

ACCESSIBILITY FEATURES

BUILT INTO MACINTOSH COMPUTERS

Introduction

This document lists tools provided in macOS Mojave, until very recently the current Macintosh operating system. A brief explanation of each is provided. A separate document presents [accessibility features built into Windows 10](#).

Macintosh Accessibility Settings

Where to find them

From the Apple Menu, select System Preferences. Then select Accessibility. Alternatively, select Accessibility from the Menu Bar if that option has been enabled from within Accessibility Preferences. There, each of the accessibility features is listed and its status (whether turned on or off) is shown. Accessibility Preferences can be opened from within that dialog.

Overview

Accessibility features are grouped into five categories:

- General
- Vision
- Media
- Hearing
- Interaction

General

There is a shortcut key combination to bring up a list of accessibility features. That combination is Command-Option-F5. In the General category, individual features can be added to or removed from the list that is presented when pressing Command-Option-F5. If, for example, one is only likely to need two or three features, all of the others can be removed from the list to avoid clutter.

Vision

VoiceOver

VoiceOver is the screen reader built into all Macintosh computers and other Apple products. It includes high-quality synthetic speech in many languages and provisions for connection by electronic Braille devices. It allows people who have little or no vision to operate the computer and a wide range of software than runs on Macintosh computers.

The default Macintosh keyboard setting is to require the Fn key to be pressed while pressing function keys to perform normal function key tasks. It is suggested by Apple (and strongly by this author) that VoiceOver users reverse this setting. From System Preferences, select Keyboard. Check the option to use F1, F2 etc keys as standard function keys. This will reduce what can sometimes be cumbersome key combinations.

VoiceOver can be turned on and off from within VoiceOver Utility. However, this can be done more conveniently by pressing Command-F5. If that does not work due to the setting discussed in the previous paragraph, press Command-Fn-F5.

VoiceOver Utility allows tailoring of its settings to meet individual needs and preferences. This can be reached through System Preferences. A more convenient option is to press VO-F8 if VoiceOver is running. By way of explanation, VO is the key combination used to send VoiceOver commands when VoiceOver is running. The default is Option and Control, pressed along with one or more other keys. Therefore, to open VoiceOver Utility, press Option-Control-F8. Within VoiceOver Utility it is possible to set the Caps Lock key, either as well as or instead of Option-Control, as the VO key. In that case, as is common for screen readers that use the Caps Lock in this way, it must be pressed twice to perform its usual function.

An option within VoiceOver Utility is to open VoiceOver Training. From Help within VoiceOver Utility, both the VoiceOver User Guide and VoiceOver Commands list are also available.

Zoom

This is the screen magnification facility provided with Macintosh computers. It can be used with or without VoiceOver. The following options are available:

- Use keyboard shortcuts to zoom (unchecked by default)
- Use scroll gesture with modifier keys to zoom (unchecked)
- Smooth images (checked)
- Zoom follows the keyboard focus (unchecked)
- Speak items under the cursor (unchecked)
- Zoomstyle: either full screen or picture-in-picture (acts as loupe/moveable magnifying lens)
- Options: Among many, maximum zoom can be set between 1 and 40 times

Display

- Invert colours (unchecked)
- Use grey scale (unchecked)
- Differentiate without colour (unchecked)
- Reduce motion (unchecked)
- Increase contrast (unchecked)
- Reduce transparency (unchecked)
- Display contrast (0% is default)
- Cursor size (0% is default – can increase or decrease)
- Shake mouse pointer to locate (checked)
- There is a button to open Display Preferences, where further adjustments can be made.

Speech

For people who have difficulty reading text but who do not require a screen reader, the following features may be helpful:

- Select system voice (there are over 70 from different languages and dialects available)
- Adjust speaking rate
- Enable announcements (unchecked)
- Speak selected text when the key is pressed (unchecked)

Media

Descriptions

- Play audio descriptions when available (unchecked)

Captions

- Style for subtitles and captions - Transparent background (checked), Classic, Large text, Outline text, Add others
- Prefer closed captions and SDH (Subtitles for the Deaf and Hard of Hearing) (unchecked)

Hearing

Audio

- Flash the screen when an alert sound occurs (unchecked)
- There is a button to test screen flash
- Play stereo as mono (unchecked)
- There is a button to take one to Sound Preferences, where further adjustments can be made.

Interaction

Dictation

In its basic mode, Dictation allows text, including punctuation, to be entered by speaking into the computer's microphone. When Advanced Commands is enabled, many more facilities are available for manipulating text and controlling the computer. Limited experience suggests that this mode does not work well for VoiceOver users, but further investigation may resolve the issue. Accuracy of speech to text was found to be quite effective with even minimal use of the system.

Additional dictation commands can be added. Other options include:

- Enable the dictation keyword phrase (unchecked). The default is "Computer" but this can be changed. After saying the dictation keyword phrase, a wide range of instructions can be given to the computer.
- Play sound when command is recognised (unchecked)
- Mute audio output while dictating (checked)

There are more Dictation settings in Keyboard under System Preferences. Here Enhanced Mode can be turned on/off. When turned on, an internet connection is not required and continuous dictation is possible (only up to 40 seconds when not using Enhanced Mode). The default key for starting and stopping Dictation is the Fn key. Press twice to start Dictation and once to stop.

Siri

- Enable type to Siri (unchecked)
- Open Siri Preferences

In Siri Preferences under System Preferences, Siri can be enabled or disabled. Once enabled, press Command-spacebar to speak to Siri (this normally opens Spotlight search). As well as asking for all manner of general information, Siri can be used to perform many actions on the computer. For example, specific software on the computer can be opened and closed. Many will also find that asking Siri to "Open accessibility preferences" is much faster than using the keyboard and/or mouse.

Keyboard

- Enable Sticky Keys (unchecked). Instead of having to hold down keys such as Shift, Control, Option and Command while pressing another key, the modifier key can be pressed and released before the second key is pressed. Once Sticky Keys are turned on, press a modifier key once to affect the next key that is pressed. Press twice to lock the key. For example, press the shift key twice to write in all capitals. Pressing a third time unlocks the key. It is possible to lock the Option key by pressing twice and then use right or left arrow keys to move a word at a time. Lock both shift and Option keys to select text. Options include:
 - Press shift key 5 times to toggle Sticky Keys (unchecked)
 - Beep when a modifier key is set (checked)
 - Display pressed keys on screen (checked)
 - Set where on the screen the pressed key will be displayed
- Enable Slow Keys (unchecked). When turned on, there is a delay between when the key is pressed and when the action occurs. This can help to avoid accidental key presses. Options include:
 - Use click key sounds (unchecked)
 - Adjust amount of delay before the key is activated
- There is a button to go to Keyboard Preferences, where further adjustments can be made
- Accessibility Keyboard (unchecked). This is an on-screen keyboard. It could be used with a mouse or the trackpad, but is highly relevant to people who use a switch(s) (see Switch Control below) or a head-mounted pointing device. Word prediction is available, along with other facilities for refining the process of writing.

Mouse & Trackpad

- Enable Mouse Keys (unchecked). When enabled, allows the mouse pointer to be controlled by arrow and/or numpad keys. Options include:
 - Press the Option Key 5 times to toggle Mouse Keys (unchecked)
 - Ignore built in trackpad when Mouse Keys is on (unchecked)
 - Adjust duration of initial delay
 - Adjust speed
- Adjust double click speed

- Spring loading delay (checked) and adjust duration of delay. This is relevant when using Spring-Loaded folders, a facility available when dragging and dropping which shows contents of the target folder before dropping.
- Ignore built in trackpad when mouse or wireless trackpad is present (unchecked)
- Trackpad options:
 - Adjust scrolling speed
 - Scrolling with inertia (checked)
 - Enable dragging (unchecked)
- Mouse Options
 - Adjust scrolling speed

Switch Control

Switches are used by people who have very restricted physical movement to use the computer. Switch Control is unchecked by default. Facilities are included for adding switches and tailoring the environment for individual needs. As an example, spaces can be added and removed and sentence beginnings can be capitalised automatically

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