About cellular data networks](#).

## VPN settings

A VPN (virtual private network) provides secure access over the Internet to private networks, such as the network at your organization. You may need to install a VPN app from the App Store that configures your iPhone to access a network. Contact your system administrator for information about the app and settings you need.

## Sell or give away iPhone

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Before you sell or give away your iPhone, see the Apple Support article [What to do before selling or giving away your iPhone, iPad, or iPod touch](#), and be sure to perform the following tasks.

- If you paired an Apple Watch with your iPhone, unpair your Apple Watch. (See the Apple Support article [Unpair your Apple Watch and iPhone](#).)
  - [Back up](#) your iPhone.
  - [Erase all content and settings](#), which includes your personal information. If you turned on Find My iPhone, you might need to enter your Apple ID and password.
- 

If you replace one iPhone with another, you can [use the setup assistant](#) to restore the older device's backup to your new iPhone.

## Learn more, service, and support

Refer to the following resources to get more iPhone-related safety, software, and service information.



## To learn about

## Do this

## Using iPhone safely

See [Important safety information](#).

## iPhone service and support, tips, forums, and Apple software downloads

Go to the [iPhone Support website](#).

## Service and support from your carrier

Contact your carrier or go to your carrier's website.

## The latest information about iPhone

Go to the [iPhone website](#).

## Managing your Apple ID account

Go to the [Apple ID website](#).

## Using iCloud

Go to the [iCloud Help website](#).

## Using iTunes

Open iTunes, then choose Help > iTunes Help. For an online iTunes tutorial (may not be available in all areas), go to the [iTunes Support website](#).

## Using other Apple iOS apps

Go to the [iOS Apps Support website](#).

## Finding your iPhone serial number, IMEI, ICCID, or MEID

You can find your iPhone serial number, International Mobile Equipment Identity (IMEI), ICCID, or Mobile Equipment Identifier (MEID) on the iPhone packaging. Or, on iPhone, choose Settings > General > About. For more information, go to the Apple Support article [Find the serial number and other information](#).

## Obtaining warranty service

First follow the advice in this guide. Then go to the [iPhone Support website](#).

## Viewing iPhone regulatory information

On iPhone, go to Settings &gt; General &gt; Regulatory.

## Battery service

Go to the [Battery Service and Recycling website](#).

## Using iPhone in an enterprise environment

Go to the [iPhone in Business website](#).

## FCC regulatory statement

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**Note:** This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

**Important:** Changes or modifications to this product not authorized by Apple could void the electromagnetic compatibility (EMC) and wireless compliance and negate your authority to operate the product. This product has demonstrated EMC compliance under conditions that included the use of compliant peripheral devices and shielded cables between system components. It is important that you use compliant peripheral devices and shielded cables between system components to reduce the possibility of causing interference to radios, televisions, and other electronic devices.

Responsible party (contact for FCC matters only):

Apple Inc. Corporate Compliance

1 Infinite Loop, MS 91-1EMC

Cupertino, CA 95014

## Canadian regulatory statement

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions: (1) this device may not cause interference, and (2) this device must accept any interference, including interference that may cause undesired operation of the device.

Operation in the band 5150–5250 MHz is only for indoor use to reduce the potential for harmful interference to co-channel mobile satellite systems.

Users are advised that high-power radars are allocated as primary users (i.e., priority users) of the bands 5250–5350 MHz and 5650–5850 MHz and that these radars could cause interference and/or damage to LE-LAN devices.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes : (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

La bande 5 150 – 5 250 MHz est réservée uniquement pour une utilisation à l'intérieur afin de réduire les risques de brouillage préjudiciable aux systèmes de satellites mobiles utilisant les mêmes canaux.

Les utilisateurs êtes avisés que les utilisateurs de radars de haute puissance sont désignés utilisateurs principaux (c.-à-d., qu'ils ont la priorité) pour les bandes 5 250 – 5 350 MHz et 5 650 – 5 850 MHz et que ces radars pourraient causer du brouillage et/ou des dommages aux dispositifs LAN-EL.

CAN ICES-3 (B)/NMB-3(B)

## Class 1 Laser Information

2016 IPHONE and 2016 IPHONE PLUS are classified as Class 1 Laser products per IEC60825-1:2007 and IEC60825-1:2014. These devices comply with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007. These devices contain a laser that could be damaged during repair or disassembly, which could result in hazardous exposure to infrared laser emissions that are not visible. This equipment should be serviced by Apple or an authorized service provider.

CLASS 1 LASER PRODUCT

## Apple and the environment

At Apple, we recognize our responsibility to minimize the environmental impacts of our operations and products. For more information, go to the [Apple and the Environment website](#).

## Disposal and recycling information

**Apple Recycling Program (available in some areas):** For free recycling of your old device, a prepaid shipping label, and instructions, go to the [Recycling website](#).

**iPhone disposal and recycling:** You must dispose of iPhone properly according to local laws and regulations. Because iPhone contains electronic components and a battery, iPhone must be disposed of separately from household waste. When iPhone reaches its end of life, contact local authorities to learn about disposal and recycling options, or simply drop it off at your local Apple retail store or return it to Apple. The battery will be removed and recycled in an environmentally friendly manner. For more information, go to the [Recycling website](#).

**Battery service:** The lithium-ion battery in iPhone should be serviced by Apple or an authorized service provider, and must be recycled or disposed of separately from household waste. For more information about battery service and recycling, go to the [Battery Service and Recycling website](#).

Dispose of batteries according to your local environmental laws and guidelines.

### **Brasil—Informações sobre descarte e reciclagem**



O símbolo acima indica que este produto e/ou sua bateria não devem ser descartados no lixo doméstico. Quando decidir descartar este produto e/ou sua bateria, faça-o de acordo com as leis e diretrizes ambientais locais. Para informações sobre substâncias de uso restrito, o programa de reciclagem da Apple, pontos de coleta e telefone de informações, visite [Meio ambiente](#).

### **Información sobre eliminación de residuos y reciclaje**



El símbolo de arriba indica que este producto y/o su batería no debe desecharse con los residuos domésticos. Cuando decida desechar este producto y/o su batería, hágalo de conformidad con las leyes y directrices ambientales locales. Para obtener información sobre el programa de reciclaje de Apple, puntos de recolección para reciclaje, sustancias restringidas y otras iniciativas ambientales, visite [Medio ambiente](#).

### **California battery charger energy efficiency**



### **Turkey environmental information**

Türkiye Cumhuriyeti: AEEE Yönetmeliğine Uygundur.

### *Taiwan battery statement*



廢電池請回收

警告：請勿戳刺或焚燒。此電池不含汞。

### *China battery statement*

警告：不要刺破或焚燒。該電池不含水銀。

 Apple Inc.

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