# **Apple Accessibility: VoiceOver Getting Started Guide**

This guide explains how to use VoiceOver, the advanced screen reader built into macOS Sierra, and includes lists of VoiceOver commands. To enter VoiceOver commands, press the *VoiceOver modifier* (represented as VO) and one or more other keys. You can set the VoiceOver modifier to be the Caps Lock key or the Control and Option keys pressed at the same time.

Here’s how to explore and interact with this guide:

If the table of contents is available, move to it by pressing VO-Left Arrow or Right Arrow. Otherwise, open the table of contents by pressing VO-Left Arrow or Right Arrow until VoiceOver announces “Show table of contents,” then press VO-Space bar.

Interact with the table of contents by pressing VO-Shift-Down Arrow. To move up and down the list of chapters, press VO-Up Arrow or Down Arrow. To explore a chapter, press VO-Space bar to expand it, then move up and down the list of sections in the chapter.

When you hear a section you want to read, press VO-Space bar. Navigate to the section by pressing VO-Shift-Up Arrow, then VO-Right Arrow until VoiceOver announces the main item. To read the entire section, press VO-A. To read one paragraph at a time, press VO-Right Arrow.

# **About this chapter**

This chapter introduces VoiceOver, the advanced screen-reading technology integrated into macOS. VoiceOver enables users with visual disabilities to control their Mac using a rich set of keyboard commands and gestures.

# **What’s new in VoiceOver**

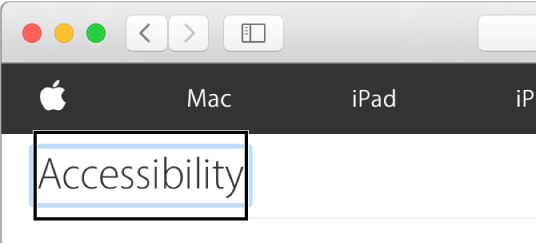
VoiceOver in macOS Sierra offers new features to give you greater control while using a Mac.

* A single option now synchronizes the keyboard focus and the VoiceOver cursor focus.
* A new option now lets you have VoiceOver announce or play a tone when the number of rows under the VoiceOver cursor changes—for example, when reading emails in the Mail app.
* When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad), as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).
* When VoiceOver is on, you can press Fn-Tab to close menus, rotors, Launchpad, and more, as an alternative to pressing the Escape key.
* VoiceOver includes several [new and changed VoiceOver commands](http://help.apple.com/voiceover/info/guide/10.12/#/cpvokysdelta).

# **VoiceOver overview**

VoiceOver is a full-featured screen reader built into macOS that speaks the text in documents and windows, and describes aloud what appears on your screen. To turn on VoiceOver, press Command-F5; to turn it off, press the keys again.

With VoiceOver, you control your Mac primarily with a keyboard, refreshable braille display, or trackpad. You use the VoiceOver cursor—which appears as a dark rectangular outline—to move around the screen, select buttons and other controls, and to read and edit text. The keyboard focus and mouse pointer work with the VoiceOver cursor in a variety of ways.



You use VoiceOver commands to navigate and interact with items on the screen. You enter the commands by holding down the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) along with one or more other keys. For example, to use the VoiceOver command VO-M (where VO represents the VoiceOver modifier you’re using), you press the VoiceOver modifier and M keys together.

You can assign VoiceOver commands to numeric keypad keys, keyboard keys, braille display input keys, and trackpad gestures, so you can use the commands with fewer keystrokes.

You can [customize VoiceOver with VoiceOver Utility](http://help.apple.com/voiceover/info/guide/10.12/#/vo28017). For example, you can change the voice, set options to make it easier to use your favorite apps, enable the Trackpad Commander so you can use VoiceOver gestures, and set up braille devices.

Ask Siri. You can use Siri when you have VoiceOver turned on. In fact, you can use Siri to turn VoiceOver on or off—say something like “Turn VoiceOver on.” .

# **Turn VoiceOver on or off**

Turn VoiceOver on or off at any time.

* Press Command-F5. If VoiceOver is on, pressing the keys turns it off.
* Use Siri. Say something like: “Turn VoiceOver on” or “Turn VoiceOver off.” .

You can also turn VoiceOver on or off using the Accessibility Options shortcut panel. To show it, press Option-Command-F5 or, if your Mac has a [Touch Bar](http://help.apple.com/voiceover/info/guide/10.12/#/glosbabd4062), quickly press [Touch ID](http://help.apple.com/voiceover/info/guide/10.12/#/glosc8aef3dc) three times. In the shortcut panel, press the Tab key until you hear the VoiceOver option, then press the Space bar.

# **Pause or mute speech**

Temporarily pause VoiceOver when it’s speaking, or mute it altogether.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *Pause or resume speech:* There are several ways to control speech:
  + Press the Control key.
  + When the VoiceOver modifier is the Caps Lock key, press that key.
  + When the Trackpad Commander is enabled, tap with two fingers on the trackpad.
* *Mute speech:* You can adjust the volume of VoiceOver speech, to the point of muting it, by pressing VO-Command-Right Arrow until you hear Volume, then pressing VO-Command-Down arrow repeatedly.
* Alternatively, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Speech category, click Voices, then select the checkbox.

If you move the VoiceOver cursor after speech is paused, VoiceOver begins speaking the item that’s in the VoiceOver cursor.

# **Use the welcome dialog**

When you first turn on VoiceOver, a welcome dialog is shown.

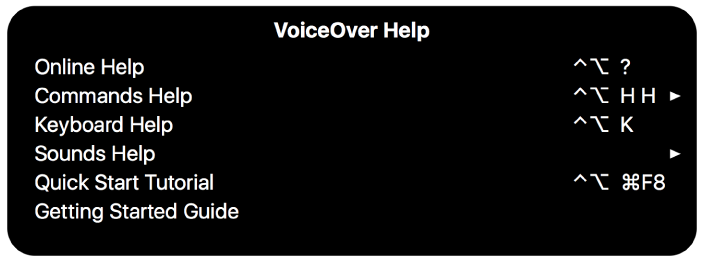
Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To continue using VoiceOver, press Enter or click Use VoiceOver.
* To continue using VoiceOver and prevent the welcome dialog from appearing each time you turn on VoiceOver, press the V key or select “Do not show this message again.”
* To start the VoiceOver Quick Start tutorial, press the Space bar or click Learn More.
* To exit the dialog without turning on VoiceOver, press Command-Q or Escape, or click Turn Off VoiceOver.

To set an option to control whether the dialog is shown, open VoiceOver Utility (press VO-F8 when VoiceOver is on), then click the General category.

# **Use the VoiceOver Help menu**

Use the VoiceOver Help menu to quickly access information about using VoiceOver, such as keyboard or sounds help. You can also display a list of VoiceOver commands that can be used for the item in the VoiceOver cursor, and choose a command.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. When VoiceOver is on, press VO-H to display the VoiceOver Help menu.
2. To increase or decrease the menu’s font size, press the } or { key.
3. Navigate the menu and submenus using the arrow keys.
   * If you know the name of a menu item, type some letters of its name to narrow the menu to only items that contain those letters. To list all the items again, press the Delete key.
   * When you enter a submenu, you hear the number of items it contains.
   * If a menu item has a keyboard command, you hear it announced with the name of the item. For example, the command to open the Commands menu is VO-H-H.
4. To select a menu item, press the Space bar or the Return key.
5. To close the VoiceOver Help menu without making a selection, press the Escape key or Fn-Tab.

# **Get help with keys, shortcuts, and gestures**

When you use keyboard help, you can quickly hear the VoiceOver command for a key. For example, press Control-Option-D to hear “Control-Option-D Go to Dock Moves VoiceOver cursor to the Dock.”

You can use keyboard help with the commanders, refreshable braille displays, and VoiceOver gestures. While using keyboard help, you can’t use your keyboard, braille display, or trackpad for other tasks.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Start keyboard help by pressing VO-K, then do any of the following:

* *Hear the name of a keyboard or braille key:* Press the key.
* *Hear the VoiceOver command for a key:* Press Control-Option or Caps Lock and the key.
* *Hear the name and VoiceOver command for a gesture:* Use the gesture.
* *Hear alternative functions for a key or gesture:* Press Control-Option or Caps Lock with a modifier key (such as Shift), then press a key to hear alternative functions the key may have.

To quit keyboard help, press VO-K, the Escape key, or Fn-Tab.

If you have trouble using a standard QWERTY keyboard, try using the Dvorak layout, which optimizes key layout for ease of use.

# **Learn VoiceOver Basics**

# **About this chapter**

This chapter provides information about the basics of VoiceOver, including how to set the VoiceOver modifier, hear information about items on the screen and interact with them, and use VoiceOver Utility to customize VoiceOver.

# **Automatically use VoiceOver in the login window**

Set a system preference to automatically use VoiceOver in the macOS login window.

1. Choose Apple menu > System Preferences, click Users & Groups, then click Login Options.
2. If Users & Groups preferences are locked, click the lock icon  in the lower-left corner of the window, then enter an administrator password to unlock them.
3. Click Login Options, then select “Use VoiceOver in the login window.”

To turn on VoiceOver in the login window yourself, press Command-F5. If your Mac has a [Touch Bar](http://help.apple.com/voiceover/info/guide/10.12/#/glosbabd4062), you can press and hold the Command key and quickly press [Touch ID](http://help.apple.com/voiceover/info/guide/10.12/#/glosc8aef3dc) three times.

SEE ALSO

[Use VoiceOver with the Touch Bar](http://help.apple.com/voiceover/info/guide/10.12/#/mchlf6157c85)

Use Touch ID on your Mac

# **Change the default behavior of function keys**

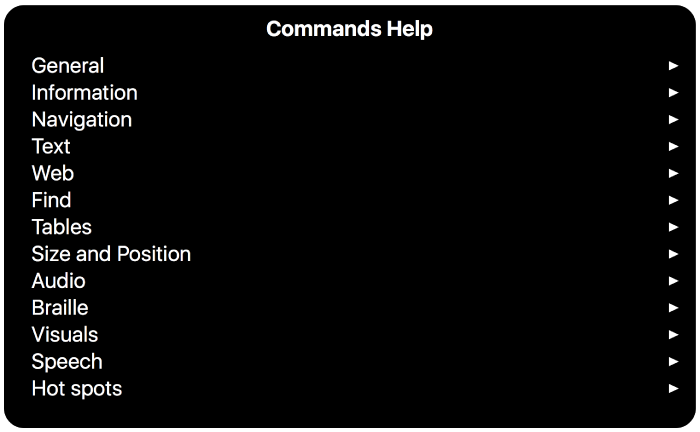
By default, to use a function key in a VoiceOver command, you must also press the Fn key. You can change this default behavior so that you don’t have to press the Fn key for VoiceOver commands.

1. Choose Apple menu > System Preferences, click Keyboard, then click Keyboard.
2. Select the “Use all F1, F2, etc. keys as standard function keys” checkbox.

Some keyboards have dedicated keys for Home, End, Page Up, and Page Down. These are important VoiceOver navigation keys. If you use a keyboard that doesn’t have these keys, use the arrow keys with the Fn key for these actions.

# **Find commands using the Commands menu**

If you know the name of a VoiceOver command but can’t recall the keys to press, use the Commands menu to find the command, and apply it to the item currently in the VoiceOver cursor.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. When VoiceOver is on, open the Commands menu by pressing VO-H-H.
2. Type some letters of the command name to narrow the Commands menu to just those commands that contain the letters you typed.
3. Use the arrow keys to navigate the Commands menu until you hear the command you want. To list all commands again, press Delete.
4. When you hear the command you want, press the Return key or the Space bar to apply the command to the item in the VoiceOver cursor.

# **Use the VoiceOver modifier**

You enter VoiceOver commands by pressing the *VoiceOver modifier* and one or more other keys. You can set the VoiceOver modifier to be the Caps Lock key or the Control and Option keys pressed at the same time. For example, to open the VoiceOver Help menu you press the Caps Lock and H keys, or the Control, Option, and H keys.

VoiceOver commands appear in help as VO-*key*, where VO represents the VoiceOver modifier specified in the [General category in VoiceOver Utility](http://help.apple.com/voiceover/info/guide/10.12/#/cpvougen). For example, the VoiceOver command VO-Shift-M means to press the VoiceOver modifier along with the Shift and M keys at the same time. Depending on the VoiceOver modifier you’re using, you press Caps Lock-Shift-M or Control-Option-Shift-M.

You can lock the VoiceOver modifier so you don’t have to press it, making it easier to enter VoiceOver commands. For example, when the VoiceOver modifier is locked you enter the command VO-Shift-M by pressing just the Shift and M keys at the same time; you don’t need to press the Caps Lock key or the Control and Option keys.

* To lock the VoiceOver modifier, press VO-;. To unlock the modifier, press the command again.
* To be able to use the Caps Lock key for typing uppercase letters when the VoiceOver modifier is set to Caps Lock, quickly press the Caps Lock key twice.

# **Make VoiceOver ignore the next key press**

Apps may use the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) with another key to perform an action. If you’re using VoiceOver and want to use the app’s command, you can tell VoiceOver to ignore the next key combination.

Note: VO represents the VoiceOver modifier.

* Press VO-Tab.
* VoiceOver ignores the app command when you press it.

You can change many keyboard shortcuts for apps in the Shortcuts pane of Keyboard preferences.

# **Learn or mute VoiceOver sound effects**

VoiceOver uses unique sound effects to denote events (such as a window opening) and locations (such as when you reach a border).

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To learn VoiceOver sound effects, open the VoiceOver Help menu by pressing VO-H. Then use the arrow keys to navigate to Sounds Help.
* To mute VoiceOver sound effects (without affecting the audio of other apps), open VoiceOver Utility (press VO-F8 when VoiceOver is on), then click the Sound category.

If you’re using VoiceOver gestures, avoid muting sound effects. Hearing the blank space sound effect is very useful in determining where items are located on the desktop.

# **Hear hints and information about an item**

VoiceOver provides several ways to learn more about the item in the VoiceOver cursor.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To hear a description of the item, press VO-F3. If Trackpad Commander is enabled, tap the trackpad three times. A sound effect indicates if the cursor is in a blank area.
* To hear the item’s help tag, press VO-Shift-H. VoiceOver tells you if an item doesn’t have a help tag (sometimes called a “tooltip”).
* To hear how to use the item, press VO-Shift-N.

To have help tags and instructions read automatically, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Verbosity category, then click Hints.

# **Use positional audio**

If you have stereo headphones or dual speakers, you can use positional audio to hear audio cues (or sound effects) about an item’s location on the screen.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Positional audio is enabled by default.

* To turn it off, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Sound category, then select “Enable positional audio.”

If you chose to play stereo audio as mono audio in Accessibility preferences, you can’t hear positional audio using VoiceOver.

# **Interact with content areas and groups**

By default, you must interact with a content area (such as a scroll area or table) or other group (such as a toolbar) before you can navigate to its items. This standard behavior gives you the choice of bypassing a group or stopping to explore it. For example, in a Finder window, you can navigate past the sidebar to go to the view browser, or stop and interact with the sidebar to open folders and files.

You can change how VoiceOver navigates groups so you can navigate directly to the items in a group without having to interact with it first.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *Start interacting:* Press VO-Shift-Down Arrow, or flick right with two fingers on the trackpad. A sound effect indicates when there’s nothing more to interact with.
* The VoiceOver cursor stays within the boundaries of an area you interact with; you can navigate only within the area.
* *Stop interacting:* Press VO-Shift-Up Arrow, or flick left with two fingers on the trackpad.
* *Navigate directly to group items:* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Navigation category, click “Grouping behavior,” then choose a behavior. To learn about the settings, click the help button in the Navigation pane.
* Note: Some areas (such as tables) always require interaction, regardless of the setting you choose. This prevents you from having to navigate potentially large numbers of items, such as thousands of items in a Mail inbox.

You can interact with any element that has a title or embedded text, such as a button or a Smart Address in Mail, to read the element by word or by character.

# **Hear changes in progress or status**

By default, VoiceOver announces when the progress bar or status text in the VoiceOver cursor changes. For example, while installing software, you might hear “Installation 45 percent completed” or you might hear a ticking sound.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

You can change the options for status text while you work using the rotor.

1. To open the Verbosity rotor, press VO-V.
2. Press the Left Arrow or Right Arrow key until you hear “when status changes” and the current setting.
3. Press the Up Arrow or Down Arrow key until you hear the setting you want.
4. To close the rotor, press the Escape key or Fn-Tab.

You can choose how the changes are announced, or turn them off, in the Announcements pane of the Verbosity category in VoiceOver Utility.

If you’re using portable preferences on a guest computer when you change status settings, the settings are saved to the portable preferences drive and not to the guest computer.

# **Select and deselect items**

Select or deselect a single item or multiple items.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *Select an item:* Press VO-Return.
* *Deselect an item:* Press VO-Command-Return, or double-tap on the trackpad.
* *Select items:* Start interacting with a list or table, navigate to the first item, then press VO-Command-Return. For each additional item, navigate to it, then press VO-Command-Return. To stop selecting items, copy or cut them, then press the Escape key or Fn-Tab, or stop interacting with the list or table.
* *Deselect items:* Navigate to an item, then press VO-Command-F4. VoiceOver deselects all items except the one in the VoiceOver cursor. To deselect that item, press VO-Command-Return.

# **Drag and drop items**

Drag and drop items from one location to another. Both the original and destination locations must be on the screen when you start dragging the items.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Use commands**

1. Move the VoiceOver cursor to an item, then press VO-, to mark it for drag and drop.
2. To use a modifier with the command, press and hold VO-, until the Drag and Drop menu appears, then choose a modifier.
3. Move the VoiceOver cursor to the location where you want to drop the marked item, then use one of the following commands to drop the marked items:
   * *On the cursor location:* VO-.
   * *In front of the cursor location:* VO-<
   * *After the cursor location:* VO->

If you selected a modifier at the start of the operation, VoiceOver uses the modifier to perform any special behaviors when it drops the item. For example, if you drop a marked file in the Finder using the Option modifier, VoiceOver duplicates the file.

## **Use the mouse**

Mouse tracking can be on or off.

1. Move the VoiceOver cursor to the item you want to move.
2. If mouse tracking is off, press VO-Command-F5 to move the VoiceOver cursor to the target location.
3. Verify that the mouse is on the item by pressing VO-F5.
4. Lock the mouse button by pressing VO-Command-Shift-Space bar.
5. Move the VoiceOver cursor to the target location.
6. If mouse tracking is off, press VO-Command-F5 to move the mouse to the target location.
7. Verify that the mouse is on the target location by pressing VO-F5.
8. Unlock the mouse button by pressing VO-Command-Shift-Space bar.

## **Drag to a hot spot**

If you used the Commanders category in VoiceOver Utility to assign Drop Marked Item hot spot commands to keys or gestures, you can drag items to the same hot spot.

1. Mark an item to drag, then use one of the commands you assigned to a key or gesture.
2. VoiceOver asks you to press the number key for the hot spot you want to use for the drop, then drops the marked item after, before, or on the hot spot.
3. After the drop, the VoiceOver cursor returns to its original location. Repeat for each item you want to drop on the hot spot.

A marked item remains available to drop again unless it’s no longer on the screen, or you mark a new item for drag and drop.

# **Set up or turn off cursor tracking**

By default, the VoiceOver cursor and keyboard focus are synchronized—set to follow (or “track”) each other. This is called “cursor tracking.” You can also set the VoiceOver cursor and the mouse pointer to track each other.

It can be useful to turn off cursor tracking, and use the keyboard, mouse pointer, and insertion point independently. For example, in Messages you can move the VoiceOver cursor to the message portion to hear incoming messages, while the keyboard focus remains in the text field to type outgoing messages.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Turn on cursor tracking for the mouse**

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Navigation category, click the “Mouse pointer” pop-up menu, then choose a behavior for the mouse pointer:
  + Follows VoiceOver cursor
  + Moves VoiceOver cursor

## **Turn off cursor tracking**

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Navigation category, then deselect “Synchronize keyboard focus and VoiceOver cursor.”
2. Click the “Mouse pointer” pop-up menu, then choose “Ignores VoiceOver cursor.”

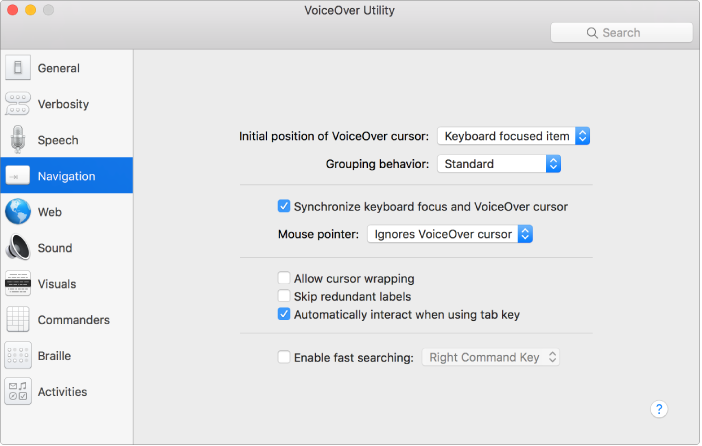
To temporarily turn cursor tracking on or off while you’re working, press VO-Shift-F3. This command doesn’t change the settings in VoiceOver Utility; it just switches them on or off until you press the command again.

## **Work with cursor tracking turned off**

* *Move the VoiceOver cursor to the keyboard focus:* Press VO-Shift-F4.
* *Move the keyboard focus to the VoiceOver cursor:* Press VO-Command-F4.
* *Move the VoiceOver cursor to where the mouse pointer is focused:* Press VO-Shift-F5.
* *Move the mouse pointer to where the VoiceOver cursor is focused:* Press VO-Command-F5.

# **Customize VoiceOver with VoiceOver Utility**

VoiceOver Utility is the app you use to customize VoiceOver settings. To learn about the options, click the Help button in the lower-right corner of each pane in VoiceOver Utility.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To open VoiceOver Utility, do one of the following:
  + When VoiceOver is on, press VO-F8.
  + Choose Apple menu > System Preferences, click Accessibility, click VoiceOver, then click Open VoiceOver Utility.
* To search VoiceOver Utility for a specific option, interact with the toolbar in the VoiceOver Utility window, then type what you’re looking for in the search field.
* Navigate the list of search results by pressing VO-Down Arrow or VO-Up Arrow. For each result, VoiceOver Utility shows the pane where the option is located and highlights the option.

# **Learn MacOS Basics**

# **About this chapter**

This chapter introduces macOS and key features such as the desktop, Finder, and Dock. You’ll learn how to use menus, buttons, and accessibility features that make it easier to use your Mac, as well as how to work with apps and windows.

# **Navigate the desktop**

The desktop shows icons for many items, such as folders, documents, or image files.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To move to the desktop, press VO-Shift-D.
* To quickly move to an item on the desktop, type the first letter of the item. For example, if you have a file named “travel plans” on the desktop, type “T” to move to it.
* To move around items on the desktop, press the arrow keys.
* To open an item selected on the desktop, press Command-O. Folders open in a Finder window.

**Navigate the Finder**

Use VoiceOver commands or gestures to open and navigate Finder windows, and use Finder shortcuts to work with files and folders.

Before you start, make sure the keyboard focus and VoiceOver cursor are synchronized. For more information, see [Set up or turn off cursor tracking](http://help.apple.com/voiceover/info/guide/10.12/#/vo15534).

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Open a Finder window**

Do one of the following:

* Move to the Dock by pressing VO-D, or double-tapping near the bottom edge of the trackpad. Navigate to the Finder, which is the first item in the Dock. If a Finder window isn’t already open, press Return.
* Move to the menu bar by pressing VO-M, or double-tapping near the top edge of the trackpad, then use the Right Arrow key to navigate to the Finder menu.
* Open the Application Chooser by pressing VO-F1-F1, or double-tapping near the left edge of the trackpad. Choose Finder in the Application Chooser.
* You can also use the macOS shortcut of holding down the Command key and pressing Tab repeatedly until you hear “Finder.”

## **Navigate a Finder window**

1. In a Finder window, press VO-Right Arrow or VO-Left Arrow to move through the window until you hear “toolbar,” then [interact with the toolbar](http://help.apple.com/voiceover/info/guide/10.12/#/vo24851).
2. In the toolbar, press VO-Right Arrow until you hear “view radio group,” then interact with that control. Press VO-Right Arrow until you hear the view (such as Icon or List) you want to use.
3. When you have selected a view, stop interacting with the view radio group and the toolbar, then press VO-Right Arrow to move through the window until you hear “sidebar.”
4. Interact with the sidebar, then move down the list of items in the sidebar by pressing VO-Down Arrow. When you hear the item you want, press VO-J to jump to it in the view browser, where you can interact with it.
5. To jump if you’re using VoiceOver gestures, keep a finger on the trackpad while you press the Control key.
6. Move to and select the item you want to open, using the method for the view you’re in:
   * *Icon view:* Use the arrow keys to move to the item you want.
   * *List view:* To move down the list rows, press VO-Down Arrow. To expand and collapse a folder, press VO-\. To move the VoiceOver cursor across a row and hear information about an item, press VO-Right Arrow. Or press VO-R to hear the entire row read at once.
   * *Column view:* To move down the list until you find the folder or file you want, use the Down Arrow key. To move into subfolders, press the Right Arrow key.
   * *Cover Flow view:* To flip through the items in the top section and move automatically through the corresponding list rows in the bottom section, press the Left Arrow or Right Arrow key.
7. When you find the file or folder you want to open, open it using the Finder shortcut Command-O or Command-Down Arrow.
8. VoiceOver announces when you have selected an alias or a file or folder you don’t have permission to open.

## **Use Finder shortcuts**

* To open the selected item, press Command-O or Command-Down Arrow.
* To move to the parent of the selected item (such as the folder that contains a subfolder you selected), press Command-Up Arrow.
* To add the selected item to the Finder sidebar, press Control-Command-T.
* To add the selected item to the Dock, press Control-Shift-Command-T.

You can temporarily hide the toolbar and sidebar in a Finder window to make it easier to navigate. To hide or show the toolbar, press Option-Command-T. To hide or show the sidebar, press Option-Command-S.

# **Use the Dock**

Use the Dock to open apps, documents, folders, or stacks.

If Trackpad Commander is enabled, you can use gestures when navigating and using the Dock.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Navigate the Dock**

* To move the VoiceOver cursor to the Dock, press VO-D, or double-tap near the bottom edge of the trackpad.
* To move in the Dock, use the arrow keys, or flick or drag up, down, left, or right on the trackpad.
* Type the name of an app or folder. For example, to move the VoiceOver cursor to Mail, start typing its name.
* To exit the Dock, press the Escape key or Fn-Tab, or scrub back and forth with two fingers on the trackpad.

## **Use items in the Dock**

* To move an item, hold down the Option key and use the arrow keys to move the item. Each arrow key press moves it one place.
* To open an item, press VO-Space bar, or double-tap on the trackpad.
* To open a shortcut menu for an item, press VO-Shift-M, then use the arrow keys to move up and down the shortcut menu. To close the shortcut menu without making a selection, press the Escape key or Fn-Tab.
* To add an item, navigate to the item in the Finder or on the desktop, then press Control-Shift-Command-T.
* To remove an item, open its shortcut menu (VO-Shift-M), then choose Remove from Dock.

# **Use Launchpad**

Launchpad provides a full-screen grid of icons representing the apps on your Mac.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Go to the Dock by pressing VO-D, then navigate to the Launchpad icon by pressing VO-Left Arrow or VO-Right Arrow.
2. Open Launchpad by pressing VO-Space bar.
3. VoiceOver automatically interacts with the grid.
4. Navigate down, up, left, and right in the grid by pressing VO and an arrow key.
5. If you have a lot of apps, Launchpad may have more than one page. To display other pages, stop interacting with the grid, navigate to the radio buttons at the bottom of the page, then select a radio button.
6. To open an app, press VO-Space bar.
7. To exit Launchpad without opening an app, press the Escape key or Fn-Tab.

You can drag and drop apps to rearrange them in Launchpad. For more information, see [Drag and drop items](http://help.apple.com/voiceover/info/guide/10.12/#/vo14056).

# 

# **Use Notification Center**

Use Notification Center to review in one location information from your favorite widgets and notifications you haven’t acted on yet.

Depending on your settings, Today view shows information such as the weather and stocks, and events or reminders. You can customize it to show information from other widgets. Notifications view shows app and system notifications.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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## **Show and hide Notification Center**

* *Show Notification Center:* Press VO-M-M to jump to menu extras in the menu bar, press VO-Right Arrow until you hear Notification Center, then press VO-Space bar.
* To switch between the Today and Notifications views, press VO-Right Arrow or VO-Left Arrow.
* *Hide Notification Center:* Press the Escape key or Fn-Tab.

## **Navigate Today or Notifications view**

* *Today view:* Select the radio button by pressing VO-Space bar, press VO-Down Arrow to navigate to the widgets scroll area, then interact with the area.
* To navigate in the area, press VO and an arrow key.
* *Notifications view:* Select the radio button by pressing VO-Space bar, press VO-Right Arrow to navigate to the table, then interact with the table.
* To navigate the items in the table, press VO and an arrow key.

## **Edit a widget in the Today view**

1. Navigate to an editable widget.
2. Press VO-Command-Space bar to display the Actions menu, press VO-Down Arrow until VoiceOver announces “Show editing view,” then press VO-Space bar to select it.
3. Interact with the widget, then add or remove items from it. For example, interact with the Stock widget to add or remove stock symbols.
4. When you’re done, stop interacting with the widget, press VO-Command-Space bar to display the Actions menu, then choose “Show default view.”

## **Remove and add widgets in the Today view**

* *Remove widgets:* Navigate to the bottom of the Today view until you hear Edit or New, then press VO-Space bar to select the Edit or New button. Press VO-Down Arrow, then interact with the widgets scroll area. For widgets in use, VoiceOver announces a Remove button followed by the widget name. Navigate to the Remove button, then press VO-Space bar.
* The removed widget is added to a list of items located to the right of the widgets scroll area, so that you can add it back later if you want.
* *Add widgets:* Navigate to the bottom of the Today view until you hear Edit or New, then press VO-Space bar to select the Edit or New button. Navigate until VoiceOver announces New Widgets, then interact with the new widgets area. Press VO-Right Arrow to navigate to a widget’s Add button, then press VO-Space bar. The widget is added at the top of the Today view.

To change the order of widgets in the Today view, you must remove the widgets, then add them back. Because the most recently added widget appears at the top of the view, be sure to add the widgets back in the reverse order of how you want them to appear.

## 

## **Download widgets from the App Store**

* Navigate to the bottom of the Today view until you hear Edit or New, then press VO-Space bar to select the Edit or New button. Navigate to the App Store button at the bottom of the Today view, then press VO-Space bar to open the App Store.
* After you select and download a widget, it appears in the Today view.

## **Change Notifications preferences**

You can open Notifications preferences directly from the Today or Notifications view to change Do Not Disturb settings, and settings for app and system notifications.

* Navigate to the Notifications preferences button in the lower-right corner of the view, then press VO-Space bar. Notification Center closes as the preferences open.

In Keyboard preferences, you can create a shortcut to open Notification Center.

# **Navigate notifications**

Notifications appear in the upper-right corner of the screen. Depending on how options are set in Notifications preferences, you receive notification banners and alerts.

* Banners are visible on the screen only briefly. When you receive one, VoiceOver says the name of the app (such as Mail) and a brief description (such as your name and the subject line of the email), but the VoiceOver cursor doesn’t move to the notification.
* Alerts remain on the screen until you take an action. When you receive one, VoiceOver says Notification Alert while the VoiceOver cursor automatically moves to the notification; the cursor remains there until you take an action or navigate elsewhere.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *Navigate in a notification:* Press VO-Right Arrow or VO-Left Arrow. When you hear the action you want to take (such as Close, Reply, Snooze, or Later), press VO-Space bar to select it.
* You can also open the item, such as an email message, by pressing VO-Shift-Space bar anywhere in the notification.
* *Navigate to a notification alert:* If you navigated away from an alert before taking an action, you can return to it by pressing VO-F1-F1 to open the Application Chooser. Next, press VO-Down Arrow until you hear Notification Center, press VO-Space bar to select it, press VO-Down Arrow until you hear the notification you want to read, then press VO-Space bar to select it.

You can view pending notifications in the Notifications view of Notification Center. To open Notification Center, press VO-M-M to jump to menu extras in the menu bar, press VO-Right Arrow until you hear Notification Center, then press VO-Space bar.

# **Perform an item’s alternate action**

Some menu commands may offer alternate actions when you press a modifier key.

Buttons, checkboxes, and other user interface elements can also offer alternate actions. For example, moving the pointer over a label may display additional buttons. If an app or website developer identifies these types of alternate items for screen readers, VoiceOver automatically announces them, so you can show and navigate to them.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *For menu commands:* Move the VoiceOver cursor to a menu command, then hold down a modifier key. If the command has an alternate action associated with that modifier, VoiceOver speaks it. To perform the action, continue to hold the modifier key and press Enter, or press the other required keys.
* *For user interface elements:*VoiceOver announces when alternate items exist. Press VO-Command-Space bar to open the Actions menu, then choose Show alternate items. To show the default items again, press VO-Command-Space bar to open the Actions menu, then choose Show default items.

# **Click or double-click the mouse**

Use VoiceOver commands to simulate mouse clicks.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Make sure the mouse pointer is on the item you want to click.
2. If you didn’t set the mouse pointer to follow the VoiceOver cursor (in the Navigation category of VoiceOver Utility), you must move the VoiceOver cursor to the item, then press VO-Command-F5 to place the pointer on the item.
3. To click the mouse, press VO-Shift-Space bar. To double-click the mouse, press VO-Shift-Space bar-Space bar.

You can use Mouse Keys to control the mouse pointer (except when the NumPad Commander is enabled).

# **Use buttons, checkboxes, and other controls**

Before you select a button, checkbox, or other UI control, make sure you know where the keyboard focus and VoiceOver cursor are located. For more information, see [Hear the current selection](http://help.apple.com/voiceover/info/guide/10.12/#/vo2718).

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* *Select or deselect a checkbox or other control:* Press VO-Space bar, or double-tap. If Quick Nav is on, press Up Arrow-Down Arrow.
* *Hold down a button that’s in the VoiceOver cursor:* Press and hold VO-Space bar. To stop holding the button, release the Space bar.
* *Open a pop-up menu:* Press VO-Space bar, or double-tap on the trackpad. If Quick Nav is on, press Up Arrow-Down Arrow.
* *Adjust a slider, stepper, or splitter:* Start interacting with the control (press VO-Shift-Down Arrow, or flick right with two fingers on the trackpad). Then increase or decrease the setting (use the VO and arrow keys, or flick up or down with a single finger on the trackpad). When you’re ready, stop interacting with the control (press VO-Shift-Up Arrow, or flick left with two fingers on the trackpad).

# **Use Mission Control**

Mission Control shows all of the windows open on the desktop (VoiceOver calls them *exposéd windows*), neatly arranged so it’s easy to find the one you need. Apps that are in full screen or Split View, and desktop spaces you created, are shown in the Spaces bar (VoiceOver calls it the *spaces list*) along the top edge of the screen.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Enter Mission Control by pressing Control-Up Arrow.
2. To exit Mission Control without doing anything, press the keys again.
3. In Mission Control, do any of the following:
   * To open an item in a window group, press VO-Left Arrow or VO-Right Arrow to navigate to the group, press VO-Shift-Down Arrow to interact with it, navigate to the window, then press VO-Space bar.
   * To open an item in the spaces list, press VO-Left Arrow or VO-Right Arrow to navigate to the list, press VO-Shift-Down Arrow to interact with it, navigate to the item, then press VO-Space bar.
   * To create a desktop space, press VO-Left Arrow or VO-Right Arrow to navigate to the Add Desktop button in the spaces list, then press VO-Space bar.
   * To remove a desktop space, press VO-Left Arrow or VO-Right Arrow to navigate to the spaces list, press VO-Shift-Down Arrow to interact with it, navigate to the space, then press VO-Command-Escape. Press Return to confirm.

You can easily move between desktops while you’re working—just press Control-Right Arrow or Control-Left Arrow.

# **Use an app full screen**

Many apps in macOS, such as Mail, let you expand the window to fill the screen.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To enter full screen in an app that supports it, press Control-Command-F. You can also navigate to the green full-screen button in the top-left corner of the app window, then press Command-Space bar.
* The full-screen button can also expand (or maximize) the window. To do so, navigate to the button, press VO-Command-Space bar to open the Actions menu, then choose “zoom the window.” To return the window to its previous size, navigate to the full-screen button, press VO-Command-Space bar to open the Actions menu, then choose “zoom the window.”
* When you work full screen, the menu bar is displayed only when the pointer moves there. To navigate to the menu bar to display it, press VO-M.
* To exit full screen, press VO-F2-F2 to display the Window Chooser, press the Down Arrow or Up Arrow key until you hear “Exit full screen,” then press the Space bar. Or press Control-Command-F.

# **Hear open apps and windows**

Hear which apps and windows are open on your Mac.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

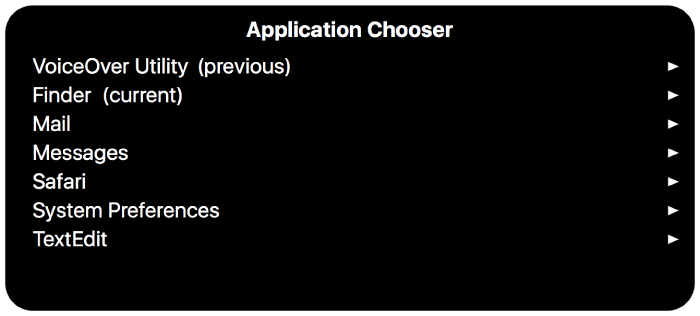
* To hear which app is active and how many apps are open, press VO-F1.
* To hear which window is active, press VO-F2.

# **Switch between apps and windows**

When you have more than one app open, or more than one window open for an app, quickly switch between them using the Application Chooser or Window Chooser.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

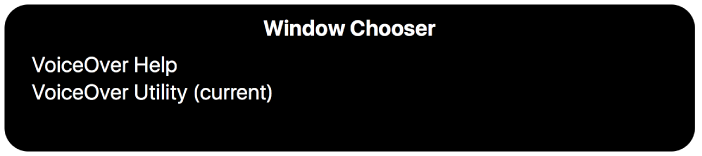
## **Switch between apps**

1. To open the Application Chooser, press VO-F1-F1, or double-tap near the left edge of the trackpad.
2. 
3. To navigate the list of open apps, press the Down Arrow or Up Arrow key, or flick down or up on the trackpad.
4. When you hear the app you want, press the Space bar or double-tap on the trackpad.
5. If you used the VoiceOver command to open the chooser, pressing the Space bar opens a submenu that lists all open windows, dialogs, or alerts for the app. Navigate a submenu in the same way you did the list of apps.

To exit the Application Chooser without making a selection, press the Escape key or Fn-Tab, or scrub back and forth with two fingers on the trackpad.

## 

## **Switch between windows**

1. To open the Window Chooser, press VO-F2-F2, or double-tap near the right edge of the trackpad.
2. 
3. To navigate the list of open windows, press the Down Arrow or Up Arrow key, or flick down or up on the trackpad.
4. To select the window, press the Space bar or double-tap on the trackpad.

To exit the Window Chooser without making a selection, press the Escape key or Fn-Tab, or scrub back and forth with two fingers on the trackpad.

# **Navigate app windows using window spots**

You can quickly navigate app windows using window spots. VoiceOver automatically creates a set of window spots for an app window, based on its design, and lists them in the Rotor. Window spots include key areas of an app window, such as a search field or sidebar.

You can create your own window spots to mark the buttons or areas in a window that you use most often.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To see a list of window spots for the current app window, press VO-U to open the Rotor, then press the Left or Right arrow key until you hear Window Spots.
* To create a window spot for the item that has focus, press VO-Command-Shift-}. You can create an unlimited number of window spots for an app window. Your most recently used window spot appears first in the list of window spots in the Rotor.
* To remove a window spot you created, press VO-Command-Shift-{.

If the design of an app window changes significantly and VoiceOver can’t locate a window spot that previously existed on the page, it creates a new one that closely matches the original one.

# **Move and resize windows and objects**

Move and resize windows and some objects in apps, such as graphics and text boxes.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Move**

1. Navigate to the item you want to move, then press either VO-` (for a window) or VO-Command-` (for an object).
2. VoiceOver tells you if an item can’t be moved.
3. Move the window or object in one of these ways:
   * *Up, down, left, or right:* Press the arrow keys.
   * *Diagonally:* Press the VO modifier with the Up Arrow or Down Arrow key and the Left Arrow or Right Arrow key. For example, to move a window diagonally toward the upper-right corner, press VO-Right Arrow-Up Arrow.
4. To stop moving the window or object, press the Escape key or Fn-Tab.
5. You can’t use other VoiceOver commands until you stop moving the item.

You can use certain number keys to quickly move windows and objects around the screen: the top (left, middle, and right) section using keys 1, 2, and 3; the center (left, middle, and right) section using keys 4, 5, and 6; and the bottom (left, middle, and right) section using keys 7, 8, and 9.

## **Resize**

1. Navigate to the item you want to resize and press either VO-~ (for a window) or VO-Command-~ (for an object).
2. VoiceOver tells you if an item can’t be resized.
3. In the Resize menu that appears, choose Resize, Resize and Move to Grid, or Resize and Move to Section.
4. Navigate to the submenu where you can choose to resize an edge or corner, resize and move to an area of a grid such as the top left, or resize and move to a section, such as the bottom half.
5. Resize the item.
   * To resize an edge, use the VO and arrow keys (for example, press VO-Right Arrow to extend the right edge of a window or object).
   * To resize a corner or handle, use the VO and two arrow keys (for example, press VO-Right Arrow-Up Arrow to extend the top-right corner of a window or the top-right handle of an object).
6. To stop resizing the window or object, press the Escape key or Fn-Tab.
7. You can’t use other VoiceOver commands until you stop resizing.

# **Log in to an encrypted account without VoiceOver**

If you turn on FileVault, you must log in to your account whenever your Mac is restarted or wakes from sleep. VoiceOver isn’t available in the FileVault login window. Depending on your computer, a series of beeps or macOS speech services indicate where the cursor is positioned in the login window.

1. After your Mac awakes or starts, determine if the FileVault login window is displayed by pressing Command-F5.
2. If you hear a single beep, the cursor is positioned in the Name field and you can begin logging in. Continue to step 2.
3. If you don’t hear a single beep, the FileVault login window might not be displayed yet. Wait a minute, then press Command-F5 again. If you still don’t hear a beep, there may be a problem with encryption. Turn off your Mac, then turn it on again. An unencrypted login process will begin during which VoiceOver is available.
4. Type your account name, then press Return.
5. If you hear a double beep, you entered a valid account name. Continue to step 3.
6. If you hear a single beep, you entered an invalid account name and the cursor remains in the Name field. Keep entering your account name until you hear a double beep.
7. Type your account password, then press Return.
8. If you hear three beeps, you entered a valid password and login proceeds.
9. If you hear a double beep, you entered an invalid password and the cursor remains in the Password field. Keep entering your password until you hear three beeps.

# **Use VoiceOver with the Touch Bar**

If your Mac has a [Touch Bar](http://help.apple.com/voiceover/info/guide/10.12/#/glosbabd4062), you can use VoiceOver to select and activate items in the Touch Bar by performing gestures directly on the Touch Bar. If you already use VoiceOver on iPhone or iPad, the gestures will be familiar to you.

To turn VoiceOver on or off using the Touch Bar, press and hold the Command key on the keyboard and quickly press [Touch ID](http://help.apple.com/voiceover/info/guide/10.12/#/glosc8aef3dc) three times.

* *Navigate items:* Slide a finger or swipe right or left on the Touch Bar. VoiceOver announces and outlines the currently selected item as you move around the Touch Bar. When you slide, VoiceOver also plays sound effects to indicate blank space.
* The outline around an item in the Touch Bar is independent of the VoiceOver cursor on the item on the screen.
* *Select an item:* Tap the item once.
* *Activate a selected item:* Double-tap the item.
* *Select and activate an item:* Split-tap—touch and hold the item with one finger, then tap anywhere on the Touch Bar with another finger to activate the item.

For some actions, such as dragging sliders to adjust brightness, volume, or date and time ranges, the double-tap and hold gesture is especially useful. For example, double-tap and hold your finger on an item in the Touch Bar until you hear three rising tones; then without lifting your finger, drag to move the slider.

Tip: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

# 

# **Work with Text**

# **About this chapter**

Text is found in many places, such as in windows and dialogs, in content areas like webpages and help files, and in documents. This chapter explains how to use VoiceOver to read, select, and edit text.

# **Read text**

VoiceOver provides many ways to read text.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| **To read** | **Do this** |
| From the top (“Read All”) | Press VO-A, or flick up with two fingers. You don’t need to interact with the document. |
| From the VoiceOver cursor to the bottom | Press VO-A, or flick down with two fingers. You must first interact with the document. |
| A paragraph | Press VO-P. To move to the next or previous paragraph, press VO-Shift-Page Down or VO-Shift-Page Up. |
| A line | Press VO-L. To move to the next or previous line, press VO-Down Arrow or VO-Up Arrow. |
| A sentence | Press VO-S. To move to the next or previous sentence, press VO-Command-Page Down or VO-Command-Page Up. |
| A word | Press VO-W. To hear the word spelled, press VO-W again. To hear it spelled phonetically, press VO-W again. To move to the next or previous word, press VO-Right Arrow or VO-Left Arrow. |
| A paragraph, line, sentence, or word using gestures | Press the Command key while touching a finger on the trackpad; repeat until you hear the setting you want to use. |
| A character | Press VO-C. To hear the character spoken phonetically, press VO-C again. To move to the next or previous character, press VO-Shift-Right Arrow or VO-Shift-Left Arrow.  If “Use phonetics” is selected in VoiceOver Utility, characters are read phonetically, as in “a alpha n november t tango.” |

When you use the Down Arrow key to move from one line of text to the next, VoiceOver speaks the line where the insertion point is located. If you press the Down Arrow key at the first line of a document, VoiceOver won’t read the line because the insertion point has moved to the next line. To hear the first line of text in a document, press VO-Down Arrow.

The [orientation commands](http://help.apple.com/voiceover/info/guide/10.12/#/cpvokys03) VO-F4-F4 and VO-F5-F5-F5 can be useful in determining the insertion point’s location in a document.

To assign commands to keys that let you fast forward and rewind text when you use Read All, open VoiceOver Utility (press VO-F8 when VoiceOver is on), then click Commanders.

# 

# **Scroll to content**

You can scroll to content using a VoiceOver command or VoiceOver gestures.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Use a VoiceOver command**

1. [Interact with a scroll area](http://help.apple.com/voiceover/info/guide/10.12/#/vo24851).
2. To begin scrolling, press VO-Shift-S.
3. You can’t use other VoiceOver commands while you’re scrolling.
4. Scroll the content. If you hear a sound effect, you can’t scroll any farther.
   * *Scroll up and down, or left and right:* Press the arrow keys.
   * *Scroll one page at a time:* Press the Page Up or Page Down key to scroll vertically. Press Shift-Page Up or Shift-Page Down to scroll horizontally.
5. To stop scrolling, press the Escape key or Fn-Tab.

## **Use VoiceOver gestures**

* To scroll one page at a time, flick up, down, left, or right with three fingers.
* To hear the number of pages or rows that are visible on the current page, tap three fingers. VoiceOver speaks something like “Page 4 of 15 and Horizontal page 1 of 2.”
* In the Trackpad Commander pane of VoiceOver Utility, you can select a checkbox to scroll the content (not the scroll bar) down or up. Usually when you move the scroll bar down or up, the content moves in the opposite direction. When the option is selected, the content moves in the same direction you’re scrolling.

When you interact with content, the VoiceOver cursor automatically scrolls as it navigates the content.

# **Hear punctuation**

Change the level of punctuation that VoiceOver reads.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. To open the Verbosity rotor, press VO-V.
2. Press the Left Arrow or Right Arrow key until you hear “punctuation” and the current setting.
3. Press the Up Arrow or Down Arrow key until you hear the setting you want, such as All or None.
4. To close the rotor, press the Escape key or Fn-Tab.

You can also set punctuation options in the Text pane of the Verbosity category in VoiceOver Utility. To open VoiceOver Utility, press VO-F8 when VoiceOver is on.

If you’re using portable preferences on a guest computer when you change punctuation settings, the settings are saved to the portable preferences drive and not to the guest computer.

# **Hear text attribute changes**

You can have VoiceOver announce when text attributes change—for example, when text uses bold or italic.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. To open the Verbosity rotor, press VO-V.
2. Press the Left Arrow or Right Arrow key until you hear Text Attributes and the current setting.
3. Press the Up Arrow or Down Arrow key until you hear the setting you want, such as Play Tone.
4. To close the rotor, press the Escape key or Fn-Tab.

You can also choose a text attribute setting in the Text pane of the Verbosity category in VoiceOver Utility.

To hear details about the text style closest to the VoiceOver cursor, press VO-T.

If you’re using portable preferences on a guest computer when you change text attribute settings, the settings are saved to the portable preferences drive and not to the guest computer.

# **Hear the current selection**

You can have VoiceOver announce what is selected in the VoiceOver cursor. For example, specific text or a checkbox.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* Press VO-F6. If Trackpad Commander is enabled, tap three times on the trackpad.
* If nothing is selected, VoiceOver says No Selection.

# **Repeat, copy, or save the last spoken phrase**

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To repeat a phrase, press VO-Z.
* To copy a phrase to the Clipboard (or “Pasteboard”), press VO-Shift-C.
* To save a phrase as an audio file, press VO-Shift-Z.
* The file is saved in an archive folder on your desktop. The folder also contains log files that can be used to troubleshoot problems.

# **Select text**

When cursor tracking is on, you can select text using standard macOS keyboard shortcuts, VoiceOver gestures, or Quick Nav.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Use standard macOS shortcuts**

* *Select the character to the right or left of the insertion point:* Press Shift-Right Arrow or Shift-Left Arrow.
* *Select the word to the right or left of the insertion point:* Press Shift-Option-Right Arrow or Shift-Option-Left Arrow.
* *Select the text from the keyboard cursor to the beginning or end of the line:* Press Shift-Command-Right Arrow or Shift-Command-Left Arrow.
* *Select the text from the keyboard cursor to the beginning or end of the text area:* Press Shift-Command-Up Arrow or Shift-Command-Down Arrow.

If you can’t select text using these shortcuts, press VO-Return. Press the VoiceOver modifier with arrow keys to read the text you want to select, then press VO-Return again. The text that was read is selected.

## **Use VoiceOver gestures**

1. Rotate two fingers on the trackpad to open the gestures rotor, then continue rotating until you hear the Characters or Words list, or the Headings, Lines, or Static Text list.
2. To select text from the starting location to the next element in the rotor, pinch your fingers apart.
3. To deselect text, pinch your fingers together.

## **Use Quick Nav**

1. Open the rotor by pressing Left Arrow-Up Arrow or Right Arrow-Up Arrow.
2. Jump to the Characters or Words list, or the Headings, Lines, or Static Text list, by pressing the Right Arrow and Up Arrow keys together (to jump to the next list) or the Left Arrow and Up Arrow keys together (to jump to the previous list).
3. Navigate the items in a list by pressing the Up Arrow or Down Arrow key, then select an item by pressing Shift-Down Arrow.
4. To deselect an item, press Shift-Up Arrow.

To delete selected text, press the Delete key. If you accidentally delete text, try pressing Command-Z to undo the mistake.

# **Hear what you type**

VoiceOver can speak what you’re typing (known as a “typing echo”).

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. To open the Verbosity rotor, press VO-V.
2. Press the Left Arrow or Right Arrow key until you hear “typing echo” and the current setting.
3. Press the Up Arrow or Down Arrow key until you hear the setting you want.
4. To close the rotor, press the Escape key or Fn-Tab.

You can also set the typing echo in the Text pane of the Verbosity category in VoiceOver Utility. To open VoiceOver Utility, press VO-F8 when VoiceOver is on.

To set options to have VoiceOver tell you when you press the Caps Lock key or a modifier key, open VoiceOver Utility, then click Announcements.

If you’re using portable preferences on a guest computer when you change typing settings, the settings are saved to the portable preferences drive and not to the guest computer.

# **Complete partially entered words**

When you start typing a word, you can display a list of suggestions for completing the word.

1. As you type, enter as many characters as you know, then press F5 (do not use the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad)). You may need to press Fn-F5.
2. Press the Down Arrow key until you hear a word that sounds correct.
3. To hear how the word is spelled, press VO-W-W. To hear the word spelled phonetically, press VO-W-W-W.
4. When you hear the word you want to use, press the Space bar.
5. The word you selected replaces the text you typed.

# **Correct misspelled words**

Many macOS apps, such as TextEdit and Mail, can identify misspelled words as you type, and suggest corrections.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Use automatic spelling correction**

When VoiceOver announces a misspelled word, do one of the following:

* To let the word be corrected automatically, keep typing.
* If the spell checker can’t correct the word, it underlines it in red. You can check the document to manually correct these misspellings.
* To choose a suggested correction, press the Down Arrow key, then press the Left Arrow or Right Arrow key until you hear the suggestion you want to use. Then press Return.
* To exit the suggestions without choosing one, press the Escape key, Fn-Tab, or the Up Arrow key.
* To revert to the original spelling of a word that was automatically corrected, navigate to the word, position the insertion point just after the word, press the Down Arrow key to move to the original spelling, then press the Space bar to select it.

If you don’t want spelling to be corrected automatically, choose Edit > Spelling and Grammar, then deselect the Correct Spelling Automatically command (if it’s available).

## **Correct spelling manually**

If you chose not to use automatic spelling correction, or a document contains misspelled words for which the spell checker can’t suggest a correction, you can review and correct misspellings manually.

1. Navigate to the first misspelled word, then press Command-;.
   * To hear the word spelled, press VO-W-W.
   * If the word’s not actually misspelled, press Command-; until you hear a word that needs to be corrected.
   * To open a shortcut menu of suggestions, dictionaries, and more, press VO-Shift-M.
2. Navigate to the spelling you want to use, then press VO-Space bar to select it.
3. If you don’t hear an acceptable correction, press the Escape key or Fn-Tab, press VO-Shift-F4 to move the VoiceOver cursor to the misspelled word, then enter any changes you want to make.

To change how VoiceOver announces misspelled words, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click Verbosity, then click Text.

# **Navigate Content**

# **About this chapter**

VoiceOver provides numerous ways to navigate content and text. In this chapter, you’ll learn how to navigate content such as tables and text, and how to use navigation features such as Quick Nav, the Item Chooser, and hot spots, among others.

# 

# **Navigate menus**

The menu bar at the top of the screen contains several menus, such as the Apple menu, the app menu, and the status menus.

If Trackpad Commander is enabled, you can use gestures when navigating menus.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## 

## **Navigate to the menu bar**

* Press VO-M, or double-tap with two fingers near the top edge of the trackpad.

## **Navigate in the menu bar**

* *Go to a specific menu:* Type the first letter of the menu. For example, type “H” to jump to the Help menu.
* *Go to the status menus:* Press VO-M-M.
* *Move among the menus in an area of the menu bar:* Press VO-Right Arrow or VO-Left Arrow. A sound effect indicates when you’re at the end of an area.
* *Open Spotlight:* Press Command-Space bar.
* *Ask Siri:* Press the keyboard shortcut (as specified in the Siri pane of System Preferences). If Siri isn’t shown in the menu bar, choose Apple menu > System Preferences, click Siri, then select “Show Siri in menu bar.”

If you’re using VoiceOver gestures, drag a finger across the trackpad to navigate the areas and menus in the menu bar. You hear a sound effect when moving over a blank space. You can also flick left or right to move between menus.

## 

## **Navigate a menu**

* To open any menu, press VO-Space bar.
* To move down or up a menu, press VO-Down Arrow or VO-Up Arrow, or drag a finger down or up on the trackpad.
* To move to a submenu, press VO-Right Arrow or flick right on the trackpad. To return to the main menu, press VO-Left Arrow or flick left on the trackpad.

## 

## 

## **Close a menu**

* To exit a menu without selecting an item, press Escape, or scrub back and forth with two fingers on the trackpad.

To open a shortcut menu for an item, press VO-Shift-M, or use the customized gesture Control-Trackpad click (you can change this default assignment and assign the command to a different gesture).

# **Navigate using letters, text, or attributes**

Navigate by searching for a letter, text, or text attribute.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **By letter**

You can use fast searching to quickly move to the next occurrence of a letter in an element on the screen. To set up fast searching, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Navigation category, select the “Enable fast searching” checkbox, then choose a Command key to use.

* To search for the next element that begins with a specific letter, press the specified Command key and the letter. For example, press Left Command-S.
* To search for the previous element that begins with a specific letter, press the specified Command key, the Shift key, and the letter. For example, press Left Command-Shift-S.

## **By text**

Type a phrase in the VoiceOver search panel to navigate to the next occurrence of that phrase.

1. Press VO-F to display the search panel.
2. In the search panel, type or paste the text you’re looking for, then press Return.
3. VoiceOver searches from the VoiceOver cursor to the end of the text area.
   * To find the next occurrence of the text in the window, press VO-G.
   * To find the previous occurrence of the text in the window, press VO-Shift-G.
4. To review past searches, press the Up Arrow or Down Arrow key. Before you repeat, delete, or enter a new search, press VO-F.
   * To repeat a previous search, press Command-A.
   * To delete a search, press Command-Delete.

## **By text attribute**

* To find the next or previous instance of an attribute, use the following commands:

|  |  |  |
| --- | --- | --- |
| * **Attribute** | * **Find the next instance** | * **Find the previous instance** |
| * Bold text | * VO-Command-B | * VO-Command-Shift-B |
| * Font change | * VO-Command-O | * VO-Command-Shift-O |
| * Text that has the same style as the current text | * VO-Command-S (if you are not in a text area, VO-Command-S finds the next item that is the same as the current item) | * VO-Command-Shift-S (if you are not in a text area, VO-Command-Shift-S finds the previous item that is the same as the current item) |
| * Style change | * VO-Command-C | * VO-Command-Shift-C |
| * Italic text | * VO-Command-I | * VO-Command-Shift-I |
| * Color change | * VO-Command-K | * VO-Command-Shift-K |
| * Underlined text | * VO-Command-U | * VO-Command-Shift-U |
| * Plain text | * VO-Command-P | * VO-Command-Shift-P |
| * Graphic | * VO-Command-G | * VO-Command-Shift-G |
| * Link | * VO-Command-L | * VO-Command-Shift-L |

# **Navigate using cursor wrapping**

When you use cursor wrapping, VoiceOver treats the items in a window or column as a continuous loop.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Wrap automatically**

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click Navigation, then select “Allow cursor wrapping.”
2. To use wrapping, do any of the following:
   * To wrap from the last item in a window to the top of the window, press VO-Right Arrow.
   * To wrap from the first item in a window to the bottom of the window, press VO-Left Arrow.
   * To wrap from an item at the bottom of a column (such as a list) to the first item in the next column, press VO-Down Arrow.
   * To wrap from an item at the top of a column (such as a list) to the last item in the previous column, press VO-Up Arrow.

## **Wrap only when you choose**

* To wrap from the last item in a window to the top of the window, press VO-Command-Shift-Right Arrow.
* To wrap from the first item in a window to the bottom of the window, press VO-Command-Shift-Left Arrow.
* To wrap from an item at the bottom of a column to the first item in the next column, press VO-Command-Shift-Down Arrow.
* To wrap from an item at the top of a column to the last item in the previous column, press VO-Command-Shift-Up Arrow.

# **Navigate using the Tab key**

macOS includes full keyboard access, which lets you use the Tab and arrow keys to move the keyboard focus to text boxes, lists, radio buttons, checkboxes, and other controls.

When you turn VoiceOver on, the Full Keyboard Access setting in the Shortcuts pane of Keyboard preferences automatically switches to “All controls.” When you turn VoiceOver off, the setting switches to “Text boxes and lists only.” To change the setting at any time, press Control-F7.

When you use the Tab key to navigate while VoiceOver is on, keep these points in mind:

* To navigate in reverse, press Shift-Tab.
* When the VoiceOver cursor lands on an item, you immediately interact with the item (you don’t need to enter a command). To turn off this automatic interaction of the Tab key, open VoiceOver Utility (press VO-F8 when VoiceOver is on), navigate to the Navigation category, then deselect “Automatically interact when using tab key.”
* Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

# **Navigate using the Rotor**

When you work in an app or browse a webpage, you can use the Rotor to navigate directly to an item in an app window or a webpage. For example, you can go to an email message in Mail or a webpage heading or link.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open the Rotor by pressing VO-U.
2. Navigate the lists using the Right Arrow or Left Arrow key until you hear the list you want, such as Window Spots or Headings.
3. Depending on the app you’re in, you may hear Content Chooser. The Content Chooser provides quick access to content lists in an app. For example, in Mail the Content Chooser lists the messages shown in the messages list. In Week view in Calendar, it shows the number of events for each day.
4. Navigate the items in the list using the Up Arrow or Down Arrow key until you find the item you want.
   * In most lists, you can type some letters of an item to narrow the list to only items that contain those letters. In the Headings list, you can type the heading level (such as 3) to narrow the list to only headings of that level.
   * To show all items in a list again, press the Delete key.
   * To hear an item’s help tag, if available, press VO-Shift-H.
   * To hear an item’s Internet address, if applicable, press VO-Shift-U.
   * If you don’t find the item you want, press the Escape key or Fn-Tab to exit the Rotor without making a selection.
5. Press Return or the Space bar to select the item and jump to it.
6. The Rotor closes.

You can set options in VoiceOver Utility to customize the items shown in the Rotor when viewing webpages. For more information, see [Web Rotor pane of the Web category](http://help.apple.com/voiceover/info/guide/10.12/#/cpvouwebrotor).

If you’re using VoiceOver gestures, you can [use the rotor settings with gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo28035).

# 

# **Navigate using Quick Nav**

With Quick Nav, you can navigate apps and webpages using only the arrow keys, navigate webpages using single keys, and navigate apps and webpages using the Quick Nav rotor.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Turn Quick Nav on or off**

* Press the Left Arrow and Right Arrow keys at the same time.
* If you deselected the option to toggle Quick Nav using the arrow keys in the Quick Nav Commander in VoiceOver Utility, this command won’t work. Instead, press VO-H-H to open the Commands menu, type “quick” to search for the Toggle Quick Nav On or Off command, then select it.

## **Navigate apps and webpages using arrows**

* To move left, right, up, or down, press an arrow key. With Quick Nav, these keys function the same as pressing the VO modifier with arrow keys.
* To start interacting with an item, press the Right Arrow and Down Arrow keys at the same time.
* To stop interacting with an item, press the Left Arrow and Down Arrow keys at the same time.
* To perform the default action on the item in the VoiceOver cursor, press the Down Arrow and Up Arrow keys at the same time.

## **Navigate webpages using single keys**

* If you enabled single-key webpage navigation in VoiceOver Utility, you can use single keys to navigate webpages. For example, press b or B to navigate to the next or previous button, or 1 or ! to navigate to the next or previous Heading 1.
* To change the default single-key assignments, and add your own key assignments, use the Quick Nav Commander pane of the Commanders category in VoiceOver Utility.
* To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

## **Navigate apps and webpages using the Quick Nav rotor**

You can use the Quick Nav rotor to navigate items using categories that are based on the current context. For example, in a Mail message, you can use the Quick Nav rotor to navigate a message by sentence or to move between the message headers and body, or move between messages.

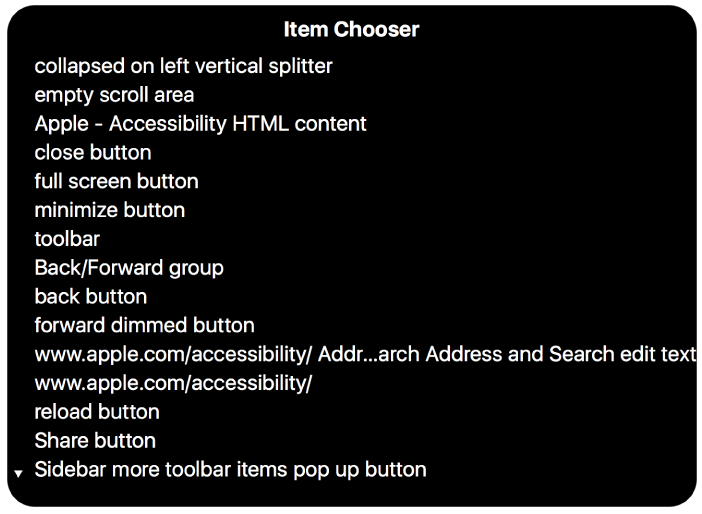
* To open the rotor, press Left Arrow-Up Arrow or Right Arrow-Up Arrow.
* To go to the next category (such as Characters), press Right Arrow-Up Arrow.
* To go to the previous category (such as Content Chooser) in the rotor, press the Left Arrow-Up Arrow.
* To navigate items in the current category, press the Up Arrow or Down Arrow key. The VoiceOver cursor moves as you navigate items.

The Content Chooser category is especially useful for previewing messages in Mail. When the VoiceOver cursor is in a message preview, press the Quick Nav keys to go to the Content Chooser category, then press the Up Arrow or Down Arrow key. The VoiceOver cursor remains in the message preview as you move up and down in the messages list, making it possible to hear the email messages without having to first navigate to them.

When Quick Nav is on, the Quick Nav arrow and single-key commands are included in the Commands menu. For more information, see [Find commands using the Commands menu](http://help.apple.com/voiceover/info/guide/10.12/#/vo28018).

# **Navigate using the Item Chooser**

You can use the Item Chooser to quickly navigate to text, controls, links, or graphics on the screen.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. To display the Item Chooser, press VO-I.
2. Navigate the items in the list using the Up Arrow or Down Arrow key.
   * If you know the name of an item, such as the Close button, start typing its name to narrow the list to only items that contain those letters. To list all the items again, press the Delete key.
   * If you don’t find the item you want, press the Escape key or Fn-Tab to exit the Item Chooser without making a selection.
3. When you’re ready, press Return or the Space bar to select an item and go to it.
4. The Item Chooser closes.

# **Navigate, sort, and reorder tables**

VoiceOver provides several ways to navigate tables by row and column. You can also sort and reorder columns.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Navigate rows**

* To hear a row header, press VO-R.
* To hear a row from the VoiceOver cursor to the end of the row, press VO-R-R.

You can have VoiceOver read the header text when it navigates a table row, which is useful for identifying the type of content in each cell of a row. To set this option, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Verbosity category, then click Announcements.

## **Navigate columns**

* To hear a column header, press VO-C.
* To hear a column from the VoiceOver cursor to the bottom of the column, press VO-C-C.
* To move up or down in a column, press the Up Arrow or Down Arrow key.

VoiceOver doesn’t announce blank columns as you navigate using the arrow keys unless you have the verbosity level for tables set to High. For more information, see [Customize the verbosity level for speech or braille](http://help.apple.com/voiceover/info/guide/10.12/#/vo27984).

## **Sort columns**

1. Press VO-| to jump to the sort button in a column header, then press VO-Space bar.
2. If the table also contains a row header, pressing VO-| displays a menu where you choose a column or row header. Press VO-Right Arrow until you hear the header you want, then press the Space bar to jump to the sort button in that header.
3. You can navigate to other columns and sort them.
4. When you’re done sorting columns, press VO-|.

## **Reorder columns**

1. Navigate to the column you want to move, then press VO-| to jump to the column header.
2. Press VO-, to mark the column for reordering.
3. Navigate to the header of the column that you want the marked column to precede, then press VO-< to insert the marked column in front of it.
4. When you’re done reordering, press VO-|.

In an outline view, to jump to the parent level of the current cell, press VO-Command-\.

# **Use hot spots**

You can assign a hot spot to an item, then use the hot spot to jump to that item, instead of navigating to it. For example, set a hot spot on the New Message button in the Mail toolbar, then use the hot spot to jump directly to the button (as long as Mail is open).

If you set a hot spot on an item whose status or value can change, you can use the hot spot to monitor the item without it having focus.

You can set up to ten hot spots; if you use VoiceOver activities, you can set up to ten hot spots for each activity.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To set a hot spot for an item, press VO-Shift-[*hot spot number*]. If the hot spot’s already being used for an item, the new item replaces the existing one.
* To jump to a hot spot, press VO-[*hot spot number*].
* You can also use the Hot Spot Chooser. To display it, press VO-Shift-X.
* To hear a description of a hot spot, press VO-Command-[*hot spot number*].
* To hear value changes in a hot spot, press VO-Command-Shift-[*hot spot number*]. To stop hearing VoiceOver announce when the item’s value changes, press the command again.
* To remove a hot spot, press VO-[*hot spot number*] to jump to the hot spot, then press VO-Shift-[*hot spot number*].

You can use VoiceOver Utility to assign hot spot commands to keys or gestures.

When you jump to hot spots in tables, lists, or web areas, you can immediately interact with those items (you don’t need to enter a command).

You can use hot spots on some non-English keyboards.

# **Browse the Internet**

# **About this chapter**

This chapter provides information about using VoiceOver to browse and navigate webpages using various methods, and tables on webpages.

# **Ways to browse webpages**

There are several ways to browse and navigate webpages.

* Choose a default navigation mode, by Document Object Model (DOM) or by grouping related items. You can switch between modes to use the mode best suited for the current webpage.
* [Navigate webpages using DOM or group mode](http://help.apple.com/voiceover/info/guide/10.12/#/vo2711)
* Use the Rotor when viewing webpages to quickly jump to web items such as links, headings, web spots, tables, and more.
* [Navigate using the Rotor](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719)
* Use the web settings of the gestures rotor to navigate using gestures.
* [Use the gestures rotor](http://help.apple.com/voiceover/info/guide/10.12/#/vo28035)
* With Quick Nav, navigate webpages and apps using only arrow keys, or webpages using single keys.
* [Navigate using Quick Nav](http://help.apple.com/voiceover/info/guide/10.12/#/vo27943)
* Use auto web spots and web spots you create to quickly scan webpages.
* [Navigate webpages using web spots](http://help.apple.com/voiceover/info/guide/10.12/#/vo27959)
* Hear a summary of a table and its cells as you press the arrow keys to navigate the table. Interact with the table only if you hear something of interest.
* [Navigate tables on webpages](http://help.apple.com/voiceover/info/guide/10.12/#/vo27958)

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Some websites use keyboard commands for specific purposes, such as using an arrow key to jump to another item, which renders the commands unavailable for navigating text on the website. To set an option to always use keyboard commands to navigate text, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click Web, then click Navigation.

Web developers can assign keyboard shortcuts, called “access keys,” to webpage items such as links and buttons, to make them easier to interact with. VoiceOver can announce when it detects access keys, saying for example “Access key available: s” for a link; then you press Control-S to open the link. To set an option to hear access keys, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click Verbosity, then click Hints.

# **Hear a summary of a webpage**

Hear how many headings, links, tables, landmarks, live regions, and more are on a webpage.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* Press VO-Shift-I.
* VoiceOver speaks statistics only for the types of items listed in the Rotor when viewing webpages.

To set an option to have the summary automatically read when a webpage opens, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, then click Page Loading.

# **About this chapter**

# This chapter explains how to use features that enhance collaboration between users. You’ll learn about the caption panel, the braille panel, the screen curtain, and tiling visuals.

# **Ways to browse webpages**

There are several ways to browse and navigate webpages.

* Choose a default navigation mode, by Document Object Model (DOM) or by grouping related items. You can switch between modes to use the mode best suited for the current webpage.
* [Navigate webpages using DOM or group mode](http://help.apple.com/voiceover/info/guide/10.12/#/vo2711)
* Use the Rotor when viewing webpages to quickly jump to web items such as links, headings, web spots, tables, and more.
* [Navigate using the Rotor](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719)
* Use the web settings of the gestures rotor to navigate using gestures.
* [Use the gestures rotor](http://help.apple.com/voiceover/info/guide/10.12/#/vo28035)
* With Quick Nav, navigate webpages and apps using only arrow keys, or webpages using single keys.
* [Navigate using Quick Nav](http://help.apple.com/voiceover/info/guide/10.12/#/vo27943)
* Use auto web spots and web spots you create to quickly scan webpages.
* [Navigate webpages using web spots](http://help.apple.com/voiceover/info/guide/10.12/#/vo27959)
* Hear a summary of a table and its cells as you press the arrow keys to navigate the table. Interact with the table only if you hear something of interest.
* [Navigate tables on webpages](http://help.apple.com/voiceover/info/guide/10.12/#/vo27958)

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# 

# **Hear a summary of a webpage**

Hear how many headings, links, tables, landmarks, live regions, and more are on a webpage.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* Press VO-Shift-I.
* VoiceOver speaks statistics only for the types of items listed in the Rotor when viewing webpages.

To set an option to have the summary automatically read when a webpage opens, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, then click Page Loading.

# **Navigate webpages using DOM or group mode**

VoiceOver provides two modes for navigating webpages: by a webpage’s Document Object Model (DOM), or by grouping related items. You can choose a mode to use as the default, and easily switch modes as needed.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Set the default navigation mode**

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, click Navigation, then select “DOM order” or “Grouping items.”

## 

## 

## **Switch navigation modes**

Do one of the following:

* When VoiceOver is on, press VO-H-H to display the Commands menu, type “dom” to narrow the list of commands, then select Toggle Web Navigation DOM or Group.
* Use VoiceOver Utility to assign the Toggle Web Navigation DOM or Group command to a key, then use that key to switch modes while navigating webpages. For more information, see [Assign VoiceOver commands to keyboard or keypad keys](http://help.apple.com/voiceover/info/guide/10.12/#/vo14096).

## **Navigate by DOM**

When you navigate by DOM, you move left and right, in the order set by the webpage’s author. (Moving up and down in DOM mode is based on the [items included in the Rotor when viewing webpages](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719).)

* If a webpage contains lists, press the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) with the arrow keys to navigate the list items (you don’t need to interact with the list).

## **Navigate by grouping items**

When you navigate by group, you move in any direction, to help give you a sense of context.

* If a webpage contains lists, interact with the list to navigate the list items. You don’t need to interact with groups that contain only one item.

When you navigate to a list, VoiceOver indicates the number of items in the list and when it has reached the end of the list.

If you use VoiceOver gestures, the current web navigation mode affects how you navigate webpages using the gestures rotor. In DOM mode, flicking up or down moves to the previous or next instance of the item that matches the current rotor setting. In group mode, flicking up or down moves to the previous or next group of related items.

# **Navigate webpages using images or frames**

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Images**

* To move to the next or previous graphic, press VO-Command-G or VO-Command-Shift-G.

To specify when to navigate to images, open VoiceOver Utility (press VO-F8 when VoiceOver is on), then click the Navigation category.

If an image doesn’t have a description, VoiceOver speaks the image filename. You can [create a custom label](http://help.apple.com/voiceover/info/guide/10.12/#/vo27942) for these images, or for images whose alt text isn’t useful.

## **Frames**

If a webpage organizes information into areas called “frames,” you can navigate the page using them.

* To move to the next frame, press VO-Command-F.
* To move to the previous frame, press VO-Command-Shift-F.

If images or frames are listed in the Rotor when viewing webpages, you can use the Rotor to move to a specific one. For more information, see [Navigate using the Rotor](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719).

# **Navigate tables on webpages**

Navigate tables on webpages by grouping items within the tables. When you navigate tables by grouping, you hear a summary of a table and its cells as you press the arrow keys to navigate. You don’t need to interact with the table unless you hear something that you want to explore in detail. You can use a VoiceOver command to turn grouping on or off.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Turn on grouping for all tables**

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, click Navigation, then select “Group items within.”

## **Turn grouping on or off for the current table**

* Press VO-Command-=.
* Only the table you’re currently in is affected by this command; other tables still use the setting specified in VoiceOver Utility. VoiceOver remembers the setting for the current table and uses it each time you navigate to that table. When you turn off grouping for a table, you must interact with the table.

## **Navigate tables when grouped**

* To move to the first cell in the table, press VO-Home. To move to the last cell, press VO-End.
* To move from the table to the first item on the webpage, press VO-Shift-Home. To move to the last item on the webpage, press VO-Shift-End.

When you’re navigating tables without grouping, you can navigate more quickly to the next column by pressing VO-Command-Y, or navigate to the previous column by pressing VO-Command-Shift-Y.

# **Navigate webpages using live regions**

Webpages can contain areas, called “live regions,” whose content is updated without refreshing the entire page. VoiceOver can detect live regions, even when the focus is elsewhere on a webpage, and speak the content in the live region as it changes.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To enable all live regions, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, then select Enable Live Regions.
* To enable a specific live region (if live regions are listed in the Rotor when viewing webpages), use the Rotor to move to a live region, then press the O key to turn the live region on or off.

# **Navigate webpages using landmarks**

Web developers can assign landmark roles to areas of a webpage to help screen readers identify the types of content on the webpage. For an example of a webpage that contains landmarks, visit store.apple.com.

VoiceOver supports all landmarks, including:

Banner: The area that contains the page name, logo, or other identifying information.

Complementary: An area, such as a sidebar, that supports the main content area.

Content info: The area that contains footnote-type information, such as copyright or privacy statements.

Main: The area that contains the main content.

Navigation: The area that contains a navigation bar or other links for navigating the webpage or website.

Search: The area that contains a search field for searching the webpage or website.

If landmarks are listed in the Rotor when viewing webpages, you can [navigate to a landmark using the Rotor](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719).

You can use the Trackpad, NumPad, Keyboard, and Quick Nav Commanders in VoiceOver Utility to assign VoiceOver commands for navigating landmarks to keyboard or keypad keys, gestures, or braille display keys.

# **Navigate webpages using web spots**

As VoiceOver opens a webpage, it evaluates the visual design, groups items based on the design, and creates an “auto web spot” on the first item in each group. VoiceOver briefly outlines the group with a large rectangle, which transitions into the VoiceOver cursor, positioned on the first auto web spot in the first group. You use commands or the Rotor to jump from one auto web spot to another on the webpage.

You can create your own web spots to mark favorite content. If you mark one of your web spots as the “sweet spot,” it appears first in the list of web spots in the Rotor.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To create a web spot, press VO-Command-}. You can create an unlimited number of web spots for a webpage.
* To remove a web spot, press VO-Command-{. You can delete only web spots you create.
* To set a sweet spot, press VO-Command-}-}.
* To jump to the next or previous auto web spot, press VO-Command-N or VO-Command-Shift-N.
* To jump to the next or previous web spot you created, press VO-Command-] or VO-Command-[.

If the design of a webpage changes significantly and VoiceOver can’t locate a web spot that previously existed on the page, it creates a new one that closely matches the original one.

To set an option to have the VoiceOver cursor focused on the sweet spot when a webpage opens, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, then click the Page Loading pane.

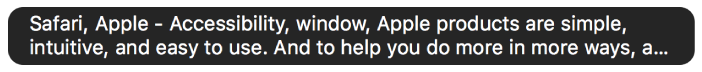
# **Collaborate with Other Users**

# **About this chapter**

This chapter explains how to use features that enhance collaboration between users. You’ll learn about the caption panel, the braille panel, the screen curtain, and tiling visuals.

# **Collaborate using the caption panel**

The caption panel shows what VoiceOver is speaking, and can be helpful when sharing your Mac with sighted users.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Show or hide the panel**

Do one of the following:

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Visuals category, then click Caption Panel.
* Press VO-Command-F10 to show or hide the panel.
* This command turns the caption panel setting on or off in VoiceOver Utility.

To show or hide the caption panel, the braille panel, and the VoiceOver cursor, press VO-Command-F11.

## **Move or resize the panel**

1. Press VO-Shift-F10 until you hear the action you want to perform.
2. For example, if you hear “resizing” but you want to move the caption panel, press the keys again to hear “moving.”
3. Press the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) with arrow keys to move or resize the caption panel.
4. When you’re done, press the Escape key or Fn-Tab.

# **Use the screen curtain for privacy**

Prevent people from seeing what’s on your screen by using the screen curtain, which turns the screen black.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* Press VO-Shift-F11, or triple-tap with three fingers on the trackpad.
* To turn off the screen curtain, repeat the command or gesture.

If you turn off VoiceOver while the screen curtain is on, the screen curtain is also turned off.

# **Use the braille panel**

The braille panel simulates a refreshable braille display, and includes a language translation of the braille.



Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

**Show or hide the panel**

Do one of the following:

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Visuals category, click Braille Panel, then choose an option for showing the panel.
* Automatic is set by default, and shows the panel whenever you connect or pair a refreshable braille display with your Mac.
* Press VO-Command-F9 to show or hide the panel.
* This command changes the setting in VoiceOver Utility to On or Off. If you want the panel to be shown whenever you connect or pair a display, choose that setting again in VoiceOver Utility.

To show or hide the braille panel, the caption panel, and the VoiceOver cursor, press VO-Command-F11.

## **Move or resize the panel**

1. Press VO-Shift-F9 until you hear the action you want to perform.
2. For example, if you hear “resizing” but you want to move the braille panel, press the keys again to hear “moving.”
3. Press the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) with arrow keys to move or resize the braille panel.
4. When you’re done, press the Escape key or Fn-Tab.

A resized braille panel can show more cells than may be on the connected braille display; in this case, a thin rectangular line around some cells indicates the braille cells on the physical display.

The braille panel displays what’s on the screen even when you mute speech.

# **Tile visuals to emphasize the VoiceOver cursor**

When you tile visuals, the screen is dimmed so that only the item in the VoiceOver cursor is visible in the center of the screen. This feature can be helpful when you’re first learning to use VoiceOver.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

* To tile visuals, press VO-F10.
* The caption or braille panel moves to the top or bottom center of the screen, while the item in the VoiceOver cursor moves to the center of the screen and the rest of the screen is dimmed. As you navigate, the VoiceOver cursor stays in the center of the screen and you see the item you navigated to.
* To untile visuals, press VO-F10 again.

# **Customize VoiceOver**

# **About this chapter**

This chapter explains how to customize your VoiceOver environment to suit your needs. You’ll learn how to customize settings for voices, spoken details, braille displays, pronunciations, and more. You’ll also learn how to reset, export, and import your preferences, as well as use portable preferences and VoiceOver activities.

# **Change voice settings**

Change the speaking voice used by VoiceOver, and settings such as rate or pitch.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. To hear the first setting, press VO-Command-Right Arrow.
2. Continue to press VO-Command-Right Arrow until you hear the setting you want to adjust.
3. To increase the setting’s value, press VO-Command-Up Arrow. To decrease the value, press VO-Command-Down Arrow.
4. The new settings are applied only to the default voice.

To set options for voices, and add compact or premium voices, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Speech category, then click Voices.

When you install voices that are compatible with macOS, they are installed in /Library/Speech/Voices so they are available to all users of your Mac.

If you’re using portable preferences on a guest computer when you change voice settings, the settings are saved to the portable preferences drive and not to the guest computer.

# **Customize the verbosity level for speech or braille**

By default, VoiceOver provides a high level of detail to help new Mac and VoiceOver users.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Verbosity category, then click Speech or Braille (if you use a refreshable braille display).
2. Choose a different default setting, and a verbosity level for specific controls, such as checkboxes or scroll areas.

# **Customize web items shown in the Rotor**

Change the Rotor to list only the items that you use most often to browse webpages, such as links or tables.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Web category, then click Web Rotor.
2. Select the checkbox for each item to include in the Rotor when viewing webpages. To change the order of items in the Rotor, select an item, then press Command-Up Arrow or Command-Down Arrow.

The items you include in the Rotor determine the details VoiceOver speaks in the webpage summary. For more information, see [Hear a summary of a webpage](http://help.apple.com/voiceover/info/guide/10.12/#/vo35960).

# **Customize how text and symbols are pronounced**

Specify how you want VoiceOver to pronounce certain text or symbols by providing substitutions for them. For example, you can substitute “8 oh 2 dot eleven b” for “8 zero 2 point one one b.”

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Speech category, click Pronunciation, then click the Add button .
2. In the new row, type the text whose pronunciation you want to customize, press Tab to move to the Substitution column, then type how you want VoiceOver to pronounce the text.
   * To specify an app where VoiceOver should use the pronunciation, choose the app from the pop-up menu.
   * The menu lists open apps and Find App, so you can select an app that isn’t open. To use the pronunciation in any app, leave All Apps selected.
   * To have capitalization ignored, select the Ignore Case checkbox.

You can customize pronunciations by using the commanders to assign the Add Pronunciation command to a key or gesture. The command displays a dialog to add a new pronunciation, which is added to the list in the Pronunciation pane.

# **Create custom labels**

Create or rename the label for user interface elements (such as images, buttons, tables, scroll areas, and more) and for links. You can export your custom labels to a file to share with other users.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Position the VoiceOver cursor on the element or link for which you want to create a label.
2. Press VO-/.
3. In the dialog that’s displayed, type the label you want to use, then press Return.

When you create a custom label, VoiceOver associates pertinent information about the element or link and its location with your label. If the element or link changes in a significant way, such as moving to a new location, VoiceOver may not recognize it as the same element or link. If this happens, re-create the custom label.

You can’t create labels for toolbars or groups.

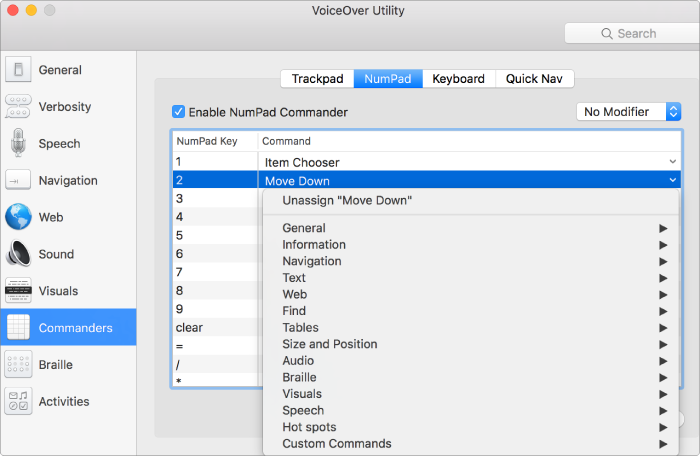
When you import a preference file that contains custom labels, VoiceOver merges those labels with your current set of custom labels.

# **Assign VoiceOver commands to keyboard or keypad keys**

Assign VoiceOver commands to the keys of your keyboard or the numeric keypad (if available).

To use the default key assignments, just enable the commanders.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Commanders category, click NumPad or Keyboard, then enable the commander.
2. Choose a modifier key.
3. A modifier is optional for numeric keypad keys; you must use a modifier with keyboard keys.
4. Interact with the commander table and navigate down the key column until you hear the key you want to customize. For more information about interacting with areas, see [Interact with content areas and groups](http://help.apple.com/voiceover/info/guide/10.12/#/vo24851).
5. In the Command column, click the pop-up menu of commands, navigate the available commands until you hear the one you want, then press Return.
6. Use the Custom Commands menu to assign scripts and Automator workflows to gestures.
7. 

When the NumPad Commander is on, its commands are included in the VoiceOver Commands menu.

# **Export, import, and reset preferences**

You can export, import, and reset your VoiceOver preferences.

Tip: If you want to easily use your settings on other Mac computers and keep an up-to-date copy of your current settings always available, use portable preferences. For more information, see [Use portable preferences](http://help.apple.com/voiceover/info/guide/10.12/#/vo14101).

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Export preferences**

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), then choose File > Export Preferences.
2. Select where to save the file, choose the type of preferences to export from the pop-up menu, then click Save.
3. The default filename indicates the type of preferences exported and has the filename extension “voprefs.” The file will not reflect changes you make to preferences after the export.

## **Import preferences**

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), then choose File > Import Preferences.
2. Select the preferences file to import, then click Open.
3. VoiceOver replaces the current preferences of that type with those in the file. If you’re importing web spots or labels, VoiceOver merges them with your existing web spots or labels.

When you import preference files, preferences that are no longer available in VoiceOver are not imported.

## **Reset preferences**

Reset basic, custom (such as hot spots or Keyboard Commander key assignments), or all VoiceOver preferences to their default values.

Important: Export your preferences first, so you have a backup copy.

* Open VoiceOver Utility (press VO-F8 when VoiceOver is on), choose File, then choose a reset command.

If you have portable preferences on an external drive and reset basic or all VoiceOver preferences on your Mac, VoiceOver no longer recognizes the portable preferences drive and doesn’t sync VoiceOver preferences on your Mac and the drive. To sync VoiceOver preferences again, you must set up the portable preferences drive again.

# **Use portable preferences**

Make your VoiceOver preferences “portable” by storing them on an external drive. You can then easily use your settings on other Mac computers and keep an up-to-date copy of your current settings always available.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## 

## **Set up the portable preferences drive**

Do this set of steps once for each external drive you want to use.

1. Insert the drive in your Mac.
2. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), then choose File > Set Up Portable Preferences or click Set Up in the General category.
3. Select a drive from the list of external drives, then click OK.
4. VoiceOver creates a VoiceOver folder on the drive.

## **Use the portable preferences drive**

When you connect your portable preferences drive to a Mac, VoiceOver detects the drive and asks if you want to use it. How VoiceOver uses the portable preferences drive depends on the Mac you’re using.

* *If you’re using the Mac where you set up the drive:* Any changes you make to VoiceOver preferences until you eject the drive are automatically saved to the drive. For example, if you increase the speech rate, your change is instantly saved to the portable preferences drive.
* *If you’re using another Mac (as a guest):* VoiceOver uses the preferences stored on the drive. Any changes you make to VoiceOver preferences until you eject the drive are automatically saved to the drive and not to the guest computer. The next time you use the drive on the Mac where it was set up, VoiceOver synchronizes preferences on the Mac and the drive, based on the most recent change to a preference.

## **Stop using the portable preferences drive**

* When you’re done, eject the portable preferences drive using the Finder, or click Stop in the General category in VoiceOver Utility (in this case, the drive is not ejected).

If you choose not to use the portable preferences drive when VoiceOver asks you, but later want to use it, open VoiceOver Utility, then click Start in the General category. If you choose to always use the portable preferences drive, but later want to use it only sometimes, delete the preferences file from the drive, then set up the portable preferences drive again.

If you have portable preferences on an external drive and reset basic or all VoiceOver preferences on your Mac, you must set up the portable preferences drive again.

# **Use VoiceOver activities**

Use VoiceOver activities to create groups of preferences for specific uses. For example, create an activity to use a certain voice and faster speaking rate when you shop online, then create a second activity to use a different voice and slower speaking rate when you read online articles.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

## **Set up activities**

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Activities category, then click the Add button  to create an activity.
2. Type a name for the activity, such as “Online Shopping.”
3. To rename an activity, select the activity in the table, press Enter, then type a new name.
4. For each setting you want to customize for this activity, select the checkbox, then click Set.
5. To show all the settings you can customize, click the disclosure triangle to the far right of Hot Spots.
6. To have VoiceOver automatically use the activity for certain apps or websites, click the Apps & Websites button.
7. To specify apps, choose one from the pop-up menu, or choose Other App to browse for and select apps.
8. To specify websites, click Websites, click the Add button , then enter the URL of the website, such as www.apple.com. To remove a website, select it in the list, then click the Remove button .
9. An app or website can be associated with only one activity. If you select an app or website that’s associated with another activity, you’re asked if you want to change it.

To duplicate an activity that you set up, select it in the list, click the Action button , then choose Duplicate Activity. Any apps or websites specified for the original activity are not included in the duplicate. To rename the duplicate, click its name in the list, then type a new name.

## 

## **Use an activity**

If you switch to or open an app or website with which you associated an activity, VoiceOver identifies the activity (if verbosity is set to Medium or High).

* To manually choose an activity to use, press VO-X to display the Activity Chooser, use the Down Arrow and Up Arrow keys to navigate the list until you find the one you want to use, then press Return.
* To use the previous activity, press VO-X-X.
* To exit the Activity Chooser without making a selection, press the Escape key or Fn-Tab.

# **Use VoiceOver activities**

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4. For each setting you want to customize for this activity, select the checkbox, then click Set.
5. To show all the settings you can customize, click the disclosure triangle to the far right of Hot Spots.
6. To have VoiceOver automatically use the activity for certain apps or websites, click the Apps & Websites button.
7. To specify apps, choose one from the pop-up menu, or choose Other App to browse for and select apps.
8. To specify websites, click Websites, click the Add button , then enter the URL of the website, such as www.apple.com. To remove a website, select it in the list, then click the Remove button .
9. An app or website can be associated with only one activity. If you select an app or website that’s associated with another activity, you’re asked if you want to change it.

To duplicate an activity that you set up, select it in the list, click the Action button , then choose Duplicate Activity. Any apps or websites specified for the original activity are not included in the duplicate. To rename the duplicate, click its name in the list, then type a new name.

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If you switch to or open an app or website with which you associated an activity, VoiceOver identifies the activity (if verbosity is set to Medium or High).

* To manually choose an activity to use, press VO-X to display the Activity Chooser, use the Down Arrow and Up Arrow keys to navigate the list until you find the one you want to use, then press Return.
* To use the previous activity, press VO-X-X.
* To exit the Activity Chooser without making a selection, press the Escape key or Fn-Tab.

# **Use Braille Displays**

# **About this chapter**

This chapter provides information about using refreshable braille displays, both plug in and Bluetooth, with VoiceOver. This chapter includes a list of the braille displays that VoiceOver supports.

# **About refreshable braille displays**

If you connect or pair a supported braille display to your Mac, VoiceOver detects it and sends it information about what’s displayed on the screen. You can connect multiple braille displays to your Mac; each display mirrors the same content at the same time, useful in a classroom setting. You can customize settings for your display in the Braille category of VoiceOver Utility, and set verbosity levels in the Verbosity category.

By default, VoiceOver displays uncontracted, eight-dot braille. In this mode, VoiceOver automatically translates each character you type on your braille display into braille output, as you type it. You can turn off eight-dot braille to use uncontracted, six-dot braille instead. In this mode, VoiceOver automatically translates each word you type on your braille display into braille output, after it determines you’ve completed a word or you press the Space bar on your braille display.

You can also use contracted braille. VoiceOver dynamically changes the display under the cursor to uncontracted braille, so that you can read and edit more easily, and then changes back to contracted braille when you move the cursor.

A braille display typically describes the entire line where the VoiceOver cursor is focused. For example, when the VoiceOver cursor is focused on an item in a window, the braille device displays items like icons, checkboxes, and pop-up menus, as well as text to the left and right of the VoiceOver cursor.

If a line is too wide to fit on the braille display, you can “pan” the line using the left and right buttons on the display. Each left or right pan moves according to the number of cells (including status cells) your display contains. When you move the VoiceOver cursor, the braille display pans when necessary to follow it, even wrapping to the previous or next line.

VoiceOver raises dots 7 and 8 to indicate the position of the VoiceOver cursor and, when you edit or select text, the text selection. VoiceOver indicates the position of the text selection cursor, called the “I-beam,” by flashing dot 8 of the braille cell preceding the I-beam and dot 7 of the braille cell trailing it.

VoiceOver uses three status cells to provide additional information about what’s on the screen. You can set the number of status cells that are used and their location on the braille display. For example, you can use the cell that shows text status and set its location to be on the left of your display.

Use VoiceOver Utility to assign VoiceOver commands to keys on your braille display. If your braille display has a Perkins-style keyboard, you can type on it.

# **Pair a Bluetooth braille display**

Before you can use a supported Bluetooth braille display with VoiceOver, you must pair the display with your Mac.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Braille category, click Displays, then click the Add button .
2. VoiceOver lists displays that are within range of your Mac and that appear to match a VoiceOver braille display driver. If your display isn’t shown, make sure you set it to be discoverable. For more information, check the documentation that came with your braille display.
3. In the list of devices, click Pair for your Bluetooth braille display.
4. A common default passcode is used to pair your display. You can pair one Bluetooth braille display at a time.
   * If your display is successfully paired, VoiceOver detects your paired display whenever it’s turned on and within range; if it’s your primary braille display, you can then use it. It remains paired until you remove it from the list of devices.
   * If unsuccessful, click the Option button that appears, then provide the pairing passcode that came with your braille display.
5. Click Select.
6. If the Bluetooth braille display you selected doesn’t work with VoiceOver, it’s likely that its driver doesn’t match a VoiceOver driver. Try pairing a different Bluetooth braille display.

# **Use router keys on a braille display**

Many braille displays have router keys above the braille cells that you can use to move the VoiceOver cursor. Generally, you press the router key above a particular item in the line of braille to move the VoiceOver cursor or selection to that item.

Pressing a router key over a control moves the VoiceOver cursor to that control. If the VoiceOver cursor is already on that control, pressing the router key performs the control’s default action. For example, to click a button, press the router key to move the VoiceOver cursor to the button, then press the router key again to click the button. You don’t have to touch the computer’s keyboard. Similarly, when you’re reading or navigating text and you press a router key, the VoiceOver cursor moves to that location in text.

You can also press the router key above a status cell to display an expanded braille description of each dot in the cell. To exit the description, press any other router key.

# **Show status information on a braille display**

The cells of a braille display show the content of the line where the VoiceOver cursor is focused. If your braille display has dedicated status cells, VoiceOver can use them to show additional information about the line.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Braille category, then click Layout.
2. Select one or more of the checkboxes next to Status Cells.
3. If you don’t select any checkboxes, status isn’t shown, and the reading cells are used to show the content of the current line.

To display an expanded braille description of each dot in the cell, press the router key above a status cell. To exit the description, press any other router key.

If your braille display doesn’t have status cells, VoiceOver uses the first one to three cells on the left or right to show status. VoiceOver reserves another cell, which it leaves blank, as a separator between the status cells and the other cells.

# **Review announcements on a braille display**

VoiceOver sends announcements to your braille display about events that aren’t represented visually on the screen, such as when an app in the background needs attention. VoiceOver stores up to 30 announcements in the history, with the most recent one listed first.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Before you can review announcements, you must set an option to show general display status. To do so, open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Braille category, then click Layout.

* On the status cell that shows general display status, dot 1 indicates whether there are new unread announcements. Dot 2 indicates whether the current announcement has already been read.
* If you assigned the Announcement History command to a braille display key, press that key to show the most recent announcement in the reading cells.
* To move through the announcement history, press the Up Arrow key to move through announcements until you reach the oldest one; press the Down Arrow key to move forward through announcements until you reach the most recent one.

When you’re done reviewing announcements, press any router key above the announcement to redisplay the current line.

# **Assign VoiceOver commands to braille display keys**

VoiceOver detects whether your braille display provides input keys and assigns common VoiceOver commands to the keys. For example, VoiceOver might assign the Down command to the D3 key; when you press that key on your braille display, the VoiceOver cursor moves down one line on the screen.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. With your braille display connected to or paired with your Mac and with VoiceOver on, open VoiceOver Utility by pressing VO-F8.
2. Click the Braille category, click Displays, select the braille display you want to assign commands for, then click Assign Commands.
3. Assign a VoiceOver command to braille display keys.
   * To change the command assigned to keys, navigate to the keys, click the pop-up menu, then choose a command.
   * To add new braille keys so you can assign a command to them, click the Add button  to add a row, press Command-B, then within five seconds press the braille keys you want to add. A sound effect counts down the seconds. Click the pop-up menu, then choose a command to assign to the keys.

# **Mirror a braille display**

Connect multiple USB braille displays to your Mac and have all of them display the same braille output at the same time. The braille displays can be of different types, models, and sizes.

1. Connect or pair your Mac with the braille display you want to use to control other braille displays. This display is called the “primary braille display.”
2. In the Displays pane of the Braille category in VoiceOver Utility, select the braille display, then select the “Primary braille display” checkbox in the display information section.
3. To prevent input from other braille displays that are connected to your Mac, click the “Allow input from” pop-up menu, then choose “Primary braille display.”
4. Connect additional braille displays to your Mac. These displays will mirror the output from the primary braille display.

# **Supported braille displays**

macOS supports a wide range of USB and Bluetooth braille displays.

|  |  |
| --- | --- |
| **Manufacturer** | **Model** |
| Alva | BC640 (USB and Bluetooth) |
|  | BC680 (USB and Bluetooth) |
|  | 544 Satellite |
|  | 544 Satellite Traveller |
|  | 570 Satellite Pro |
|  | 584 Satellite Pro |
| American Printing House for the Blind (APH) | Orbit Reader 20 (USB and Bluetooth) |
|  | Refreshabraille 18 (USB and Bluetooth) |
| Baum | PocketVario 24 (USB and Bluetooth) |
|  | Pronto! 18 (USB and Bluetooth) |
|  | Pronto! 40 (USB and Bluetooth) |
|  | SuperVario2 (Bluetooth) |
|  | SuperVario 32 (USB and Bluetooth) |
|  | SuperVario 40 (USB and Bluetooth) |
|  | SuperVario 80 (USB and Bluetooth) |
|  | VarioConnect 12, also called Conny 12 (Bluetooth)  Note: VoiceOver identifies this display as HumanWare BrailleConnect 12. |
|  | VarioConnect 24 (USB and Bluetooth) |
|  | VarioConnect 32 (USB and Bluetooth) |
|  | VarioConnect 40 (USB and Bluetooth) |
|  | VarioPro 64 |
|  | VarioPro 80 |
|  | VarioUltra 32 (USB and Bluetooth) |
|  | VarioUltra 40 (USB and Bluetooth) |
| Deininger | Pegasus 42/4 CR |
|  | Pegasus 82/8 CR |
| Eurobraille | Esys 12 (USB and Bluetooth) |
|  | Esys 24 (USB and Bluetooth) |
|  | Esys 40 (USB and Bluetooth) |
|  | Esys Light 40 (USB and Bluetooth) |
|  | Esys 64 (USB and Bluetooth) |
|  | Esys 80 (USB and Bluetooth) |
| Freedom Scientific | Focus 14 Blue (USB and Bluetooth) |
|  | Focus 40 |
|  | Focus 40 Blue (USB and Bluetooth) |
|  | Focus 44 |
|  | Focus 70 |
|  | Focus 80 |
|  | Focus 80 Blue (USB and Bluetooth) |
|  | Focus 84 |
|  | PAC Mate 20 |
|  | PAC Mate 40 |
|  | PAC Mate BX420 (display only) |
|  | PAC Mate BX440 (display only) |
|  | PAC Mate QX420 (display only) |
|  | PAC Mate QX440 (display only) |
| GW Micro | Braille Sense (Bluetooth support requires Bluetooth module) (USB and Bluetooth) |
|  | Braille Sense Plus (USB and Bluetooth) |
|  | SyncBraille 20 |
|  | SyncBraille 32 |
| HandyTech | Active Braille 40 (USB and Bluetooth) |
|  | Basic Braille 16 (USB and Bluetooth) |
|  | Basic Braille 20 (USB and Bluetooth) |
|  | Basic Braille 32 (USB and Bluetooth) |
|  | Basic Braille 40 (USB and Bluetooth) |
|  | Basic Braille 48 (USB and Bluetooth) |
|  | Basic Braille 64 (USB and Bluetooth) |
|  | Basic Braille 80 (USB and Bluetooth) |
|  | Braille Star 40 (USB and Bluetooth) |
|  | Braille Star 80 |
|  | Braille Wave (USB and Bluetooth) |
|  | Braillino (Bluetooth) |
|  | Easy Braille (USB and Bluetooth) |
|  | Modular Evolution 64 |
|  | Modular Evolution 88 |
| Harpo | BraillePen (Bluetooth) |
|  | BraillePen 12 (Bluetooth) |
| HIMS | Braille EDGE 40 (USB and Bluetooth) |
|  | Braille Sense (Bluetooth support requires Bluetooth module) (USB and Bluetooth) |
|  | Braille Sense OnHand (USB and Bluetooth) |
|  | Braille Sense Plus (USB and Bluetooth) |
|  | Smart Beetle 14 (USB and Bluetooth) |
|  | SyncBraille 20 |
|  | SyncBraille 32 |
| HumanWare | BrailleConnect 12 (Bluetooth) |
|  | BrailleConnect 24 (USB and Bluetooth) |
|  | BrailleConnect 32 (USB and Bluetooth) |
|  | BrailleConnect 40 (USB and Bluetooth) |
|  | BrailleNote Apex BT (USB and Bluetooth) |
|  | BrailleNote Apex QT (USB and Bluetooth)  Note: VoiceOver supports only the navigation keys on this display. |
|  | BrailleNote mPower BT 18 (Bluetooth) |
|  | BrailleNote mPower BT 32 (Bluetooth) |
|  | BrailleNote PK (Bluetooth)  Note: VoiceOver identifies this display as HumanWare BrailleNote mPower BT 18. |
|  | Brailliant 24 (USB and Bluetooth) |
|  | Brailliant 32 (USB and Bluetooth) |
|  | Brailliant 40 (USB and Bluetooth) |
|  | Brailliant 64 (USB and Bluetooth) |
|  | Brailliant 80 (USB and Bluetooth) |
|  | Brailliant B 80 (USB and Bluetooth) |
|  | Brailliant BI 32 (USB and Bluetooth) |
|  | Brailliant BI 40 (USB and Bluetooth) |
| KGS | Braille Memo Pocket (BMPocket) 16 (USB and Bluetooth) |
| MDV | Lilli |
|  | MB408L (Bluetooth) |
| Ninepoint Systems | Cebra |
|  | Ninepoint (Bluetooth) |
|  | Novem (USB) |
| Nippon Telesoft | Mini Seika 8 (USB and Bluetooth) |
|  | Mini Seika 16 (USB and Bluetooth) |
|  | Mini Seika 24 (USB and Bluetooth) |
|  | Seika Version 3 |
|  | Seika Version 4 (USB and Bluetooth) |
|  | Seika v5 (USB and Bluetooth) |
|  | Seika v6Pro (USB and Bluetooth) |
|  | Seika 80 |
| Optelec | EasyLink (Bluetooth) |
|  | EasyLink 12 (Bluetooth) |
|  | Voyager 44 |
| Papenmeier | Braillex EL 40s |
|  | Braillex EL 80s |
|  | Braillex Trio (USB and Bluetooth) |

# **Use VoiceOver Gestures**

# **About this chapter**

This chapter explains how to control your Mac using VoiceOver gestures on a trackpad.

# **About VoiceOver gestures**

If you have a trackpad and VoiceOver is on, you can enable the Trackpad Commander, then use gestures to navigate and interact with items on the screen, and enter VoiceOver commands.

VoiceOver gestures involve using one or more fingers to drag, tap, flick, or rotate on the trackpad. You can use different techniques for a gesture. For example, you can tap using two fingers on one hand, or one finger on each hand. You can use keyboard help to practice standard and customized gestures and learn what they do.

The trackpad represents the window or area on the screen where the VoiceOver cursor is located. When you drag a finger on the trackpad, you move the VoiceOver cursor only in that window or area. VoiceOver speaks the items in the VoiceOver cursor as you move the cursor, and plays a sound effect whenever it encounters a blank space on the screen. This information helps you gain a sense of the actual location of items on the screen as you navigate. For example, if the cursor is in the Mail toolbar, the trackpad represents the Mail toolbar. When you drag your finger on the trackpad, you move the VoiceOver cursor in the Mail toolbar. Because the trackpad represents only a specific area and not the entire screen, you can’t stray to other areas or apps by accident.

To enhance collaboration with sighted users, VoiceOver makes the area of the screen you’re working in more visible by dimming the rest of the screen. Other collaboration features, such as the caption or braille panels, can be used at the same time as VoiceOver gestures.

# **Use VoiceOver gestures**

If you have a trackpad and the Trackpad Commander is enabled, you can use VoiceOver gestures to navigate and interact with items on the screen.

To enable the Trackpad Commander, hold down the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad) and rotate two fingers clockwise anywhere on the trackpad. To disable it, hold down the VoiceOver modifier and rotate two fingers counterclockwise.

* VoiceOver includes standard gestures for navigating and interacting with items on the screen. You can’t change these gestures.
* [VoiceOver standard gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo27992)
* You can customize other gestures by assigning VoiceOver commands to them.
* [Assign VoiceOver commands to gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo27986)
* You can use a rotor to navigate text areas, windows, dialogs, and webpages, and adjust controls such as sliders, steppers, and splitters.
* [Use the gestures rotor](http://help.apple.com/voiceover/info/guide/10.12/#/vo28035)
* If you don’t know your location on the screen, tap three times. VoiceOver tells you what’s in the VoiceOver cursor.
* When you drag a finger and you hear something you want to select, keep your finger on the trackpad and use a second finger to tap. This gesture is called a “split-tap.”

When you use VoiceOver gestures, you can’t use the mouse button on the trackpad, unless the mouse button is used with a modifier key, as in Control-click.

# **Assign VoiceOver commands to gestures**

Customize some VoiceOver gestures by assigning specific VoiceOver commands to them.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

1. Open VoiceOver Utility (press VO-F8 when VoiceOver is on), click the Commanders category, then click Trackpad.
2. Make sure Enable Trackpad Commander is selected, then click Assign Commands.
3. Click the pop-up menu, then choose a modifier key, such as Command or Shift, to use with your customized gestures.
4. Interact with the Trackpad Gesture Commands table, then navigate down the Trackpad Gesture column until you hear the gesture you want to customize. For more information, see [Interact with content areas](http://help.apple.com/voiceover/info/guide/10.12/#/vo24851).
5. In the Command column, click the pop-up menu of commands, navigate the available commands until you hear the one you want, then press Return.
6. Use the Custom Commands menu to assign scripts and Automator workflows to gestures.

VoiceOver includes a set of [standard VoiceOver gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo27992), which you can’t change.

# **Use the gestures rotor**

If you [use VoiceOver gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo28030), you can use the gestures rotor to navigate. The gestures rotor is like a virtual dial you turn to change how you navigate, based on the current context.

When you browse webpages, the settings in the gestures rotor vary based on the items you selected in the [Web Rotor pane of the Web category](http://help.apple.com/voiceover/info/guide/10.12/#/cpvouwebrotor) in VoiceOver Utility. By default, they include Links, Headings, Form Controls, Web Spots, Tables, and Landmarks.

In other contexts, the gestures rotor can include settings such as Characters, Words, Window Spots, Content Chooser, and Navigation.

1. Rotate two fingers anywhere on the trackpad until you hear the setting you want to use, such as Words.
2. As you “turn” the rotor, VoiceOver speaks each setting and plays a clicking sound. If you miss a setting, keep turning the rotor until you hear the setting again.
3. Flick up or down to navigate to the previous or next instance of an item, based on the current setting.
4. For example, if the current setting is Words, flicking down moves the VoiceOver cursor to the next word. Keep flicking down to move forward word by word. If you repeatedly flick up, the VoiceOver cursor moves backward word by word.

The Navigation setting reads text line by line:

* In a text area, VoiceOver begins speaking the first line at the point where the cursor was located when you first flicked up or down; it speaks each subsequent line in its entirety.
* In a window or dialog, VoiceOver might not speak all of the items on a line, depending on how the items are arranged. You may need to flick left or right and then flick up or down again to hear other items.

Your web navigation mode affects how you navigate webpages using the gestures rotor. In DOM mode, flicking up or down moves to the previous or next instance of the item that matches the current rotor setting. For example, if the rotor is set to Headings, flicking up or down moves to the previous or next heading. You can assign the “Toggle Web Navigation DOM or Group” command to a gesture using the Trackpad Commander, to easily switch modes to suit your needs. For more information about web navigation modes, see [Navigate webpages using DOM or group mode](http://help.apple.com/voiceover/info/guide/10.12/#/vo2711).

# **Appendix A: Commands and Gestures**

# **About this appendix**

This appendix lists VoiceOver commands and gestures, organized into categories.

# **General commands**

Use these commands to perform actions such as turning VoiceOver on and off, getting help, or changing basic settings. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Turn VoiceOver on or off | Command-F5 |
| Lock and unlock the VoiceOver modifier | VO-; |
| Open VoiceOver Utility | VO-F8 |
| Start keyboard help | VO-K |
| Open the VoiceOver Help menu | VO-H |
| Open the VoiceOver Quick Start | VO-Command-F8 |
| Open VoiceOver online help | VO-? |
| Read the help tag for the current item | VO-Shift-H |
| Read the VoiceOver hint for the current item | VO-Shift-N |
| Open the Commands menu | VO-H-H |
| Open the Find Commands menu | VO-Shift-F |
| Close a menu or rotor, stop an action, or exit a mode | Escape or Fn-Tab |
| Tell VoiceOver to ignore the next key or key combination you press | VO-Tab |
| Open the Verbosity rotor | VO-V  Then press the Left Arrow or Right Arrow key to choose the setting. Use the Up Arrow and Down Arrow keys to change the level for the setting. |
| Increase magnification of the item in the VoiceOver cursor | VO-} |
| Decrease magnification of the item in the VoiceOver cursor | VO-{ |
| Temporarily hide or show the VoiceOver cursor and the caption or braille panels | VO-Command-F11 |
| Hide or show the caption panel only | VO-Command-F10 |
| Resize or move the caption panel | VO-Shift-F10  Press again to cycle through these actions. Then use the arrow keys to resize the panel or move it. |
| Hide or show the braille panel only | VO-Command-F9 |
| Resize or move the braille panel | VO-Shift-F9  Press again to cycle through these actions. Then use the arrow keys to resize the panel or move it. |
| Tile visuals (dim the screen, highlight the caption or braille panel, and show the item in the VoiceOver cursor in the center of the screen) | VO-F10  Press again to return to the normal view. |
| Enable or disable the NumPad Commander | VO-Clear |
| Enable or disable the Keyboard Commander | VO-Shift-K |
| Enable or disable the Trackpad Commander | Press the VO (Control and Option) keys and rotate two fingers clockwise (enable) or counterclockwise (disable) |
| Turn the screen curtain on or off | VO-Shift-F11 |
| Cycle through speech settings in the rotor (rate, pitch, volume, intonation, voice) | VO-Command-Right Arrow or Left Arrow |
| Increase or decrease the current speech setting (rate, pitch, volume, intonation, voice) | VO-Command-Up Arrow or Down Arrow |

# **Interaction commands**

Use these commands to perform actions such as interacting with items on the screen. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Start interacting with an item | VO-Shift-Down Arrow |
| Stop interacting with an item | VO-Shift-Up Arrow |
| Perform the default action for the item in the VoiceOver cursor | VO-Space bar |
| Click the mouse | VO-Shift-Space bar |
| Double-click the mouse | VO-Shift-Space bar-Space bar |
| Start multiple selection in a list or table, and select each item | VO-Command-Return  To stop multiple selection, cut or copy the selected items, press the Escape key or Fn-Tab, or stop interacting with the list or table in which the items are located. |
| Perform a sticky mouse down or mouse up (for use when dragging an item from one location to drop in another location) | VO-Command-Shift-Space bar |
| Select a menu or list item | VO-Return |
| Open or close a disclosure triangle | VO-\ |
| Read the row header in a table | VO-R |
| Read the contents of a table row from the location of the VoiceOver cursor to the end of the row | VO-R-R |
| Read the column header in a table | VO-C |
| Read the contents of a table column from the location of the VoiceOver cursor to the bottom of the column | VO-C-C |
| Read row and column numbers in a table | VO-Shift-T |
| Read the number of columns and rows (the dimensions) in a table | VO-Shift-T-T |
| Interact with scroll bars | VO-Shift-S  Then use the arrow keys to scroll up or down or side to side. To scroll vertically one page at a time, use Page Up and Page Down. To scroll horizontally one page at a time, use Shift-Page Up and Shift-Page Down. |
| Resize a window | VO-~  From the menu, choose Resize, Resize and Move to Grid, or Resize and Move to Section. Then navigate to a submenu where you can choose to resize an edge or corner, resize and move to an area of a grid (such as the top left), or resize and move to a section (such as the bottom half).  To resize an edge, use the VO and arrow keys (for example, press VO-Right Arrow to extend the right edge of a window).  To resize a corner, use the VO and two arrow keys (for example, press VO-Right Arrow-Up Arrow to extend the top-right corner of a window). |
| Move a window | VO-`  Then use the VO and arrow keys (for example, press VO-Left Arrow to move a window left). To move a window diagonally, use the VO and two arrow keys (for example, press VO-Left Arrow-Up Arrow to move a window diagonally left and up). |
| Resize an object | VO-Command-~  From the menu, choose Resize, Resize and Move to Grid, or Resize and Move to Section. Then navigate to a submenu where you can choose to resize an edge or handle, resize and move to an area of a grid (such as the top left), or resize and move to a section (such as the bottom half).  To resize an edge, use the VO and arrow keys (for example, press VO-Right Arrow to extend the right edge of an object).  To resize a handle, use the VO and two arrow keys (for example, press VO-Right Arrow-Up Arrow to extend the top right handle of an object). |
| Move an object | VO-Command-`  Then use the VO and arrow keys (for example, press VO-Left Arrow to move an object left). To move an object diagonally, use the VO and two arrow keys (for example, press VO-Left Arrow-Up Arrow to move an object diagonally left and up). |
| Stop scrolling or resizing | Escape or Fn-Tab |
| Create a custom label | VO-/ |
| Close the current window or the selected desktop in Mission Control | VO-Command-Escape |
| Open the Actions menu | VO-Command-Space bar |
| Open the Activity Chooser (this command works only if you’re in an app or website for which you created an activity) | VO-X |
| Switch to the previous activity | VO-X-X |

# **Navigation commands**

Use these commands to perform actions such as moving around the screen, moving inside windows and webpages, and controlling cursor tracking. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Move the VoiceOver cursor up | VO-Up Arrow |
| Move the VoiceOver cursor down | VO-Down Arrow |
| Move the VoiceOver cursor to the left | VO-Left Arrow |
| Move the VoiceOver cursor to the right | VO-Right Arrow |
| Move to the top of the visible area (such as a window or text area) where the VoiceOver cursor is located | VO-Shift-Home  On some keyboards, press VO-Fn-Left Arrow. |
| Move to the bottom of the visible area (such as a window or text area) where the VoiceOver cursor is located | VO-Shift-End  On some keyboards, press VO-Fn-Right Arrow. |
| Move to the top of the area (such as a window or text area) where the VoiceOver cursor is located, scrolling if necessary | VO-Home  On some keyboards, press VO-Shift-Fn-Left Arrow. |
| Move to the bottom of the area (such as a window or text area) where the VoiceOver cursor is located, scrolling if necessary | VO-End  On some keyboards, press VO-Shift-Fn-Right Arrow. |
| Move to the top of a window, the first item in the Dock, or the first item on your desktop, depending on your location | VO-Command-Home  On some keyboards, press VO-Command-Fn-Left Arrow. |
| Move to the lower-right corner of a window, the last item in the Dock, or the last item on your desktop, depending on your location | VO-Command-End  On some keyboards, press VO-Command-Fn-Right Arrow. |
| Move the window containing the VoiceOver cursor to the front, making it the active window | VO-Shift-F2 |
| Open the Item Chooser | VO-I |
| Open the Rotor | VO-U |
| Move to the Dock | VO-D |
| Move to the desktop | VO-Shift-D |
| Move to the menu bar | VO-M |
| Move to the status menus in the menu bar | VO-M-M |
| Open a shortcut menu | VO-Shift-M |
| Jump to a linked item (for example, from a message in the Mail messages list to the message preview). | VO-J |
| Temporarily disable or enable the cursor tracking options you selected in VoiceOver Utility. The command doesn’t change the settings in VoiceOver Utility. | VO-Shift-F3 |
| Move the VoiceOver cursor to the keyboard focus | VO-Shift-F4 |
| Move the keyboard focus to the VoiceOver cursor | VO-Command-F4 |
| Move the VoiceOver cursor to the mouse pointer | VO-Shift-F5 |
| Move the mouse pointer to the VoiceOver cursor | VO-Command-F5 |
| Jump from the current location to any displayed input method or auto correction panel, and then jump back to the original location | VO-Shift-J |
| Find text | VO-F |
| While finding text, cycle through search item history | VO-Up Arrow or Down Arrow |
| Move the VoiceOver cursor in the given direction, wrapping when necessary | VO-Command-Shift-arrow keys |
| Set or remove a hot spot | VO-Shift-[*hot spot number*] |
| Jump to a hot spot | VO-[*hot spot number*] |
| Hear a description of a hot spot | VO-Command-[*hot spot number*] |
| Toggles watching a hot spot for changes | VO-Command-Shift-[*hot spot number*] |
| Open the Hot Spot Chooser | VO-Shift-X |
| Move to the next hot spot | VO-] |
| Move to the previous hot spot | VO-[ |
| Jump back to a parent folder | VO-Command-\ |
| Jump to the sort button in a column header in a table | VO-|  If the table also contains a row header, VoiceOver displays a menu where you choose a column or row header. Press VO-Right Arrow until you hear the header you want, then press the Space bar. |

# **Orientation commands**

Use these commands to perform actions such as hearing information about the current item and what’s open on the screen. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Hear a summary of open apps | VO-F1 |
| Open the Application Chooser | VO-F1-F1 |
| Hear a summary of the current window | VO-F2 |
| Open the Window Chooser | VO-F2-F2 |
| Hear the dimensions of the current window and the section of the screen where it’s located | VO-Command-Shift-F2 |
| Hear the position of the current window and whether anything overlaps it | VO-Command-Shift-F2-F2 |
| Hear a description of the item in the VoiceOver cursor, including the item’s current state, such as whether a checkbox is selected, or the percent value of a slider | VO-F3 |
| Hear the dimensions of the current item and the section of the screen where it’s located | VO-Command-Shift-F3 |
| Hear the position of the current item and whether anything overlaps it | VO-Command-Shift-F3-F3 |
| Hear a description of the item that has keyboard focus, including its current state, such as whether a checkbox is selected, or the percent value of a slider | VO-F4 |
| Hear details about the item that has keyboard focus  In text, you hear the location of the insertion point relative to the top-left corner of the text item in which the insertion point is located. For example, you might hear “Insertion point is two inches right, five inches down from top-left corner of edit text.” | VO-F4-F4 |
| Hear a description of the item under the pointer, including the item’s current state, such as whether a checkbox is selected, or the percent value of a slider | VO-F5 |
| Hear the location of the pointer as x and y coordinates on the screen, relative to the top-left corner of the screen | VO-F5-F5 |
| Hear the location of the pointer as x and y coordinates relative to the current window | VO-F5-F5-F5 |
| Read the selected item | VO-F6 |
| Read the contents of the VoiceOver cursor | VO-A |
| Read the visible contents of the window, the Dock, or your desktop, depending on your location | VO-Shift-W |
| Repeat the last spoken phrase | VO-Z |
| Copy the last spoken phrase to the Clipboard (also called the “Pasteboard”) | VO-Shift-C |
| Save the last spoken phrase and the crash log to a file on the desktop for troubleshooting | VO-Shift-Z |

# **Search commands**

Use these commands to perform actions such as searching for text attributes, graphics, controls, and other items in text documents and webpages. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Find | VO-F |
| Open the Find Commands menu | VO-Shift-F |
| Find the next searched text | VO-G |
| Find the previous searched text | VO-Shift-G |
| Find the next list | VO-Command-X |
| Find the previous list | VO-Command-Shift-X |
| Find the next bold text | VO-Command-B |
| Find the previous bold text | VO-Command-Shift-B |
| Find the next style change | VO-Command-C |
| Find the previous style change | VO-Command-Shift-C |
| Find the next italic text | VO-Command-I |
| Find the previous italic text | VO-Command-Shift-I |
| Find the next color change | VO-Command-K |
| Find the previous color change | VO-Command-Shift-K |
| Find the next font change | VO-Command-O |
| Find the previous font change | VO-Command-Shift-O |
| Find the next table | VO-Command-T |
| Find the previous table | VO-Command-Shift-T |
| Find the next underlined text | VO-Command-U |
| Find the previous underlined text | VO-Command-Shift-U |
| Find the next control | VO-Command-J |
| Find the previous control | VO-Command-Shift-J |
| Find the next different item | VO-Command-D |
| Find the previous different item | VO-Command-Shift-D |
| Find the next item that’s the same type as the current item | VO-Command-S |
| Find the previous item that’s the same type as the current item | VO-Command-Shift-S |
| Find the next graphic | VO-Command-G |
| Find the previous graphic | VO-Command-Shift-G |
| Find the next heading | VO-Command-H |
| Find the previous heading | VO-Command-Shift-H |
| Find the next link | VO-Command-L |
| Find the previous link | VO-Command-Shift-L |
| Find the next heading of the same level | VO-Command-M |
| Find the previous heading of the same level | VO-Command-Shift-M |
| Find the next plain text | VO-Command-P |
| Find the previous plain text | VO-Command-Shift-P |
| Find the next visited link | VO-Command-V |
| Find the previous visited link | VO-Command-Shift-V |
| Find the next misspelled word | VO-Command-E |
| Find the previous misspelled word | VO-Command-Shift-E |
| Find the next blockquote | VO-Command-Q |
| Find the previous blockquote | VO-Command-Shift-Q |
| Find the next blockquote of the same level | VO-Command-W |
| Find the previous blockquote of the same level | VO-Command-Shift-W |

# **Text commands**

Use these commands to perform actions such as reading and editing text and tables. Before you can use most of these commands, you must interact with text in a text area. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Read the contents of the VoiceOver cursor | VO-A |
| Select all text in the VoiceOver cursor | VO-Shift-A |
| Start and stop text selection in a text field (text selection tracking must be on) | VO-Return |
| Speak text attributes | VO-T |
| Jump to a hot spot in text | VO-[*hot spot number*]  For example, VO-1 or VO-9. |
| Read the paragraph in the VoiceOver cursor | VO-P |
| Read the next paragraph | VO-Shift-Page Down |
| Read the previous paragraph | VO-Shift-Page Up |
| Read the sentence in the VoiceOver cursor | VO-S |
| Read the next sentence | VO-Command-Page Down |
| Read the previous sentence | VO-Command-Page Up |
| Read the line in the VoiceOver cursor | VO-L |
| Read the next line | VO-Down Arrow |
| Read the previous line | VO-Up Arrow |
| Read the word in the VoiceOver cursor | VO-W |
| Spell alphabetically the word in the VoiceOver cursor | VO-W-W |
| Spell phonetically the word in the VoiceOver cursor | VO-W-W-W |
| Read the next word | VO-Right Arrow |
| Read the previous word | VO-Left Arrow |
| Read the character in the VoiceOver cursor | VO-C |
| Read phonetically the character in the VoiceOver cursor | VO-C-C |
| Read the next character | VO-Shift-Right Arrow |
| Read the previous character | VO-Shift-Left Arrow |
| Move to the first visible word | VO-Shift-Home  On a portable Mac, press VO-Fn-Left Arrow. |
| Move to the last visible word | VO-Shift-End  On a portable Mac, press VO-Fn-Right Arrow. |
| Move to the beginning of text, scrolling if necessary | VO-Home  On a portable Mac, press VO-Shift-Fn-Left Arrow. |
| Move to the end of text, scrolling if necessary | VO-End  On a portable Mac, press VO-Shift-Fn-Right Arrow. |
| Add a new tab stop in TextEdit (the VoiceOver cursor must be on a tab stop in the ruler) | VO-Space bar |
| Delete the current tab stop in TextEdit (the VoiceOver cursor must be on a tab stop in the ruler) | VO-Delete |
| Interact with a tab stop in TextEdit (the VoiceOver cursor must be on a tab stop in the ruler) | VO-Shift-Down Arrow  Then use the Left Arrow and Right Arrow keys to move the stop. |
| Reads the current word and character in the VoiceOver cursor | VO-F3 |
| Reads the total number of lines and the number of visible lines in a document | VO-F3-F3 |

# **Web commands**

Use these commands to perform actions such as navigating and interacting with webpages. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

|  |  |
| --- | --- |
| Move to the next column | VO-Command-Y |
| Move to the previous column | VO-Command-Shift-Y |
| Move to the next frame | VO-Command-F |
| Move to the previous frame | VO-Command-Shift-F |
| Move to the next auto web spot | VO-Command-N |
| Move to the previous auto web spot | VO-Command-Shift-N |
| Move to the next web spot | VO-Command-] |
| Move to the previous web spot | VO-Command-[ |
| Read from the current location on a webpage to the end of the page | VO-A |
| Read from the beginning of a webpage to the current location | VO-B |
| Read a link address (URL) | VO-Shift-U |
| Read the next sentence | VO-Command-Page Down |
| Read the previous sentence | VO-Command-Page Up |
| Read webpage statistics | VO-Shift-I |
| Remove a web spot | VO-Command-Shift-{ |
| Create a web spot | VO-Command-Shift-} |
| Set the sweet spot | VO-Command-Shift-}-} |
| Turn the grouping of items within a table on or off | VO-Command-= |

# **VoiceOver standard gestures**

If you’re using a trackpad, you can use standard VoiceOver gestures to perform actions such as navigating and interacting with items on the screen. You can’t modify the standard gestures. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: If a gesture doesn’t mention a specific number of fingers, use a single finger.

## **General**

|  |  |
| --- | --- |
| Enable the Trackpad Commander and VoiceOver gestures | VO-two-finger rotate clockwise |
| Disable the Trackpad Commander and VoiceOver gestures | VO-two-finger rotate counterclockwise |
| Turn the screen curtain on or off | Three-finger triple-tap |
| Mute or unmute VoiceOver | Three-finger double-tap |

## **Navigation**

|  |  |
| --- | --- |
| Force the VoiceOver cursor into a horizontal or vertical line when you drag a finger across the trackpad | Hold down the Shift key and drag a finger horizontally or vertically |
| Move the VoiceOver cursor to the next item | Flick right |
| Move the VoiceOver cursor to the previous item | Flick left |
| Move content or the scroll bar (depending on the Trackpad Commander setting) | Three-finger flick in any direction |
| Go to the Dock | Two-finger double-tap near the bottom of the trackpad |
| Go to the menu bar | Two-finger double-tap near the top of the trackpad |
| Open the Application Chooser | Two-finger double-tap on the left side of the trackpad |
| Open the Window Chooser | Two-finger double-tap on the right side of the trackpad |
| Jump to another area of the current app | Press Control while touching a finger on the trackpad |

## **Interaction**

|  |  |
| --- | --- |
| Speak the item in the VoiceOver cursor or, if there isn’t an item, play a sound effect to indicate a blank area | Touch (includes tap or dragging) |
| Select an item | Double-tap anywhere. You can also split-tap (touch one finger, then tap with a second finger). |
| Start interacting with the item in the VoiceOver cursor | Two-finger flick right |
| Stop interacting with the item in the VoiceOver cursor | Two-finger flick left |
| Scroll one page down or up | Three-finger flick up or down |
| Escape (close a menu without making a selection) | Two-finger scrub back and forth |
| Increase or decrease the value of a slider, splitter, stepper, or other control | Flick up (increase) or flick down (decrease) |

## **Text**

|  |  |
| --- | --- |
| Read the current page, starting at the top | Two-finger flick up |
| Read from the VoiceOver cursor to the end of the current page | Two-finger flick down |
| Read the current scroll page | Three-finger tap |
| Pause or resume speaking | Two-finger tap |
| Describe what’s in the VoiceOver cursor | Triple-tap |
| Change how VoiceOver reads text (by word, line, sentence, or paragraph) | Press Command while touching a finger on the trackpad |

## **Rotor**

|  |  |
| --- | --- |
| Change the rotor settings | Two-finger rotate |
| Move to the previous item based on the rotor setting | Flick up |
| Move to the next item based on the rotor setting | Flick down |

To customize other gestures by assigning VoiceOver commands to them, use the Trackpad Commander. For more information, see [Assign VoiceOver commands to gestures](http://help.apple.com/voiceover/info/guide/10.12/#/vo27986).

# **Changed VoiceOver commands in macOS Sierra**

VoiceOver in macOS Sierra includes several new, changed, and removed commands. VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

Note: When VoiceOver is on, you can enter VoiceOver commands by using the Fn and number keys with the VoiceOver modifier, as an alternative to using the function keys (F1 through F12). For example, to open VoiceOver Utility you can press Control-Option-Fn-8 (instead of Control-Option-F8).

If you use the function keys (F1 through F12), you may need to press and hold the Fn key, depending on how you [set the behavior of function keys](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2685) in Keyboard preferences.

## **New commands**

|  |  |
| --- | --- |
| VO-Shift-X | Open the Hot Spot Chooser |
| VO--(hyphen) | Decrease system volume |
| VO-Command-= (equals) | Turn grouping on or off for the current table |

## **Changed commands**

|  |  |
| --- | --- |
| VO-= (equals) | Increase system volume |
| VO-Shift-Home | Move to the first visible word |
| VO-Shift-End | Move to the last visible word |
| VO-Home | Move to the beginning of text, scrolling if necessary |
| VO-End | Move to the end of text, scrolling if necessary |
| VO-Command-{ | Remove a web spot |
| VO-Command-} | Create a web spot |
| VO-Command-}-} | Set the sweet spot |

## **Removed commands**

|  |  |
| --- | --- |
| VO-[*number key*]-[*number key*] | Open the Hot Spot Chooser  Now press VO-Shift-X to open the Hot Spot Chooser. |

# **Appendix B: VoiceOver Utility Options**

# **About this appendix**

This chapter lists the options on each VoiceOver Utility pane and explains how to use the options.

# **General category**

Use the General category in VoiceOver Utility to specify a login greeting and the VoiceOver modifier you want to use, use portable preferences, and enable AppleScript scripts to control VoiceOver.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Login Greeting | The text VoiceOver speaks when you log in while VoiceOver is on. To change the greeting, type new text over the default text. |
| Display welcome dialog when VoiceOver starts | Display the welcome dialog each time VoiceOver is turned on. |
| Keys to use as the VoiceOver modifier | The modifier keys to use for entering VoiceOver commands.  VoiceOver commands often appear as VO-*key*, as in VO-H. VO represents the VoiceOver modifier you select from the pop-up menu. To use the command VO-H, you would press Caps Lock-H or Control-Option-H, depending on the VoiceOver modifier. |
| Portable Preferences | VoiceOver indicates whether it detects a portable preferences drive. You can stop or start using a detected drive, or set up a drive. |
| Allow VoiceOver to be controlled with AppleScript | Use AppleScript scripts to automate VoiceOver tasks. |

# **Speech pane of the Verbosity category**

Use the Speech pane of the Verbosity category in VoiceOver Utility to specify the default verbosity level and a verbosity level for items, such as apps, checkboxes, headings, images, and more.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Default Speech Verbosity | Click the pop-up menu, then choose the default verbosity level for items on the screen. |
| Additional options button | Click the additional options button to display a list of controls for which you can individually set a verbosity level. Click a control’s Verbosity pop-up menu, then choose a verbosity level: Default, Low, Medium, or High.  To customize or reorder the information VoiceOver provides (for example, to hear Status first), choose Custom from the control’s Verbosity pop-up menu, then follow the instructions that appear. |

To use the Verbosity rotor to change the default verbosity level while working, press VO-V.

# **Braille pane of the Verbosity category**

Use the Braille pane of the Verbosity category in VoiceOver Utility to specify verbosity levels when using a refreshable braille display.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Default Braille Verbosity | Click the pop-up menu, then choose the default verbosity level for items on the screen. |
| Additional options button | Click the additional options button to display a list of controls for which you can individually set a verbosity level. Click a control’s Verbosity pop-up menu, then choose a verbosity level: Default, Low, Medium, or High.  To customize or reorder the information VoiceOver provides (for example, to hear Status first), choose Custom from the control’s Verbosity pop-up menu, then follow the instructions that appear. |

To use the Verbosity rotor to change the default verbosity level while working, press VO-V.

# **Text pane of the Verbosity category**

Use the Text pane of the Verbosity category in VoiceOver Utility to customize the amount of punctuation, text, and text attributes you hear, among other options.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Punctuation | Click the pop-up menu, then choose how much punctuation you want to hear:  *All:* Hear all special symbols and punctuation except for spaces. VoiceOver reads a sentence like this: “She turned and stopped comma then started walking again period”.  *Most:* Hear all special symbols but not common punctuation, such as the comma and period.  *Some:* Hear keyboard symbols and many math symbols, such as + (plus sign).  *None:* Hear text as you would normally read it, with pauses for commas and periods. |
| Repeated Punctuation | Click the pop-up menu, then choose how you want to hear repeated punctuation: always, with a count, or a specific number of times. |
| While typing speak | Click the pop-up menu, then choose what you want to hear while typing (called the “typing echo”): Characters, Words, Characters and Words, or Nothing. |
| When moving the cursor | Click the pop-up menu, then choose how you want to hear text when moving the VoiceOver cursor: “Speak text the cursor passes” or “Speak text to the right of the cursor.” |
| When text attributes change | Click the pop-up menu, then choose how you want to hear changes in text attributes: Do Nothing, Play Tone, or Speak Attributes. |
| When encountering a misspelled word | Click the pop-up menu, then choose how you want to hear misspelled words:  *Do Nothing:* Hear the word.  *Play Tone:* Hear a sound effect.  *Speak Attributes:* Hear “misspelled,” then the word.  *Change Pitch:* Lower the pitch. |
| When encountering a link/attachment | Click the pop-up menu, then choose how you want to hear links and attachments:  *Speak:* Hear “link,” then the link text, or “embedded,” then the attachment name.  *Change Pitch:* Hear the link text or attachment name in a different voice pitch.  *Play Tone:* Hear a sound effect.  *Do Nothing:* Hear the link text or attachment name. |
| Read numbers as | Click the pop-up menu, then choose how you want to hear numbers: Words or Digits. |
| When reading a capital letter | Click the pop-up menu, then choose how you want to hear uppercase letters or words that start with uppercase letters, depending on your settings for typing echo:  *Change Pitch:* Hear the letter or word in a different voice pitch than lowercase text.  *Play Tone:* Hear a sound effect.  *Speak Cap:* Hear “cap,” then the letter or word.  *Do Nothing:* Hear the letter or word. |
| When deleting text | Click the pop-up menu, then choose how you want to hear text that you’re deleting:  *Change Pitch:* Hear the text you’re deleting in a different voice pitch than other text.  *Play Tone:* Hear a sound effect.  *Speak:* Hear “deleting,” then the text you’re deleting.  *Do Nothing:* Hear the text you’re deleting. |
| Words are separated by | Click the pop-up menu, then choose how you want to hear word separations: “Punctuation and whitespace” or Whitespace. |

# **Announcements pane of the Verbosity category**

Use the Announcements pane of the Verbosity category in VoiceOver Utility to specify when you want VoiceOver to announce certain events, such as when a modifier key is pressed, and when to speak certain text, such as labels in dialogs.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Announce when mouse cursor enters a window | Hear when the pointer goes to a window. This setting is useful if you use the mouse pointer independently of the VoiceOver cursor and keyboard focus. |
| Announce when a modifier key is pressed | Hear when you press a modifier key. This setting is useful while you learn VoiceOver commands and want to confirm the keys you press. |
| Announce when the Caps Lock key is pressed | Hear when you press the key that makes all letters uppercase. This setting is useful if you press the key inadvertently and are typing everything in uppercase.  To be able to use the Caps Lock key for typing uppercase letters when the VoiceOver modifier is set to Caps Lock, quickly press the Caps Lock key twice. |
| Speak header when navigating across a table row | Hear header text in a table row. This setting is useful for identifying the type of content in a row. |
| Automatically speak text in dialog boxes | Hear labels and other text in dialogs. |
| Append phonetic pronunciation to single characters | Always hear characters read phonetically. For example, if VoiceOver is reading text by character, it reads “a alpha n november t tango.” |
| When status text changes under VoiceOver cursor | Click the pop-up menu, then choose how you want to hear changes in status text (such as the percentage complete of an app installation): Play Tone, Speak Text, or Do Nothing. |
| When progress indicator changes under VoiceOver cursor | Click the pop-up menu, then choose how you want to hear progress indicator changes: Play Tone, Speak Update, or Do Nothing. |
| When number of rows change under VoiceOver cursor | Click the pop-up menu, then choose how you want to hear that rows are being added or removed: Play Tone, Speak Update, or Do Nothing. |
| Speak size and position in | Click the pop-up menu, then choose how you want to hear size and position: Inches, Millimeters, or Points. |
| Speak text under mouse after delay | Drag the slider toward Short or Long to specify how many seconds you want VoiceOver to wait before it speaks the text that’s under the pointer. |

# **Hints pane of the Verbosity category**

Use the Hints pane of the Verbosity category in VoiceOver Utility to get more information about the item in the VoiceOver cursor.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Speak instructions for using the item in the VoiceOver cursor | Have VoiceOver automatically read instructions, if available, for the item. |
| When an item has a help tag | Click the pop-up menu, then choose how you want to hear the descriptions (called “help tags” or “tooltips”) that are displayed when the pointer rests briefly over an item. |
| Speak hints after delay | Drag the slider toward Short or Long to set how many seconds VoiceOver waits before it speaks the hint for the item under the pointer. |

# **Voices pane of the Speech category**

Use the Voices pane of the Speech category in VoiceOver Utility to mute speech and customize voice settings.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Mute Speech | Turn off VoiceOver speech. This option doesn’t affect VoiceOver sound effects or the audio of other apps. |
| Voice | Click the pop-up menu, then choose a default voice for VoiceOver, such as Alex.  To add compact or premium voices to the pop-up menu, choose Customize, then select the voices. A yellow triangle indicates that a voice must be downloaded before it can appear in the menu. |
| Rate | Set the speed at which a voice speaks. |
| Pitch | Set how high or low a voice speaks. |
| Volume | Set how loudly or softly a voice speaks. |
| Intonation | Click the up or down arrow on the stepper to set how a voice rises and falls as it speaks. |
| Additional options button | Click the additional options button to set voices for specific items, such as status or attributes. |

# **Pronunciation pane of the Speech category**

Use the Pronunciation pane of the Speech category in VoiceOver Utility to customize how VoiceOver pronounces text and symbols.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Text | Lists the words, acronyms, or symbols for which you have specified a pronunciation.  To change an item listed in the Text column, navigate to it, then press VO-Space bar. |
| Substitution | Lists the pronunciations you specified.  To change an item listed in the Substitution column, navigate to it, then press VO-Space bar. |
| Application | Lists apps where you want VoiceOver to use the custom pronunciation.  To change the app, click the pop-up menu, then choose a different app (or All Apps). The pop-up menu lists only apps that are currently open. |
| Ignore Case | Ignore capitalization. If VoiceOver is set to indicate capitalization when speaking, you might want to ignore uppercase and lowercase in your pronunciations. |
| Add button | Add a substitution to the list. |
| Remove button | Remove the selected substitution from the list. |

# **Navigation category**

Use the Navigation category in VoiceOver Utility to customize navigation settings, such as those related to using the VoiceOver cursor, interaction with areas and groups, and fast searching.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Initial position of VoiceOver cursor | Click the pop-up menu, then choose the initial position of the VoiceOver cursor in a new window: “Keyboard focused item” or “First item in window.” |
| Grouping behavior | Choose whether VoiceOver requires an action to interact with items in a content area (such as a scroll area) or a group (such as a toolbar):  *Standard:* VoiceOver requires an action. You must press VO-Shift-Down Arrow to start interacting with the items in an area or group, and VO-Shift-Up Arrow to stop interacting with the items.  *Bookend groups:* VoiceOver identifies the start and end of an area or group as you navigate its items, but no action is required to interact with them.  *Announce groups:* VoiceOver announces when you enter or exit an area or group, but no action is required to interact with its items.  *Ignore groups:* VoiceOver doesn’t identify or announce areas or groups, and no action is required to interact with its items.  Note: Some areas (such as tables) always require interaction, regardless of the setting you choose. This prevents you from having to navigate potentially large numbers of items, such as thousands of items in a Mail inbox. |
| Synchronize keyboard focus and VoiceOver cursor | Make the keyboard focus and the VoiceOver cursor follow each other whenever possible.  When this option is deselected, VoiceOver cursor tracking is off. |
| Mouse pointer | Click the pop-up menu, then choose how you want the pointer to follow the VoiceOver cursor: “Ignores VoiceOver cursor,” “Follows VoiceOver cursor,” or “Moves VoiceOver cursor.”  The default setting is “Ignores VoiceOver cursor.” |
| Allow cursor wrapping | Wrap the VoiceOver cursor up, down, left, and right in a continuous loop when you’re navigating. |
| Skip redundant labels | Hear duplicate labels only once. |
| Automatically interact when using tab key | Interact with items you tab to without first having to use VO-Shift-Down Arrow. |
| Enable fast searching | Quickly search for the next or previous element on the screen that begins with a specified letter. Click the pop-up menu, then choose the Left Command key or the Right Command key for fast searching.  For example, to search for the next element that begins with the letter S, you could press Left Command-S. To search for the previous element, you could press Left Command-Shift-S. |

# **Navigation pane of the Web category**

Use the Navigation pane of the Web category in VoiceOver Utility to set options related to navigating and browsing webpages.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

|  |  |
| --- | --- |
| Navigate webpages by | Select a method for navigating webpages:  *DOM order:* Move the VoiceOver cursor through a webpage based on the page’s Document Object Model (DOM). Navigating by DOM moves left and right, in the order the webpage’s author intended. (Moving up and down in DOM mode is based on [items included in the Rotor when viewing webpages](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2719).)  *Grouping items:* Move the VoiceOver cursor from one group of information to the next, such as from one paragraph to the next paragraph. Navigating by group moves in any direction, to help give you a sense of context.  For more information, see [Navigate webpages using DOM or group mode](http://help.apple.com/voiceover/info/guide/10.12/#/vo2711). |
| Group items within | Hear a summary of a table and a summary of each cell as you navigate the table using the arrow keys. This option is useful if you’re familiar with a table and don’t need to read its contents. If you do want to read the contents of a cell, you must [interact with it using VoiceOver commands](http://help.apple.com/voiceover/info/guide/10.12/#/vo24851).  When the checkbox isn’t selected, you automatically interact with a table and read its contents, cell by cell, as you navigate the table using the arrow keys. |
| Speak column and row numbers | Have VoiceOver speak the column and row numbers in tables to help you navigate complex tables more easily. This option is on by default. |
| Navigate Images | Click the pop-up menu, then choose how you want VoiceOver to navigate images: Never, With Descriptions, or Always.  By default, VoiceOver navigates only to images that contain a description, called “alt text.” This option is useful because many websites use images for links.  For more information, see [Navigate webpages using limages or frames](http://help.apple.com/voiceover/info/guide/10.12/#/mchlp2740). |
| Enable Live Regions | Have VoiceOver speak all live regions it encounters on webpages.  If you prefer to hear only specific live regions, deselect the checkbox, then use the Rotor to find and enable specific live regions on a webpage.  For more information, see [Navigate webpages using live regions](http://help.apple.com/voiceover/info/guide/10.12/#/vo34654). |
| Always allow keyboard commands to navigate websites | Use keyboard commands to navigate text, even on websites that use the commands for other purposes.  When this option is selected, websites that use keyboard commands may not function as expected. For example, if a website uses an arrow key to jump to another item, the arrow key won’t perform that action; the arrow key can only be used to navigate text. |

# **Page Loading pane of the Web category**

Use the Page Loading pane of the Web category in VoiceOver Utility to specify what happens when a webpage opens.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Speak webpage summary | When a webpage opens, have VoiceOver speak a summary of the items on the page. The summary is based on the items selected in the [Web Rotor pane of the Web category](http://help.apple.com/voiceover/info/guide/10.12/#/cpvouwebrotor) in VoiceOver Utility.  For example, if the Rotor includes headers, links, auto web spots, and form controls, the webpage summary that VoiceOver speaks might sound like “The Apple - Accessibility page has 14 headers 52 links 8 auto web spots 1 form control.” |
| Automatically speak the webpage | When a webpage opens, have VoiceOver start reading the page. If you set a sweet spot on the page, VoiceOver starts reading from the sweet spot; otherwise, it starts reading from the beginning of the page.  This option is available only if you select the previous option to move the VoiceOver cursor to the first item or sweet spot. |
| While a webpage loads | Click the pop-up menu, then choose what you want to hear while a webpage is being displayed: Speak Progress, Play Tone, or Do Nothing.  By default, VoiceOver speaks the percentage of the webpage that is loaded. |

# **Web Rotor pane of the Web category**

Use the Web Rotor pane of the Web category in VoiceOver Utility to specify which items to include, and in what order, in the Rotor when viewing webpages.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Item Order | The list of items you can include in the Rotor.  Select a checkbox to include an item in the Rotor; deselect a checkbox to exclude an item from the Rotor. You can reorder items in the list so the items you use most appear first in the Rotor. |

# **Sound category**

Use the Sound category in VoiceOver Utility to set options related to sound effects and positional audio.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Mute sound effects | Turn off VoiceOver sound effects. This option doesn’t affect VoiceOver speech or the audio of other apps. |
| Enable audio ducking | By default, the volume of audio content, such as a podcast or music, is appropriately reduced whenever VoiceOver speaks. To turn this feature off, deselect the checkbox. |
| Enable positional audio | Add audio cues that help you locate items on the screen. The cues play in stereo; you need a pair of earbuds or stereo headphones, or standard stereo speakers, to hear the cues. Positional audio is on by default. |
| Output Device | Click the pop-up menu, then choose the device you want to use to output sounds. This option is most useful if you have an audio output device, such as headphones or speakers, connected to your Mac. |

# **VoiceOver Cursor pane of the Visuals category**

Use the VoiceOver Cursor pane of the Visuals category in VoiceOver Utility to set options related to the VoiceOver cursor.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Show VoiceOver cursor | Show the VoiceOver cursor (the default setting). The VoiceOver cursor appears onscreen as a dark outlined box. |
| VoiceOver Cursor Magnification | Drag the slider toward Small or Large to decrease or increase the size of the VoiceOver cursor. |
| When reading text, move VoiceOver cursor by | Click the pop-up menu, then choose how the VoiceOver cursor should move while reading: Sentence or Word. |

# **Caption Panel pane of the Visuals category**

Use the Caption Panel pane of the Visuals category in VoiceOver Utility to customize the size and appearance of the caption panel, which shows what VoiceOver is speaking.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Show caption panel | Display the caption panel, which can be helpful when working with sighted users. |
| Caption Panel Font Size | Drag the slider toward Small or Large to set the font size in the caption panel. |
| Rows in Caption Panel | Drag the slider toward 1 or 10 to remove or add rows, changing the height of the panel. |
| Caption Panel Transparency | Drag the slider toward 0 percent or 100 percent to decrease or increase the panel’s transparency. If you increase the transparency, the panel’s background color becomes lighter and you can more easily see the screen behind the panel. |

# **Braille Panel pane of the Visuals category**

Use the Braille Panel pane of the Visuals category in VoiceOver Utility to customize the appearance of the braille panel. The panel simulates a refreshable braille display and includes a language translation of the braille.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Show Braille Panel | Click the pop-up menu, then choose how you want to display the braille panel: Off, On, or Automatic.  When set to the default setting, Automatic, the braille panel is shown when you connect a refreshable braille display to your Mac. |
| Braille Font Color | Click the pop-up menu, then choose a color for displaying text in the braille panel. |
| Braille Panel Font Size | Drag the slider toward Small or Large. |
| Braille Panel Transparency | Drag the slider toward 0 percent or 100 percent to decrease or increase the panel’s transparency.  If you increase the transparency, the panel’s background color becomes lighter and you can more easily see the screen behind the panel. |

# **Touch pane of the Visuals category**

Use the Touch pane of the Visuals category in VoiceOver Utility to customize the transparency of the background that dims the screen around the focus area. This pane is shown only if a trackpad is available.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Background Transparency | Drag the slider toward 0 percent or 100 percent to decrease or increase the transparency of the dimmed background around the focus area.  If you increase the transparency, the background color becomes lighter and you can more easily see the rest of the screen. |

# **Menus pane of the Visuals category**

Use the Menus pane of the Visuals category in VoiceOver Utility to customize the appearance of VoiceOver menus, such as the Commands menu or Web menu.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| VoiceOver Menus Font Size | Drag the slider toward Small or Large to set the font size used in VoiceOver menus. |
| VoiceOver Menus Transparency | Drag the slider toward 0 percent or 100 percent to decrease or increase the transparency of the menus.  If you increase the transparency, a menu’s background color becomes lighter and you can more easily see the screen behind the menu. |

# **Trackpad pane of the Commanders category**

Use the Trackpad pane of the Commanders category in VoiceOver Utility to enable the Trackpad Commander and set other options for using VoiceOver gestures. The Trackpad pane is available only when VoiceOver detects a trackpad.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Enable Trackpad Commander | Use standard VoiceOver gestures and assign VoiceOver commands to other gestures. |
| Automatically select items in lists and tables | Have VoiceOver automatically select the list or table item you’re touching when you lift your finger from the trackpad.  If you don’t want VoiceOver to select an item, drag your finger off the list or table before lifting your finger. |
| Pause speech when not touching the trackpad | Have VoiceOver pause speech when you lift your finger off the trackpad while dragging. For example, if you’re dragging a finger to navigate lines of text and you lift your finger, VoiceOver pauses speech. |
| Scroll gesture moves content instead of scroll bar | Scroll the content (not the scroll bar) down or up.  Normally when you move the scroll bar down or up, the content moves in the opposite direction. When this option is selected, the content moves in the same direction you’re scrolling. |
| Assign Commands | Display the pane in which you assign VoiceOver commands to gestures. |

When the Trackpad Commander is on, its commands are included in the Commands menu. To display the Commands menu, press VO-H-H. For more information, see [Find commands using the Commands menu](http://help.apple.com/voiceover/info/guide/10.12/#/vo28018).

# **Trackpad Commander assignments pane**

Use the Trackpad Commander assignments pane in VoiceOver Utility to assign VoiceOver commands to trackpad gestures.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Modifier pop-up menu | Click the pop-up menu, then choose the modifier key you want to use with gestures. By default, no modifier is used. |
| Trackpad Gesture | Indicates the gestures you can assign VoiceOver commands to. |
| Command | Click the command field to display pop-up menus for the different types of commands you can assign to a gesture. |

# **NumPad pane of the Commanders category**

Use the NumPad pane of the Commanders category in VoiceOver Utility to enable the NumPad Commander and assign VoiceOver commands to numeric keypad keys.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Enable NumPad Commander | Enable the NumPad Commander.  When the NumPad Commander is enabled, you can’t use Mouse Keys, an accessibility feature in macOS. |
| Modifier pop-up menu | Click the pop-up menu, then choose a modifier key to increase the number of numeric keys you can assign VoiceOver commands to. |
| Numpad Key | Indicates the numeric keypad key you assigned a VoiceOver command to. |
| Command | Indicates the VoiceOver command currently assigned to a numeric keypad key.  Click the current command to display pop-up menus for the different types of commands you can assign to a key. |

# **Keyboard pane of the Commanders category**

Use the Keyboard pane of the Commanders category in VoiceOver Utility to enable the Keyboard Commander and assign VoiceOver commands to key combinations you create, which might be easier for you to remember or perform.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Enable Keyboard Commander | Enable the Keyboard Commander so you can assign VoiceOver commands to keyboard keys. |
| Use | Click the pop-up menu, then select the key you want to use as the designated Keyboard Commander modifier: Right Option Key, Left Option Key, or Both Option Keys. |
| Keyboard Key | The key to assign to the VoiceOver command that’s displayed. |
| Command | Click the pop-up menu, then choose a different command to assign to a key. |
| Add button | Add a key to the list. Type the key, click the Command pop-up menu, then choose a VoiceOver command to assign to the key. |
| Remove button | Delete a key from the list. |

# **Quick Nav pane of the Commanders category**

Use the Quick Nav pane of the Commanders category in VoiceOver Utility to enable and set options for using Quick Nav, and assign VoiceOver commands to single keys (instead of key combinations) for navigating webpages using Quick Nav.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Enable Quick Nav | Turn Quick Nav on or off. |
| Allow toggling of Quick Nav using left and right arrow keys | Turn Quick Nav on or off while working by pressing the Left Arrow and Right Arrow keys at the same time. |
| Enable single-key webpage navigation when using Quick Nav | Enable the use of Quick Nav single-key commands while viewing webpages. To customize the single-key commands, click Assign Commands. |
| Assign Commands | Display the pane for assigning VoiceOver commands to arrow and letter keys on the keyboard. |

# **Quick Nav Commander assignments pane**

Use the Quick Nav Commander assignments pane in VoiceOver Utility to assign VoiceOver commands to single keys for use when navigating webpages using Quick Nav.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Command type | Click the pop-up menu, then choose Arrows or Single Keys. |
| Single Key | Indicates the single key to which a VoiceOver command is assigned. |
| Command | Indicates the VoiceOver command currently assigned to a single key.  Click the current command to display pop-up menus for the different types of commands you can assign to a key. |
| Add button | Add a key to the list. Type the key, click the Command pop-up menu, then choose a VoiceOver command to assign to the key. |
| Remove button | Delete a key from the list. |

# **Layout pane of the Braille category**

Use the Layout pane of the Braille category in VoiceOver Utility to customize settings for a braille display connected to or paired with your Mac.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Braille Display | VoiceOver indicates the braille display it detects. |
| Braille Translation | Click the pop-up menu, then choose a translation language to use for showing output. |
| Show contracted braille | Show output in contracted braille. VoiceOver automatically uncontracts the word in the VoiceOver cursor so you can edit it more precisely, then contracts the word when the VoiceOver cursor leaves it.  By default, VoiceOver shows output in uncontracted eight-dot braille. If you choose to use contracted braille, the “Show eight-dot braille” checkbox is automatically deselected. |
| Show eight-dot braille | Use eight-dot braille (uncontracted) if the primary braille display supports it. This option is selected by default.  If you deselect this option, VoiceOver uses six-dot braille (uncontracted, if “Show contracted braille” isn’t selected). |
| Use automatic braille translation | By default, VoiceOver automatically translates each character you type on your braille display into braille output, as you type it.  If you use six-dot braille, VoiceOver automatically translates each word you type on your braille display into braille output, after it determines you’ve completed a word or you press Space on your display.  If you deselect this option, you must manually indicate when you’re done typing. To do so, press one of the following on your braille display: the Space bar, dots 4 and 5 and the Space bar, or any non-Perkins braille key. |
| Use dots 7 and 8 to indicate VoiceOver cursor | Raise dots 7 and 8 to indicate the position of the VoiceOver cursor. This option is selected by default. |
| Status cells | Select checkboxes for the status cells you want to use.  *Show general display status:* Show information about announcements, and about the direction in which to pan the current line. For example, dots 1 and 2 indicate unread and read announcements respectively, and dots 7 and 8 indicate you can pan the display left or right respectively.  *Show text style:* Show common text styles, such as bold or italic font. For example, dots 1 and 2 indicate bold and italic text respectively, and dot 4 indicates the selected text is misspelled.  *Show extended text style:* Show less common text styles, such as strikethrough or superscript. For example, dots 1 and 2 indicate text is superscript and subscript respectively, and dot 5 indicates the selected text has a double underline. |
| Show status on the | Select a radio button to use cells to the left (the default) or right of the braille line as the status cells. Change this setting only if your braille display doesn’t provide dedicated status cells. |
| Show alert messages for duration | Drag the slider left toward Short or to the right toward Long. |

# **Displays pane of the Braille category**

Use the Displays pane of the Braille category in VoiceOver Utility to view a list of the refreshable braille displays connected to or paired with your Mac, and assign VoiceOver commands to keys on the braille displays.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Display list | VoiceOver lists the braille displays it has detected.  The list indicates the primary device and disconnected devices, as well as devices physically connected to your Mac (USB symbol) and Bluetooth devices paired with your Mac (Bluetooth symbol). |
| Display information | VoiceOver shows information about the display selected in the list, such as the number of cells and status cells. |
| Primary braille display | Use the selected braille display as the primary display for mirroring. |
| Assign Commands | Assign VoiceOver commands to keys on your braille display. |
| Add button | Set up a Bluetooth braille display to use with VoiceOver. You can use one Bluetooth braille display at a time. |
| Remove button | Delete a Bluetooth braille display from the list. |
| Allow input from | Click the pop-up menu, then choose the displays from which the selected display should accept input: Primary braille display, All braille displays, or No braille displays.  To accept input only from the primary display, and prevent input from each braille display that’s connected to your Mac, choose “Primary braille displays.” For example, if you’re in a classroom setting where students’ braille displays are connected to a Mac, you can prevent accidental input from those displays, accepting input only from the instructor’s display. |

For some Bluetooth braille displays, after you turn off the braille display and move it out of range of your Mac, wait for at least 30 seconds to make sure your Mac indicates the braille display is no longer connected. Your Mac tries to maintain the connection during this interval in case the braille display was accidentally turned off or moved out of range.

When you turn on a paired Bluetooth braille display and move it in range of your Mac, your Mac should detect it in about five seconds.

# **Activities category**

Use the Activities category in VoiceOver Utility to set up activities, or groups of preferences, for specific uses, apps, or websites. For example, you can create an activity to use a certain voice and faster speaking rate when you shop online; then create a second activity to use a different voice and slower speaking rate when you read online articles.

To open VoiceOver Utility, press Command-F5 to turn VoiceOver on, then press VO-F8.

Note: VO represents the [VoiceOver modifier](http://help.apple.com/voiceover/info/guide/10.12/#/voe845cb3fad).

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| Activities list | Select an activity to display or change its settings. When creating an activity, type its name in the list. |
| Settings | Select the checkbox for the Verbosity, Web, or Hot Spots setting to include it in the activity.  To show additional settings, click the Additional Settings button  located to the far right of Hot Spots. To hide the settings, click the button again. |
| Set | Customize a setting’s options. |
| Use this activity for Apps & Websites | Browse for and choose an app or website to associate with the activity. The activity is automatically used whenever you open the app or website. An app or website can be associated with only one activity at a time. |
| Add button , Remove button | Create a new activity, or delete an activity from the list. |
| Duplicate Activity | Click the Action pop-up menu , then choose this command to create a duplicate of the currently selected activity. This command is a fast way to create an activity that differs only slightly from an existing activity (for example, only the voice differs).  If you duplicate an activity that has an app associated with it, the association is not duplicated; an app can be associated with only one activity at a time. |
| Reset Activity to My Current VoiceOver Settings | Click the Action pop-up menu, then choose this command to change the selected activity to have the same settings you specified throughout VoiceOver Utility. This command is useful if you don’t like how you customized an activity and want to start over with settings that match all of your current VoiceOver settings. |
| Reset Activity to VoiceOver Default Settings | Click the Action pop-up menu, then choose this command to change the selected activity to the default VoiceOver settings. |