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Assistive Technology Spotlight:iPad Switch Accessibility

Matt Newton

Greetings, fellow CEC-DPHMD members! My name is Matt Newton and I am a special education teacher in Roanoke, Virginia. I am excited to be taking over the responsibility of authoring the Assistive Technology Spotlight column in our division newsletter from Mari Beth Coleman. I know that I won't be able to replace her, but hope that I can continue the tradition she started of bringing you useful AT information that can help enrich your classroom, instruction, and students' lives. Every day I work with 13 students with multiple disabilities, all of whom use one or more forms of assistive technology to allow them to access their educational environment. This topic is near and dear to my heart, so over the course of time I plan to present to you some of the latest in assistive technology that I have used along with some strategies that I have found to be successful in integrating it.

I want to start off with a bang in my first column, so I am going highlight a hot piece of assistive/instructional technology in both special and general education – the iPad. However, I am not going to discuss many of the features of the iPad that have made it so popular for use in education that you have no doubt already heard or read about: its relative low cost, portability, and plethora of engaging educational apps. Rather, I am going to highlight how you can make some of these great features switch accessible for students with gross and fine motor challenges through a wireless interface.

Currently I have four iPads that are in use in my classroom. Two belong to students that bring them to school each day primarily to utilize as an AAC device through the proloquo2go communication app and the other two are for general classroom use. I think most teachers generally assume at first (myself included) that iPads are almost universally accessible due to the touchscreen nature of the interface and the built in accessibility features such as screen zoom, speak selection, voiceover, and assistive touch. I have found through trial and error though, that this is not the case. Many of my students with musculoskeletal impairments, visual impairments, and poor fine motor control are unable to interact well with the educational and

communication apps on our iPads - many of which take a fairly precise touch. When faced with these interaction challenges with classroom PCs, the solution has always been to utilize a switch interface with a track-ball mouse, jellybean, or big Mac switch to allow independent and appropriate access. Typical switch interfaces found in our classrooms connect devices through a USB cable however, making them useless for making an iPad more accessible. In order to utilize a switch interface to interact with iPad apps that are designed for this purpose, the connection is currently being made by devices wirelessly through Bluetooth technology. The following is a sampling of currently and soon to be available switch interfaces for iPad with a variety of different features and price points. The best currently available in-app switch interface that I have found for iPad is the Blue2 Bluetooth Switch from AbleNet (www.ablenetinc.com). This \$149 device can be wirelessly synced with an iPad, iPod, or iPhone for access to switch accessible apps and features.



Figure 1. The Blue2 Bluetooth Switch from AbleNet, Inc.

Two large switches are built into the device that can be activated with a hand or arm, but also can be positioned low and activated in “pedal” fashion with feet or legs for users with stronger control of these appendages. Additional ports in this device allow for other types switches to be plugged in to the Blue2 that might be needed by the user. For cost-conscious teachers and school districts, this device also doubles as a switch interface for your classroom PCs as well, through a built in USB port.

For those looking for a switch interface that makes iPad features more universally accessible than an in-app switch such as the Blue2, AbleNet will also be coming out with their “Connect” device this fall. Yet to hit the market, the Connect fits an iPad 1, 2, or 3 like a protective case. HiFi stereo speakers are built in, as is wired and wireless switch access. The casing also provides protection for the iPad, as well as integrated syncing and charging. Through the Connect device, users can scan, navigate, and open apps with a single switch just like users using the touch screen interface. Apps designed to be switch accessible and those utilizing Apple’s VoiceOver screen navigation system will be fully switch accessible through Connect. This includes popular apps such as Pandora, Skype, and yes- Facebook. The MSRP will be \$349.



Figure 2. The “Connect” System from AbleNet, Inc.

Another useful iPad switch interface option is the APPLICATOR from [Pretorian Technologies](#).



Figure 3. APPLICATOR Bluetooth Switch from Pretorian Technologies

This device reminds me of the omnipresent Don Johnson Switch Interface Pro 6.0 in many MD classrooms, without the USB interface. Like the Blue2, this device also connects to your iPad, iPod, and iPhone devices wirelessly through Bluetooth. Unlike the Blue2, there are no built-in switches, only four ports to plug in outside switches. Each of the four ports in this device can be programmed to perform a certain function on your i-device when the switch connected to it is activated. “Hot Keys” on the device itself are programmed to deploy the on-screen keyboard on the iPad, as well as the music app. This device can be yours for \$210.

The Bluetooth “Super Switch” from [RJ Cooper](#) will look very familiar to any teacher who has been using switches for communication/access in their classrooms for very long at all. This wireless “big mac” switch connects to your iPad and can be used to access apps that have been programmed for switch access. The 5” diameter button provides a large target for users to hit and the familiar look and use of this type of switch can be beneficial for students who make take a long time to warm up to a new style device. Like the Blue2 this device can be purchased for \$149.



Figure 4. Bluetooth "Super Switch" from RJ Cooper.

The most advanced wireless switch interface for iPad currently available is the Tecla Shield by [Komodo Open Labs](#). Using the Tecla Shield, a user can access an iPad, iPod, or iPhone using adapted switches or with the driving controls of their power wheelchair. The Tecla Shield allows single and dual switch autoscanning, step scanning, and on-screen keyboard scanning (for word processing, email, and texting). The iBooks and camera apps are also easily accessible through the Tecla Shield switch interface, allowing users to turn pages, or snap pictures!



Figure 5. Tecla Shield Wireless Switch Interface for iPad from Komodo Open Labs

It is important to reiterate that all these wireless switches and interfaces will only work with iPad apps that have been designed to be switch accessible or have VoiceOver controls. More comprehensive options than these currently available will be coming out in the near future from companies such as Pretorian, Ablenet, and Origin that will allow users to access all apps and i-device features through a switch interface. While there are a limited number of apps right now that are designed to work with a switch (relative to the number of apps available in the app store), the number is increasing – including many AAC apps. A great resource for locating and identifying switch-accessible apps and other [iPad adaptations can be found at this link](#). I hope that you find this information useful and that you can apply it in your classroom. If you have any assistive or instructional technology questions, or if you would like me to address a particular topic in this column, please feel free to email me at mnewton@rcps.info. Have a great year!