



# **ZyBox2 SC**

**Switch Adapter for iOS 7 and 8  
“Switch Control”**

**User Guide**

User Guide for ZyBox2-SC for iOS 7 and 8  
SKU: 015-0110-11

First Edition, First Printing: 01 NOVEMBER, 2014

Published by: ZYGO-USA  
48834 Kato Road, Suite 101-A  
Fremont, CA 94538 U.S.A.  
TEL: (510) 249-9660  
FAX: (510) 770-4930

COPYRIGHT: © 2014 by ZYGO-USA

All rights reserved. No part of this publication may be reproduced without prior permission of ZYGO-USA.

NOTICE: ZYGO-USA reserves the right to make improvements or changes in the products described in this manual at any time without notice.



ZYGO-USA  
U.S./ Canada (800) 234-6006

Tel: (510) 493-0997  
Fax: (510) 770-4930

www.ZYGO-USA.com  
zygo@zygo-usa.com

# User Guide for **ZyBox2-SC** for iOS 7 and 8



Connect to your iPad/  
iPhone using the 30-pin  
docking connector



DC 5V for charging  
your iPad/iPhone

For your choice of  
Control Switches  
with 3.5mm plugs

Power Indicator

## Overview

Switch Control is a new feature found in iOS 7 and later versions that allows users to operate an iOS device via one or multiple external control switches. In addition to individual switch access, the switch user has access to advanced functions through On Screen Scanning Menus (see page 6). The **ZyBox2 SC for iOS 7 and later “Switch Control”** is a switch adapter that allows you to use any number of control switches to operate an iOS device by means of Switch Control.

## iOS 7 Compatibility

iOS 7 is currently available with the following iOS devices.

- iPad Air
- iPad 4<sup>th</sup> Generation
- iPad 3<sup>rd</sup> Generation
- iPad 2
- iPad mini with Retina Display
- iPad mini
- iPhone 5S
- iPhone 5C
- iPhone 5
- iPhone 4S
- iPhone 4
- iPod touch 5th Generation



ZYGO-USA  
U.S./ Canada (800) 234-6006

Tel: (510) 493-0997  
Fax: (510) 770-4930

www.ZYGO-USA.com  
zygo@zygo-usa.com

# Switch Options

Switch Control can accept input from three switch sources.

## 1. External Switch

One or more external switches can be used with Switch Control. All ZYGO-USA switches are compatible with iOS 7 Switch Control, including the CM-2 Leaf, CM-3 Pneumatic, and CM-40 Lolly switches. For more switch options, please visit [www.zygo-usa.com](http://www.zygo-usa.com) or call (800) 234-6006.



*CM-2 Leaf Switch*



*CM-3 Pneumatic Switch*



*CM-40 Lolly Switch*

## 2. Camera Switch

The FaceTime camera of the iOS device can be used as a motion detection switch. Two different switch actions can be performed; one by moving the head to the left, and one by moving the head to the right.

## 3. Screen Switch

The entire screen of the iOS device can be used as a single switch by tapping anywhere on the screen.

**NOTE:** Using the Screen Switch can inadvertently lock the user out of the iOS device. Set up the Accessibility Shortcut to turn the Switch Control on and off before using the Screen Switch. See the following on how to set up a shortcut.

# Getting Started

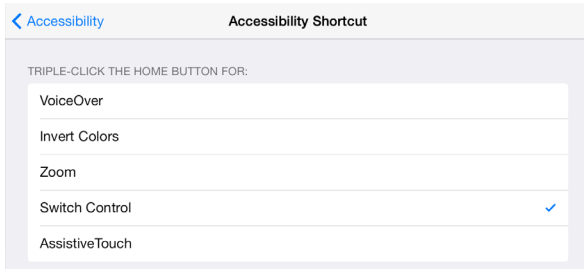
## Connect the ZyBox2-SC to an iOS device

ZyBox2 SC is designed for the new Switch Control feature found in iOS 7 and iOS 8. It will **not** be functional in iOS 6 or earlier iOS versions. To begin switch access with ZyBox2, connect it to your iOS device by the 30-pin dock connector, or with the Lightning to 30-pin adapter. To make sure the device has been connected correctly, ZyBox will run a diagnostic once it is connected to an iOS device. You will hear “VoiceOver ON, ZyBox connected, [version number], VoiceOver Off”. Also, the power indicator LED will be solid green if the device is running properly.

## Accessibility Shortcut Setting

The user **must** set up an Accessibility Shortcut on the iOS device the first time he or she uses the Switch Control on each iOS device.

1. Go into Settings > General > Accessibility > Accessibility Shortcut.
2. Press “Switch Control” and add a check mark to turn it ON.
3. Tap “Accessibility” to go back to the previous page, then go to the next step.



## Setting up External Switch(es)

The ZyBox2 SC allows you to use from one to three external switches with 3.5mm mono plugs. Follow these instructions to set up an action for each switch.

1. Plug in an external control switch with 3.5mm plug into any switch jack (labeled S1 to S3).
2. Connect the ZyBox2 SC to an iOS device.
3. Go into Settings >General >Accessibility >Switch Control >Switches >Add New Switch >External.
4. Briefly press the switch when you see “Activate your external switch...”
5. Enter a name you wish to call that switch and press “Save”
6. Choose a switch action to be assigned to that switch from the list of available Actions.

**Note: Choose “Select Item” if you are going to use only one switch.**

7. Go back to Switch Control Menu and turn on the Switch Control.

**Note: Turn on the “Auto Scanning” if you are going to use only one switch. You can set up the scanning speed and other configuration from the Timing options.**

8. Repeat steps 3 to 6 to add actions for additional switches, up to three switches total.

Once the switch action is/actions are set up, the configuration is stored in the iOS device, and does not need to be recreated each time you plug in the ZyBox and switches.

## Power and Connectivity

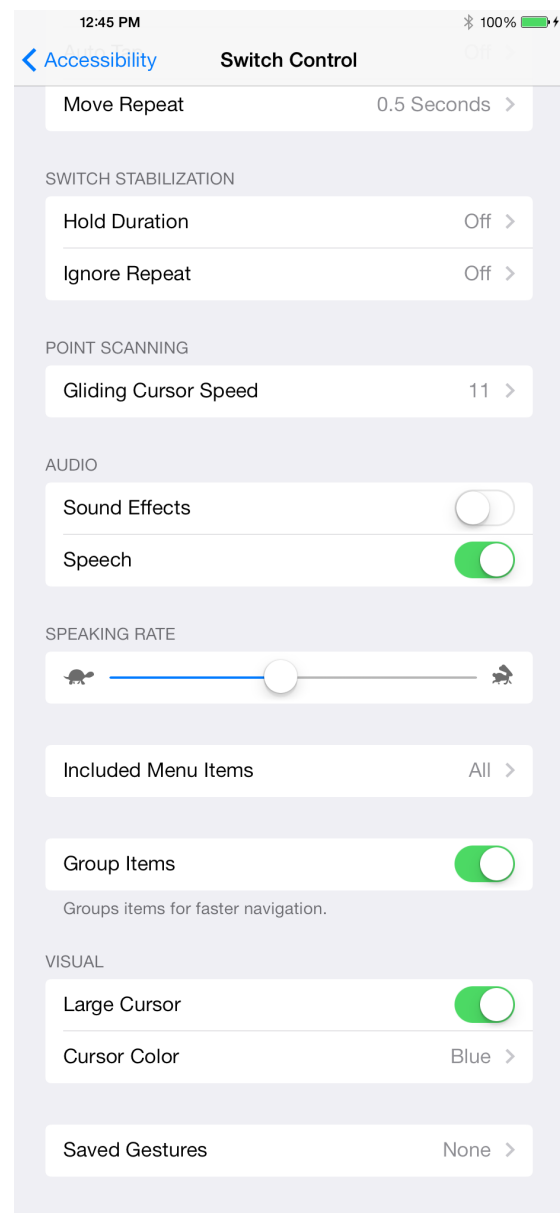
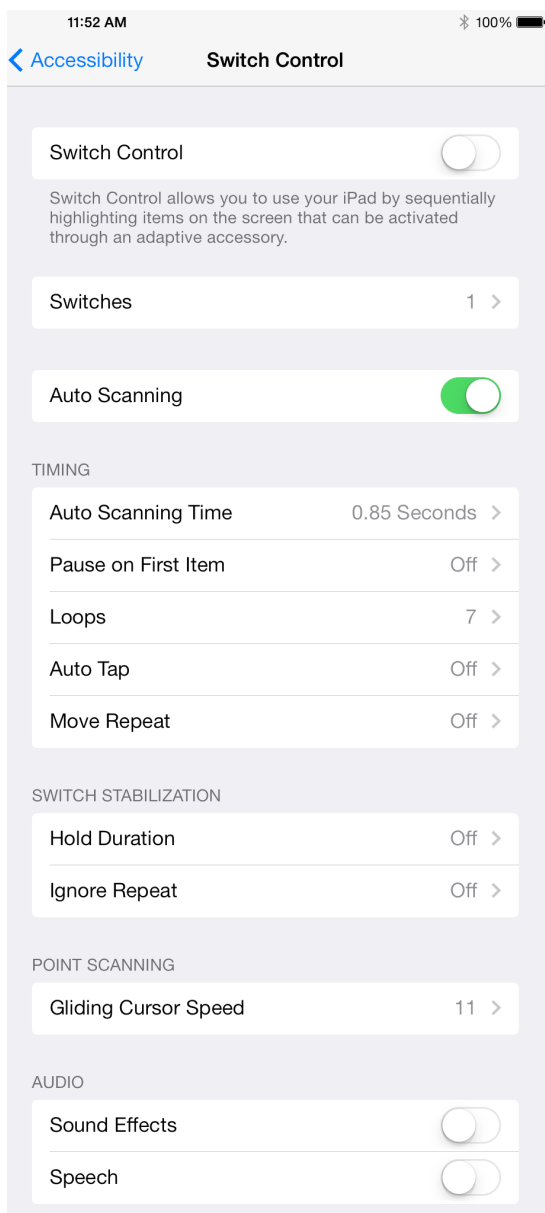
The ZyBox2 SC has a 30-pin plug to attach to an iOS device with 30-pin dock connector jack. A Lightning to 30-pin adapter is available and lets you connect the ZyBox2 SC to newer iOS devices with the Lightning dock connector. **Note that only the Apple brand Lightning to 30-pin adapter is approved for use with the ZyBox2 SC. Other adapter brands will not work with the ZyBox2 SC and may damage the device and void the warranty.**

When the ZyBox2 SC is plugged into the iOS device it will power up as indicated by the LED. The ZyBox does not require its own power source. It takes its power from the docking connector of the iOS device.

A new feature has been added to the ZyBox2. A 5V DC power port input to the ZyBox2 supplies power to the attached iOS device while the ZyBox2 switch adapter is plugged into the iOS device's dock connector. ZyBox2 comes with a USB to 5V DC cable.

**NOTE: Charging hours vary due to different voltage outputs of AC adapters.**

## Configure Switch Control Settings



**Switch Control allows users to set up different personal configurations.**

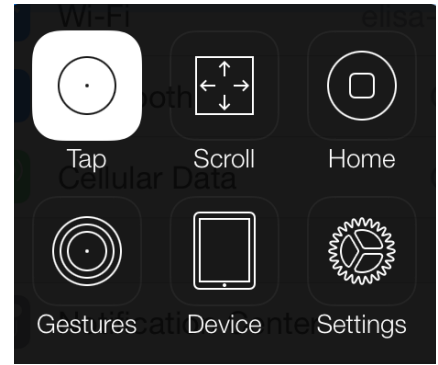
To configure go into **Settings > General > Accessibility > Switch Control**. Details of each Switch Control setting follows:

- **Switch Control:** turn Switch Control On or Off.
- **Switches:** add new switches, and set up switch actions to be performed from switch press.
- **Auto Scanning:** turn Auto Scanning On or Off.
- **Auto Scanning Time:** also known as Scan Rate, is the time interval between two selections in seconds.
- **Pause on First Item:** turns first item delay On or Off. Once turned On, set the extra time that scan waits on the first item in the scan group before advancing.
- **Loops:** Set the number of times the scan will cycle through the available choices before stopping.
- **Auto Tap:** When Auto Tap is enabled, performing the Select action will automatically tap the screen unless Select is pressed twice to show the menu.
- **Move Repeat:** The delay before “Move to Next/Previous Item” is repeated while a switch remains pressed. NOTE: it does not apply for a single switch auto scanning setup.
- **Hold Duration:** The duration your input device must be held before a press is recognized. The duration must be less than the Auto Tap time so that a double input press can be used. This prevents accidental presses from stopping the scan, and prevents multiple presses in a row.
- **Ignore Repeat:** The duration in which multiple presses of input are treated as a single input. This duration must be less than the Auto Tap time so that a double input press can be used. This prevents multiple inputs from repetitive switch presses.
- **Gliding Cursor Speed:** Allows you to set the speed at which the gliding cursor moves across the screen when no relevant hotspots are seen by the iOS device.
- **Sound Effects:** When turned on there is a clicking sound associated with each scan movement.
- **Speech:** When turned on, speaks each VoiceOver cue for each scanned item, as long as a VoiceOver cue is programmed into the item being scanned. NOTE: some items may not be readable.
- **Speaking Rate:** Controls the Speaking Rate when Speech is turned on.
- **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.
- **Group Items:** By default the scan will move one item at a time across the screen. If users would like to speed up their scan, he/she can 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.
- **Large Cursor:** When turned on, increases the size of the border around each scanned item. This makes it more obvious and easier for users to follow the scan across the screen.
- **Cursor Color:** Select the color of the scan border to make it more visible on the screen as it moves.
- **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

When a user selects an item while scanning with Switch Control, a pop-up menu will appear on the screen that contains a number of advanced functions. If Scroll, Gestures, Device, or Settings is selected from the pop-up menu, an additional sub-menu will pop up with more advanced options for that category.

Main Menu



## 1. Scroll Menu Options

Scroll Menu allows users to scroll to reach content that is displayed off the current screen. It is really helpful when browsing a web page, reading emails, etc. In some cases, a modified scroll menu will appear if the system recognizes that not all of the options are available for use.

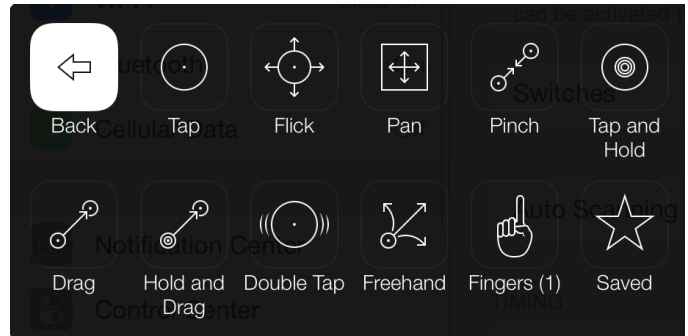
Scroll Menu



## 2. 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. Since multi-touch gestures are specific to the number of fingers being used on the screen, the user can select how many fingers are to be used with each gesture in this menu by selecting Fingers.

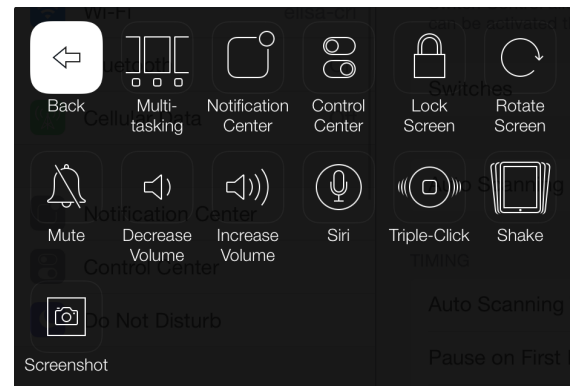
Gestures Menu



## 3. Device Menu Options

The Device Menu allows users to access special functions specifically useful for operating the iOS device.

Device Menu





## 4. Settings Menu Options

The Settings Menu allows users 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.

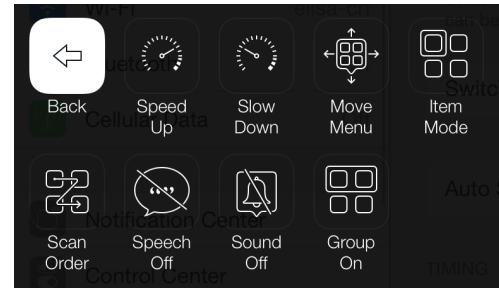
**Speech On:** This tells us that Speech is currently on, and selecting this option will turn Speech off. Speech is where the scan will read back what is highlighted.

**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 not move from group to group instead of item to item. When a group is a selected, a user cannot select an item within that group.



# iOS 8

Switch Control is also available in iOS 8. The way of setting the switch control is the same, the only differences are the on screen menus have been improved with better user interfaces. Command options are self adjusted based on the environment and applications. Also, the speed of the gliding cursor has been greatly reduced for the ease of certain users who are more comfortable with slower speeds.



## iOS 8 Compatibility

iOS 8 is currently available with the following iOS devices.

- iPad Air 2
- iPad Air
- iPad 4<sup>th</sup> Generation
- iPad 3<sup>rd</sup> Generation
- iPad 2
- iPad mini 3
- iPad mini with Retna Display
- iPad mini
- iPhone 6 Plus
- iPhone 6
- iPhone 5S
- iPhone 5C
- iPhone 5
- iPhone 4s
- iPod touch 5th Generation

# On Screen Scanning Menus

When a user selects an item while scanning with Switch Control, a pop-up menu will appear on the screen that contains a number of advanced functions. The command options are different based on the application or the location on the screen. More options are available in the sub-menu once you have made a selection on the Main menu.

## 1. Sub-Menu Options

Command options in the sub-menu show the context specific available actions. More advanced options are available in this menu.

**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.

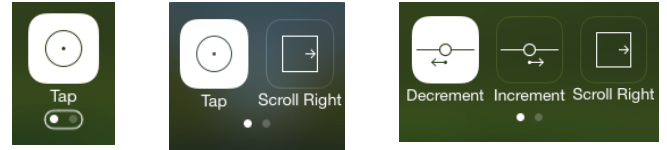
## 2. Scroll Menu Options

Scroll Menu allows users to scroll to reach content that is displayed off the current screen. It is really helpful when browsing a web page, reading emails, etc. In some cases, a modified scroll menu will appear if the system recognizes that not all of the options are available for use.

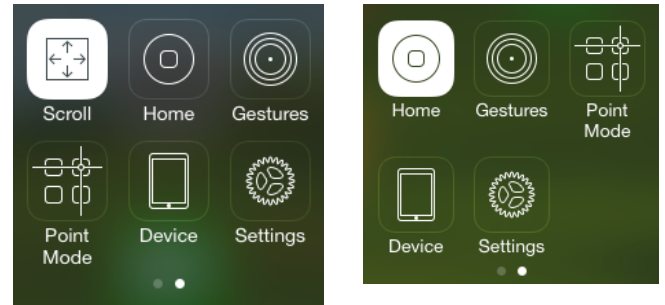
## 3. Gestures Menu Options

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. Since multi-touch gestures are specific to the number of fingers being used on the screen, the user can select how many fingers are to be used with each gesture in this menu by selecting Fingers.

### Main Menu



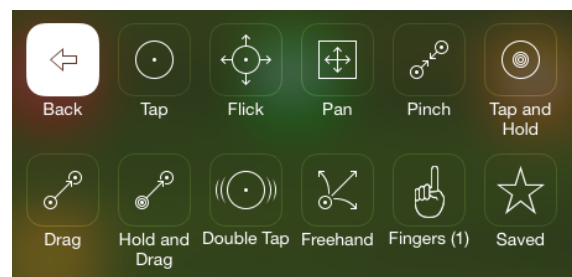
### Sub-Menus



### Scroll Menus



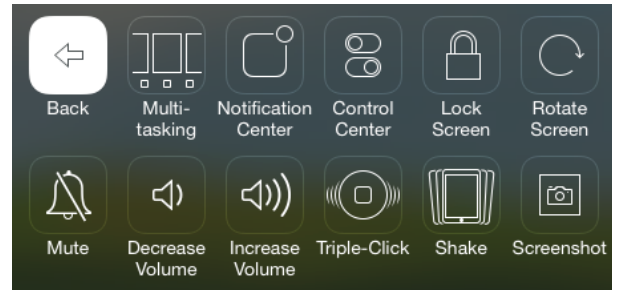
### Gesture Menu



## 4. Device Menu Options

The Device Menu allows users to access special functions specifically useful for operating the iOS device.

### Device Menu



## 5. Setting Menu Options

The Settings Menu allows users 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.

**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.

**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 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 not move from group to group instead of item to item. When a group is selected, a user cannot select an item within that group.

### Setting Menu

