

This document explains several types of **Mac OS X** assistance available for people with visual, dexterity, or hearing impairments.

## For people with low vision . . . . . 2

*Increase the visibility of the items on the computer screen.*



- Turn on the Zoom magnifier
- Change screen resolution
- Use high contrast colors

## For people who are blind . . . . . 3

*Make the computer read text out loud.*



- Turn on VoiceOver to convert text to spoken English
- Enable access for assistive devices

## For people with dexterity problems . . . . . 4

*Make the computer keyboard or mouse easier to use.*



- Use Slow Keys so you can take your time as you type
- Use Key Repeat to change the wait time between keystrokes
- Use Mouse Keys to operate the mouse with the keyboard

## For people with hearing difficulties . . . . . 5

*Have the computer show sounds visually.*



- Flash the screen when an alert sound occurs

## Mac OS X

### For people with low vision

*Increase the visibility of the items on the computer screen.*



- Turn on Zoom magnification
- Change screen resolution
- Use high contrast colors

#### Turn on Zoom magnification

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Click **Zoom**.
  - Select the **On** button under **Zoom**.
  - Select the settings you want from the list.

##### *Recommended settings:*

- Use keyboard shortcuts to zoom
- Smooth images

##### *Note:*

Use these keyboard combinations to zoom:

- **Command-Option-equal** (=) makes the screen image appear larger (zooms in).
- **Command-Option-hyphen** (-) makes the screen image appear smaller (zooms out).

3. To close the **Accessibility** window:
  - Click the **Close** button in the upper left corner of the window.

#### Change screen resolution

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **Hardware** category:
  - Click **Resolution: Scaled**.
  - Select a resolution from the list.

##### *Recommended settings:*

- 1024 x 768 (minimum)
- 1280 x 960

#### Use High Contrast colors

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Click **Display**.
  - Select **Use grayscale**
  - Drag the **Enhanced Contrast** slider to the right to increase the contrast.

##### *Recommended setting:*

- Set the slider to the middle

3. To close **Accessibility** window:
  - Click the **Close** button in the upper left corner of the window.

## Mac OS X

### For people who are blind

*Make the computer read text out loud.*



- Turn on VoiceOver to convert text to spoken English
- Enable access for assistive devices

#### Turn on VoiceOver

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Click **VoiceOver**.
  - Select **Enable VoiceOver**.

*Note:* With VoiceOver turned on, you use the VoiceOver cursor to move around the screen and hear descriptions of the items it lands on.

#### *Recommended settings:*

- Click **Open VoiceOver Utility** and make selections to fit your working style.

#### *Try the following setting:*

- Select **Verbosity**, then select the **Announcements** tab.
- At the bottom of the page, select the checkbox for **Speak text under mouse after delay**, and then move the slider to a longer delay.
- To close the VoiceOver Utility Window, click the **Close** button in the upper left corner of the window.

3. To close **System Preferences**:
  - Click the **Close** button in the upper left corner of the window.

#### Enable access for assistive devices

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Select the checkbox at the bottom of the window for **Enable access for assistive devices**.
  - In the Authenticate window, type in an administrator's name and password.  
**Contact your computer administrator for help with this task.**

*Note:* You can now attach special equipment to control your computer.

- To disable access, uncheck the checkbox for **Enable access for assistive devices**.
3. To close **System Preferences**:  
Click the **Close** button in the upper left corner of the window.

## Mac OS X

### For people with dexterity problems

*Make the computer keyboard or mouse easier to use*



- Use Slow Keys so you can take your time as you type
- Use Key Repeat to change the wait time between keystrokes
- Use Mouse Keys to operate the mouse with the keyboard

### Use Slow Keys

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Click **Keyboard**.
  - Select **Enable Slow Keys**.
  - Select **Options**.  
Drag the **Acceptance Delay slider** to set a delay before the key is pressed.
  - To hear a feedback sound each time the computer accepts a keystroke, select **Use click key sounds**.
  - Click **Done**.
3. To close **System Preferences**:  
Click the **Close** button in the upper left corner of the window.

### Use Key Repeat

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **Hardware** category:
  - Click **Keyboard**.
  - Select the **Keyboard** tab.
  - Drag the **Key Repeat slider** to set how fast characters repeat.
  - Drag the **Delay Until Repeat slider** to set a delay before the character begins to repeat.
3. To close **System Preferences**:
  - Click the **Close** button in the upper left corner of the window.

### Use Mouse Keys

1. On the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Accessibility**.
  - Click **Mouse & Trackpad**.
  - Select the checkbox for **Enable Mouse Keys**.

*Note: You can now use the numeric keypad in place of the mouse.*
3. To close **System Preferences**:
  - Click the **Close** button in the upper left corner of the window.

### Keyboard Shortcuts for Mouse Keys

Action	Shortcut
Move up	8
Move down	2
Move left	4
Move right	6
Move diagonally	1, 3, 7, and 9
Click the mouse button	5
Hold down the mouse button	0
Release the mouse button	Period (.)

## Mac OS X

### For people with hearing difficulties

*Have the computer show sounds visually.*



- Flash the screen when an alert sound occurs

### Use Flash Screen

1. On the **Apple menu** or the **Dock**:
  - Select **System Preferences**
2. In the **System** category:
  - Click **Access**.
  - Click **Audio**.
  - Select the checkbox for **Flash the screen when an alert sound occurs**.
  - To turn off flashing, uncheck the box.
3. To close **System Preferences**:
  - Click the **Close** button in the upper left corner of the window.