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##### General Services Administration (GSA)

##### Office of the Chief Information Officer (OCIO)

**iPhone Accessibility User Guide**

Table of Contents

[iPhone Applications: 3](#_Toc300670819)

[Wireless Braille Displays 4](#_Toc300670820)

[Voice Control 4](#_Toc300670821)

[Speak Auto-text 5](#_Toc300670822)

[Increased Fonts for Mail Messages 5](#_Toc300670823)

[iPhone Stereo Headset 5](#_Toc300670824)

[Hands-Free Speakerphone 5](#_Toc300670825)

[Audible, Visible, And Vibrating Alerts 6](#_Toc300670826)

[Assignable Ringtones 6](#_Toc300670827)

[Voice Control 6](#_Toc300670828)

[Finger Gestures/Commands 6](#_Toc300670829)

[Key Command Navigation: 7](#_Toc300670830)

[Roter: 7](#_Toc300670831)

[iPod Commands: 8](#_Toc300670832)

[iPhone APPS 8](#_Toc300670833)

[Dragon Dictation: 8](#_Toc300670834)

[Composing Messages 9](#_Toc300670835)

[Correcting Text 9](#_Toc300670836)

[Typing Text 9](#_Toc300670837)

[Deaf/Hearing Impairments 9](#_Toc300670838)

[Closed Captioning 9](#_Toc300670839)

[Mono Audio 9](#_Toc300670840)

[Audible, Visible, and Vibrating Alerts 10](#_Toc300670841)

[Visual Voicemail 10](#_Toc300670842)

**iPhone Accessibility Features**

**Blind/Low Vision**

The iPhone has a built in screen reader called VoiceOver, which can be controlled by a series of finger gestures.

You can touch the screen to hear a description of the item under your finger and gesture with a double-tap, drag, or flick to control the phone.

VoiceOver works very well with the touch screen on the iPhone to enable you To interact directly with objects on the screen, so you can understand their location and context. So, when you touch the upper-left corner of the screen, you will hear what’s in the upper left corner of a web page, and as you drag your finger around the screen, you will learn what’s nearby, providing an amazing new sense of context and relationship between the items you hear. For many, VoiceOver on iPhone will provide, perhaps for the first time, a true sense of how things appear on the screen.

You will hear descriptions of every item on the screen, including status information such as battery level, Wi-Fi and cellular network signal levels, the cellular network provider, and time of day. It even lets you know when the display changes to landscape or portrait orientation, and when the screen is locked or unlocked.

The speaking rate is adjustable so you can set it to a speed that best suits your listening ability. VoiceOver uses distinctive sound effects to alert you when an application opens, when the screen is updated, when a message dialog appears, and more. And, when Voiceover is talking, the volume of background sounds and music are automatically lowered, “ducking” under the voice, so you can clearly hear what VoiceOver is telling you.

VoiceOver is built in to the iPhone and can be enabled when the iPhone is activated using iTunes.

VoiceOver can also be enabled directly on the iPhone with the help of a sighted person. This can be done by using the Accessibility menu in the Settings application.

Finger Commands and Gestures:

Tap a button to hear a description of it.

Double tap a button or icon to activate it.

Swipe up or down to adjust a slider.

NOTE: When an item on the screen is selected, a black rectangle called the VoiceOver cursor appears around it. The VoiceOver cursor is displayed for the benefit of sighted users with whom you may be sharing your phone. When you prefer privacy, VoiceOver includes a screen curtain that turns off the display so no one can read it without your knowledge.

In addition to touching and dragging your finger around the screen, you can also flick one finger left and right to move the VoiceOver cursor precisely to the next or previous item on the screen. For example, Mail, Contacts, Phone, etc.

When VoiceOver speaks an item, this means that focus is on it and you can double tap with one finger to open that icon or button.

Entering Text::

When you’re typing text, such as an email message or a note, VoiceOver echoes each character on the keyboard as you touch it, and again to confirm when you enter it. You can also have VoiceOver speak each completed word instead of and in addition to individual characters as you type them. A flick up or down while typing moves the insertion point cursor left and right within the text so you can edit a word just as easily and precisely as typing a new word.

To help you type more quickly and accurately, iPhone features word prediction and suggests the correct spelling when you type a word incorrectly. With Speak Auto-text enabled, you will hear a sound effect and the suggested word spoken automatically. You can just keep typing to ignore it, or press the space key to have iPhone type it for you.

Using the Rotor:

VoiceOver features an innovative new virtual control called a “rotor.” Turning the rotor— by rotating two fingers on the screen as if you were turning an actual dial — changes the way VoiceOver moves through a document based on a setting you choose. For example, a flick up or down might move through text word by word. But when you choose the “character” setting, each time you flick up or down VoiceOver will move through the text character by character — perfect when you’re proofreading or editing text.

You can also use the rotor to navigate web pages. When you’re on a web page, the rotor contains the names of common items, such as headers, links, form elements, images, and more. You select a setting, and then flick up and down to move to the previous or next occurrence of that item on the page, skipping over items in between.

## iPhone Applications:

VoiceOver works with all of the built-in applications that come with the iPhone, such as Phone, iPod, iTunes, Mail, Safari, and Maps.

### Wireless Braille Displays

You can use a refreshable braille display that uses Bluetooth wireless technology to read VoiceOver output in braille. In addition, braille displays with input keys and other controls can be used to control iPhone when VoiceOver is turned on. The iPhone 4 will work with many of the most popular wireless braille displays.

### Voice Control

In addition to gestures, you can use your voice to play music and make a phone call. Just press and hold the home button, listen for the audio prompt, and speak the name of the artist, album, or playlist you want to hear. You can pause, play, change tracks, and even shuffle your music.

When you want to make a call, speak the name or telephone number of the person you want to call.

**Zoom**

While many iPhone applications let you zoom in and out specific elements such as images in Mail, or web page columns in Safari, Zoom lets you magnify the entire screen of any application you’re using to help you see what’s on the display. Zoom can be enabled on iPhone 4 and iPhone 3GS using iTunes when you’re setting up iPhone, for yourself or someone else, or later, using the Accessibility menu in the Settings application on iPhone.

Zoom works everywhere, including the Home, Unlock, and Spotlight screens—even with applications you purchase from the App store.

A simple double-tap with three fingers instantly zooms in and out 200% and you can double-tap and drag three fingers to dynamically adjust the magnification between 100% and 500%. Even when zoomed, you can continue using all of the familiar flick, pinch, tap and other iPhone gestures to run your favorite applications. Zoom can also be used with white-on-black (reverse video) and speak auto-text.

**White On Black**

For those who need or prefer higher contrast, iPhone 4 and iPhone 3GS provide an option to change the display to White On Black. This reverse video effect works in all applications including the Home, Unlock, and Spotlight screens and can be used with Zoom and VoiceOver.

### Speak Auto-text

When typing, iPhone suggests a word before you finish typing it or a correction when a word is misspelled. Speak Auto-text speaks these suggestions so you can hear them when they’re presented. When zoomed, for example, the suggestion might not be visible on screen, but you can hear and accept it without seeing it. If you’re using VoiceOver, you won’t have to interrupt your typing and touch the suggestion to hear it. Speak Auto-text can be enabled even when you’re not using VoiceOver or Zoom.

**Tactile Buttons**

iPhone includes a few, easily discernible physical buttons used to control the phone:

* the Sleep/Wake button is located on the top edge.
* The Ring/Silent switch is located on the upper left edge of the iPhone.
* The volume-control buttons are located on the left edge just below the Silent/Ring switch.
* The Home button is located on the front of the iPhone centered below the display screen.

### Increased Fonts for Mail Messages

For improved email readability, you can increase the default font size of email text from Medium (the default) to Large, Extra-large, or Giant.

### iPhone Stereo Headset

iPhone comes with a stereo headset with a high-performance microphone built into the cable. Plug it into the standard 3.5 mm stereo headphone jack and the headset lets you control music playback and answer and end calls by clicking the built-in remote control button.

### Hands-Free Speakerphone

Enjoy hands-free communication using the built-in speakerphone, which you can also use to listen to Visual Voicemail, music, podcasts, and video.

### Audible, Visible, And Vibrating Alerts

Turn the ringer on, and iPhone delivers both audible and visual alerts. You can activate alerts for phone calls, text messages, incoming and sent mail, and calendar events.

iPhone also offers an audio option confirming keyboard clicks. You can even set incoming calls to display a full-screen image or photo of the caller.

In silent mode, iPhone vibrates instead of playing a tone. To ensure that you never miss a notification, you can also have iPhone vibrate and play an audio alert.

### Assignable Ringtones

You can assign distinctive ringtones to individuals in your contacts list, using the ringtone as an audible caller ID.

### Voice Control

The Voice Control feature can be accessed at any time by pressing the home button for a few seconds. This is the round button just below the iPhone screen.

When Voice Control is ready for you to speak, your iPhone will vibrate and chime twice quickly.

You can now speak your command.

Listed below are some available commands:

* What time is it?
* Dial 1 800 5 5 5 1 2 1 2
* Dial John mobile.

(This feature will work for any names that you have in your contacts. If you just say the person’s name, the iPhone will ask you if you want to dial their Work, Home or Mobile.)

NOTE: The words “Dial” and “Call” are interchangeable.

## Finger Gestures/Commands

**Turning on and off speech:**

Use three fingers and double tap.

**Disconnecting a phone call:**

Use two fingers and double tap.

**Turning on and off a song in iPod:**

Use two fingers and double tap.

**Working down a list of e-Mails, Contacts, songs or artists:**

Use three fingers and swipe up.

**Working up a list of E-Mails, Contacts, songs or artists:**

Use three fingers and swipe down.

**NOTE: Copy and paste the URL listed below into your internet browser address bar to** view a uTube video that describes some of the accessibility navigation:

<http://www.youtube.com/watch?v=dwwj9XTyM3k>

### Key Command Navigation:

* Flick left and right with one finger. This will take you through items on the screen. Moves sequentially through the screen.
* Tap three fingers to see how many Home Screens there are on your iPhone.
* Flick with three fingers to left and right to move through Home Screens.
* Flick down with two fingers to hear an e-mail message.
* Tap once with two fingers to pause speech.
* Flick up with two fingers in Safari to read the web page.

## Roter:

Rotate two fingers on the screen to hear different navigation options. For example, headings, characters and links, etc.

## iPod Commands:

The iPhone has an iPod feature built in. Listed below are Voice Commands for the iPod:

Play album (album name)

Play playlist (playlist name)

Play songs by (artist name)

Play artist (artist name)

Play music

Play

Pause music

Pause

These commands start or stop playing, just like hitting the play/pause button on an iPod.

Next track

Next

Previous track

Previous

These commands do what you’d expect, behaving like the next and previous buttons on an iPod.

What song is playing?

What’s playing?

Who plays this song?

Who sings this song?

These commands all do the same thing. The song title and artist will be spoken by the iPhone.

Shuffle

This simple command will toggle the state of the shuffle setting. It will also tell you what the shuffle state is to confirm that it is what you want.

### iPhone APPS

## Dragon Dictation:

Dragon Dictation from Nuance Communications is a voice recognition app for the iPhone that will allow the user to speak e-mails and text messages.

With Dragon Dictation you can also dictate status updates directly to your Social Networking applications (Facebook and Twitter) or send notes and reminders to yourself by using your voice.

Listed below are some general instructions for Dragon Dictation:

### Composing Messages

Launch the Dragon Dictation application and tap the red recording button in the middle of the screen to initiate the voice recognition process. While the application is recording, speak your message. Tap the “Done” button to finish your message.

You can tap the red recording button again to dictate additional text. Dragon Dictation on iPhone will also auto-save dictated text on the scratchpad, which can be accessed after accepting an incoming call.

### Correcting Text

To edit transcribed text, tap the word you would like to correct. When you touch the word you will see a drop-down list of alternative suggestions. To correct a phrase drag your finger to adjacent words until the entire phrase is highlighted. If you prefer, you can record a new phrase by pressing the red record icon while the original phrase is highlighted. The phrase will be replaced with the new phrase you speak.

### Typing Text

In addition to composing messages by voice, Dragon Dictation provides the ability for users to either enter new text or edit text they have dictated by tapping the keyboard icon.

# Deaf/Hearing Impairments

### Closed Captioning

iPhone supports the playback of open captions, closed captions, and subtitling. Captions appear onscreen just like the closed captions you see on TV.

### Mono Audio

Using a simple checkbox, iPhone will route both right and left-channel audio source material into both earbuds so you can hear both channels in each ear—particularly useful for those with hearing loss in one ear.

### Audible, Visible, and Vibrating Alerts

Turn the ringer on, and iPhone delivers both audible and visual alerts. You can activate alerts for phone calls, new text messages, new and sent mail, and calendar events. iPhone also offers an audio option confirming keyboard clicks. You can even set incoming calls to display a full-screen image or photo of the caller.

In silent mode, iPhone vibrates instead of playing a tone. To ensure that you never miss a notification, you can also have iPhone vibrate and play an audio alert.

### Visual Voicemail

The innovative Visual Voicemail feature lets you view all your voicemail messages at once, and then listen to them in the order you prefer. Use the Play/Pause button to control playback of your voice messages. The scrubber bar even lets you replay portions of a message you find hard to understand.

TTY Support

You can use iPhone in TTY mode with standard teletype machines. Use of TTY requires the iPhone TTY Adapter, sold separately on the Apple Online Store. TTY customers can obtain telephone technical support by calling Apple’s support number, 1-800-SOS-APPL, using a relay service.

Several add-on products are also available to work with iPhone that can help those with hearing disabilities, including a hearing aid-compatible induction ear loop from TecEar, wireless remote headset from Oticon, and others.

Listed below are some additional apps that have been found to be helpful to the hearing impaired:

1. IP-Relay: Like TTY or TDD systems, IP-Relay allows you to make phone calls. It connects you to an operator who then reads your messages to the recipient and transcribes their messages back to you. It interfaces with your iPhone's existing contacts, and restores the crucial function of being able to make phone calls.

2. Hamilton Mobile Captel: Hamilton Mobile Captel transcribes phone calls, as they happen, in English or in Spanish. Using a headset, Captel allows you to see the text of a phone call in real-time while hearing it, making it much easier to understand conversations.

3. IWRelay VRS: IWRelay is a video relay application that, unlike others, allows users to make video relay service calls via FaceTime, iPhone 4's new video conferencing feature. While other apps have promised this feature, no others offer it yet, making this app particularly valuable for early adopters.

4. Sorenson Video Center: The Sorenson Video Center allows users of Sorenson Video Relay Service to take videos from a videophone and view them on an iPhone or an iPod Touch. It connects to one's Sorenson account, which it uses to access videos, IP Relay services, and provide easy ways to respond to SignMail videos. It also interfaces with the iPhone's contacts system and many instant messaging services.

5. iASL: iASL is a comprehensive American Sign Language application. It includes a video dictionary, translators, automatic spelling correction, and a number of resources for study. At 403 megabytes, it's a large application, but as an ASL teaching resource, it's highly valuable. Given its large quantity of video content, it's one application that could be better on the iPad's huge screen.

6. Subtitles: Subtitles provides access to movie subtitles to use in real-time when watching movies on other devices, making it easier to follow dialogue when seeing films in theaters or in other settings. Note that the application's content is user-generated, so the quality of subtitles may vary.

7. Tap Tap: Tap Tap is designed to produce alerts when loud noises are made around the phone. With Tap Tap on, the iPhone will vibrate and flash to alert you that there's been a loud noise or that someone has spoken in your direction. It could provide hugely useful information -- that someone is knocking on your door, that an intercom has gone off, that you are being addressed -- might otherwise go unnoticed.

8. fring: a multi-function messaging application that makes it possible to make free calls, both voice and video, as well as live IM chats from an iPhone or iPod touch over either a WiFi connection or a 3G one. It interfaces too many services, like MSN Messenger, Google Talk, Twitter, and AOL Instant Messenger, and for consolidating all of these into a single application, it could be quite useful.

9. soundAMP: SoundAMP uses the iPhone's microphone to amplify sound around the user, turning it into a hearing aid. It allows the user to adjust frequencies to best compensate for hearing loss, captures the last 30 seconds in the event that the user needs to replay them, and allows for enhanced recordings of things like doctors' appointments and lectures.

10. DeafNation: A reader for content from DeafNation, a news site covering entertainment, sports, and language. Their dedicated application provides feeds for news and the site's Twitter, videos, and additional content. Note that some users have complained about the app's news feed compared to the web sites.

**Resources**

<http://www.apple.com/accessibility/iphone/vision.html>

<http://help.apple.com/iphone/4/voiceover/en/>

[www.nuance.com](http://www.nuance.com)

<http://www.dragonmobileapps.com/apple/dictation_demo.html>

<http://blog.youngthomsen.com/2010/08/10-most-useful-iphone-apps-for-deaf.html>

<http://www.youtube.com/watch?v=dwwj9XTyM3k>