



www.ablenetinc.com/ios7
(800) 322-0956

iOS 7 Switch Control

The Missing User Guide

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Overview

iOS 7 includes a powerful new accessibility feature, Switch Control. For users with significant physical disabilities, Switch Control is a much needed feature that provides access to almost every feature in iOS 7 through the use of one or multiple switches.

iOS 7 and Switch Control are currently available on the following Apple devices:

- iPad 4th Generation
- iPad 3rd Generation
- iPad 2
- iPad mini
- iPhone 5S
- iPhone 5C
- iPhone 5
- iPhone 4S
- iPhone 4
- iPod touch 5th Generation

The following guide will walk you through the wide variety of settings for Switch Control, which will allow you to customize the Switch Control experience for each user.

Switch Options

Switch Control provides three options for setting up a switch.

1. External Switch

One or multiple external switches can be used with Switch Control. The Blue2 Bluetooth switch connects to the iDevice via a Bluetooth connection and provides one or two external switch inputs.



Blue2™ Bluetooth® Switch
(New model)

2. Camera Switch

The front facing camera of the iDevice can be used as a switch. A switch click is detected by moving the head to the left or right.

3. Screen Switch

The screen of the iDevice can be turned into a switch. **WARNING:** Using the screen switch can inadvertently lock you out of your iDevice. To avoid getting locked out of your iDevice, set-up your Accessibility Shortcut (triple click of the home button) to turn Switch Control on and off.

Single Switch Auto Scanning Setup and Use

The following steps are for setting up Switch Control with one external switch and auto scanning. The scan will automatically move across the screen and the user will activate one switch to make selections.

Step 1: Setup Your Accessibility Shortcut

The Accessibility Shortcut gives you the ability to easily turn Switch Control on or off by triple clicking the Home Button on your iDevice.

Follow these steps to setup your Accessibility Shortcut:

1. Go to Settings App > General > Accessibility > Accessibility Shortcut
2. Choose Switch Control

Step 2: Connect Your Switch

If you are using a Bluetooth® switch like the Blue2™ from AbleNet, you can pair it with your iDevice.

Follow these steps to pair your Bluetooth switch with your iDevice:

1. Turn your Bluetooth switch on
2. Go to Settings App > Bluetooth
3. Turn Bluetooth to On
4. Choose your Bluetooth switch from the list of Devices
5. Once paired it will say Connected

Step 3: Setup Your Switch

Once your switch is connected to your iDevice, you will need to set it up within Switch Control.

Follow these steps to set-up your switch with Switch Control:

1. Go to Settings App > General > Accessibility > Switch Control > Switches
2. Choose Add New Switch
3. Choose External
4. You will be prompted to activate your external switch. Once activated you will be prompted to give your switch a name. Because you can setup multiple switches, we suggest using an intuitive name like “orange switch” so that you can identify it at a later time.
5. Choose Select Item
6. Choose Switch Control at the top of the screen to go back to the main Switch Control Settings screen.

Step 4: Configure Switch Control Settings

Within Switch Control, there are a variety of settings that help you customize the user experience.

Follow these steps to configure Switch Control settings

1. Go to Settings App > General > Accessibility > Switch Control
2. Auto Scanning: Turn Auto Scanning to On
3. Auto Scanning Time: Auto Scanning Time, also commonly known as Scan Rate, is the speed that the scan will move across the screen between selections. Set the number of seconds that is appropriate for the user.
4. Pause on First Item: When Pause on First Item is turned on, the scan will pause on the first item for the number of seconds you specify. This pause takes place when the scan first begins, and again after an item has been selected and the scan starts over.
5. Loops: When Auto Scanning is on, the scan will go through all of the items on a screen and start over. The number of loops is how many times the scan will go through all of the items and start over. After the number of loops has been completed, the scan will stop. Activating the switch we configured earlier will start the scan again.
6. Auto Tap: By default, Switch Control is configured to bring up a menu of options the first time a switch is activated during a scan. A user then activates the switch a second time to select the item. By turning Auto Tap On, activating a switch will instead select the item the first time the switch is activated during the scan. To bring up the menu of options during a scan, a user will double click their switch within a specified number of seconds. The number of seconds a double click must take place within is set when Auto Tap is turned on in the Switch Control settings menu. Please note, that in some instances we have discovered that when Auto Tap is on, iOS 7 does not always recognize the selection being made. Because of this issue, we recommend that you do not turn Auto Tap on.
7. Move Repeat: Does not apply for a single switch auto scanning setup.
8. Hold Duration: When Hold Duration is turned on, you can specify the number of seconds a switch must be held down before it is recognized. Turning Hold Duration on can help users with spasticity from accidentally activating the switch at the wrong time during a scan. This setting can also help users who hold down a switch for a long time from activating multiple choices in a row. It should be noted that the Hold Duration time must be less than the Auto Tap setting so that a double click of the switch is recognized.
9. Ignore Repeat: When Ignore Repeat is turned on, you can specify the number of seconds that a switch can be repeatedly activated before it makes a second selection. Turning Ignore Repeat on can help users with spasticity from accidentally activating the switch multiple times during a scan. It should be noted that the Ignore Repeat time must be less than the Auto Tap setting so that a double click of the switch is recognized.
10. Gliding Cursor Speed: At certain times when using Switch Control, it may not recognize any hotspots on the screen and begin a point scan. A point scan first moves left to right, then moves top to bottom. During a point scan, the user is able to choose a specific location on the screen. The Gliding Cursor Speed is how fast this scan will move across the screen.
11. Sound Effects: If Sound Effects is turned on during the scan, as the scan moves between items on the screen a clicking sound will be activated. This can be helpful for users who need auditory cues.
12. Speech: If Speech is turned on, when the scan highlights an item it will read back what that item is to the user. This can be helpful for users who need auditory cues or are visually impaired. It should be noted that some items may not be readable. Please note we have discovered an issue when Speech is turned on and a user tries to use media player controls. For example, when a user selects the play button in the music app, the song will start, but then shut off when the scan moves to the next item and starts to speak the button name.

13. Speaking Rate: Speaking Rate controls how quickly something is read back when Speech is turned on.
14. Included Menu Items: While scanning, a user can bring up a menu of items with additional actions. You can simplify this menu by removing categories of items. For maximum usability of Switch Control, leave all Menu Items active.
15. Group Items: By default the scan will move one item at a time across a screen. If a user would like to speed up their scan, you can turn Group Items on. When Group Items are on, the scan will put items on the screen into groups. The user will then be able to move from group to group, select a group, and then select an item within that group. This is similar to traditional row/column scanning that is used in other programs.
16. Large Cursor: Turning Large Cursor on will increase the size of the border that the scan uses. This makes it more obvious and easier to follow the scan across the screen.
17. Cursor Color: You can change the color of the scan border to make it more visible on the screen as it moves.
18. Saved Gestures: You can create custom gestures and make them accessible through the menu that appears when a user double clicks while scanning with Auto Tap on.

Dual Switch Step Scanning Setup and Use

The following steps are for setting up Switch Control with two external switches and step scanning. The scan is controlled by the user with one switch and selections are made with the second switch.

Step 1: Setup Your Accessibility Shortcut

The Accessibility Shortcut gives you the ability to easily turn Switch Control on or off by triple clicking the Home Button on your iDevice.

Follow these steps to setup your Accessibility Shortcut:

1. Go to Settings App > General > Accessibility > Accessibility Shortcut
2. Choose Switch Control

Step 2: Connect Your Switches

If you are using a Bluetooth® switch like the Blue2™ from AbleNet, you will pair it with your iDevice.

Follow these steps to pair your Bluetooth switch with your iDevice:

1. Turn your Bluetooth switch on
2. Go to Settings App > Bluetooth
3. Turn Bluetooth to On
4. Choose your Bluetooth switch from the list of Devices
5. Once paired it will say Connected

Step 3: Setup Your Switches

Once your switch is connected to your iDevice, you will need to set it up within Switch Control.

Follow these steps to set-up your switch with Switch Control:

1. Go to Settings App > General > Accessibility > Switch Control > Switches
2. Choose Add New Switch
3. Choose External

4. You will be prompted to activate your external switch. Once activated you will be prompted to give your switch a name. Because you can setup multiple switches, we suggest using an intuitive name like “orange switch” so that you can identify it at a later time.
5. Choose Move To Next Item. This will be the switch that is used to move the scan.
6. Choose Add New Switch
7. Choose External
8. You will be prompted to activate your external switch. Once activated, you will be prompted to give your switch a name. Because you can set-up multiple switches, we suggest using an intuitive name like “white switch” so that you can identify it at a later time.
9. Choose Select Item. This will be the switch that is used to select the an item during the scan.
10. Choose Switch Control at the top of the screen to go back to the main Switch Control Settings screen.

Step 4: Configure Switch Control Settings

Within Switch Control are a variety of settings that help you customize the user experience.

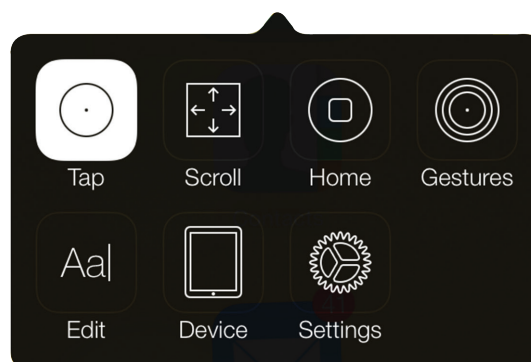
Follow these steps to configure Switch Control settings

1. Go to Settings App > General > Accessibility > Switch Control
2. Auto Scanning: Turn Auto Scanning to Off
3. Auto Hide: Auto Hide is how long after the last switch activation it will take for the scan on the screen to disappear. Activating the scan switch will make the scan re-appear.
4. Auto Tap: By default, Switch Control is configured to bring up a menu of options the first time the Select Item switch is activated during a scan. A user then activates the Select Item switch a second time to select the item. By turning Auto Tap On, activating the Select Item switch will instead select the item the first time the switch is activated during the scan. To bring up the menu of options during a scan a user will double click the Select Item switch within a specified number of seconds. The number of seconds a double click must take place within is set when Auto Tap is turned on in the Switch Control settings menu. Please note, that in some instances we have discovered that when Auto Tap is on, iOS 7 does not always recognize the selection being made. Because of this issue, we recommend that you do not turn Auto Tap on.
5. Move Repeat: When Move Repeat is on, you can specify the amount of time the Move To Next Item switch can be held down before it moves to the next item. This can be useful for users who hold the switch down for a long time.
6. Hold Duration: When Hold Duration is turned on, you can specify the number of seconds a switch must be held down before it is recognized. Turning Hold Duration on can help users with spasticity from accidentally activating the switch at the wrong time during a scan. This setting can also help users who hold down a switch for a long time from activating multiple choices in a row. It should be noted that the Hold Duration time must be less than the Auto Tap setting so that a double click of the switch is recognized.
7. Ignore Repeat: When Ignore Repeat is turned on, you can specify the number of seconds that a switch can be repeatedly activated before it makes a second selection. Turning Ignore Repeat on can help users with spasticity from accidentally activating the switch multiple times during a scan. It should be noted that the Ignore Repeat time must be less than the Auto Tap setting so that a double click of the switch is recognized.
8. Gliding Cursor Speed: At certain times when using Switch Control, it may not recognize any hotspots on the screen and begin a point scan. A point scan first moves left to right, then moves top to bottom. During a point scan, the user is able to choose a specific location on the screen. The Gliding Cursor Speed is how fast this scan will move across the screen.
9. Sound Effects: If Sound Effects is turned on during the scan, as the scan moves between items on the screen a clicking sound will be activated. This can be helpful for users who need auditory cues.

10. **Speech:** If Speech is turned on, when the scan highlights an item it will read back what that item is to the user. This can be helpful for users who need auditory cues or are visually impaired. It should be noted that some items may not be readable. Please note we have discovered an issue when Speech is turned on and a user tries to use media player controls. For example, when a user selects the play button in the music app, the song will start, but then shut off when the scan moves to the next item and starts to speak the button name.
11. **Speaking Rate:** Speaking Rate controls how quickly something is read back when Speech is turned on.
12. **Included Menu Items:** While scanning a user can bring up a menu of items with additional actions. You can simplify this menu by removing categories of items. For maximum usability of Switch Control leave all Menu Items active.
13. **Group Items:** By default the scan will move one item at a time across a screen. If a user would like to speed up their scan, then turn Group Items on. When Group Items is on, the scan will put items on the screen into groups. The user will then be able to move from group to group, select a group, and then select an item within that group. This is similar to traditional row column scanning that is used in other programs.
14. **Large Cursor:** Turning Large Cursor on will increase the size of the border that the scan uses. This makes it more obvious and easier to follow the scan across the screen.
15. **Cursor Color:** You can change the color of the scan border to make it more visible on the screen as it moves.
16. **Saved Gestures:** You can create custom gestures and make them accessible through the menu that appears when a user double clicks while scanning with Auto Tap on.

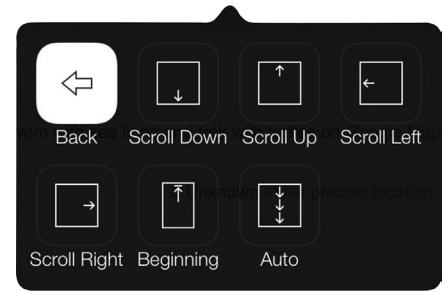
On Screen Scanning Menus

While using Switch Control, when a user selects an item they will encounter a pop-up menu that contains a variety of advanced functions. If a user selects Scroll, Gestures, Device, or Settings from the pop-up menu, they will be presented with a second menu of options that are more advanced actions or settings for Switch Control.



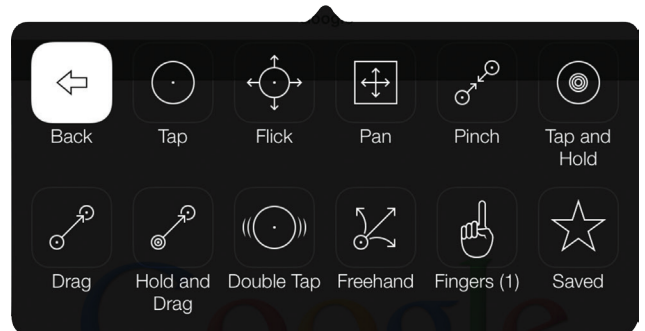
Scroll Menu Options

Using the scroll functions can be helpful in reaching content that is displayed off of the current screen the user is viewing. Some of the common scenarios where the scroll function is useful are browsing a web page, reading an email, creating a text document, and reading a Facebook News Feed. In some instances, a modified scroll menu will appear if iOS 7 determines that not all of the options are possible to use.



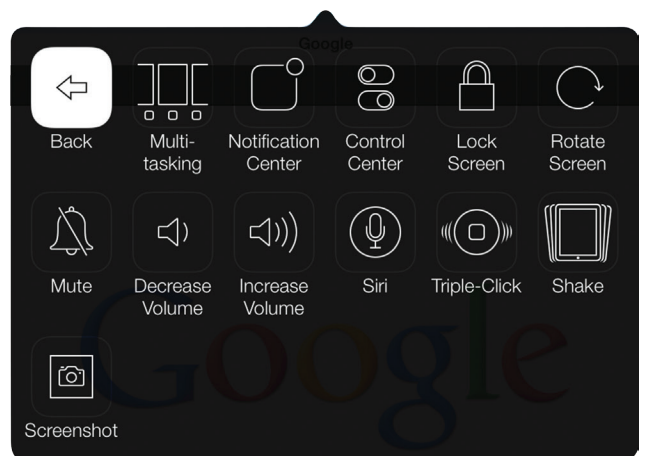
Gestures Menu Options

The Gestures Menu provides access to a wide variety of multi-touch gestures along with any custom gestures that have been created for the user. Because multi-touch gestures can change depending on the number of fingers being used, the user can select how many fingers are to be used with each gesture in this menu by selecting Fingers.



Device Menu Options

The Device Menu provides access to a wide variety of functions that control the iDevice itself or take a user to some of the quick access menus of the iDevice like Multi-tasking, Notification Center, and Control Center.



Settings Menu Options

The Settings Menu gives the user the ability to change some of the settings for Switch Control while they are using Switch Control.

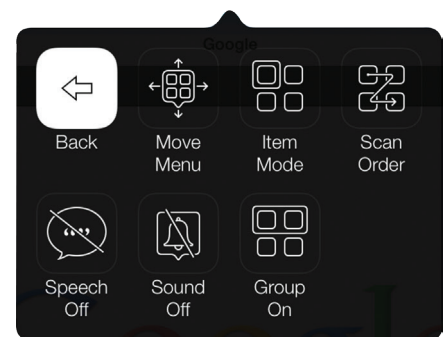
Move Menu: Allows a user to change where the pop-up menu appears on the screen.

Item Mode: This tells us that Item Mode is currently turned on. Item Mode is where the scan moves from item to item on the screen.

Selecting Item Mode in the Settings Menu will change the function to

Point Mode. Point Mode is the scanning mode where the user can select an exact point on the screen.

Point Mode: This tells us that Point Mode is currently turned on. Point Mode is the scanning mode where the user can select an exact point on the screen. Selecting Point Mode in the Settings Menu will change the function to Item Mode. Item Mode is where the scan moves from item to item on the screen.



Scan Order: Selecting this option will change the direction of the scan on the screen. This option only works for Auto Scanning.

Speech Off: This tells us that Speech is currently off, and selecting this option will turn Speech on. Speech is where the scan will read back what is highlighted.

Speech On: This tells us that Speech is currently on, and selecting this option will turn Speech off. Speech is where the scan will read back what is highlighted.

Sound Off: This tells us that the scan sound is currently off. The scan sound is the click that is made when a scan moves from item to item on the screen. Selecting Sound Off will turn Sound on.

Sound On: This tells us that the scan sound is currently on. The scan sound is the click that is made when a scan moves from item to item on the screen. Selecting Sound On will turn Sound off.

Group On: This tells us that grouping for the scan is on. When the scan moves across the screen it will select groups of objects on the screen and then the user can select an item from within the group. Selecting Group On will turn the grouping function off and the scan will now move from item to item instead of group to group.

Group Off: This tells us that grouping for the scan is off. When the scan moves across the screen, it will move from item to item instead of group to group. Selecting Group Off will turn the grouping function on and the scan will now move from group to group instead of item to item. When a group is selected, a user can now select an item within that group.