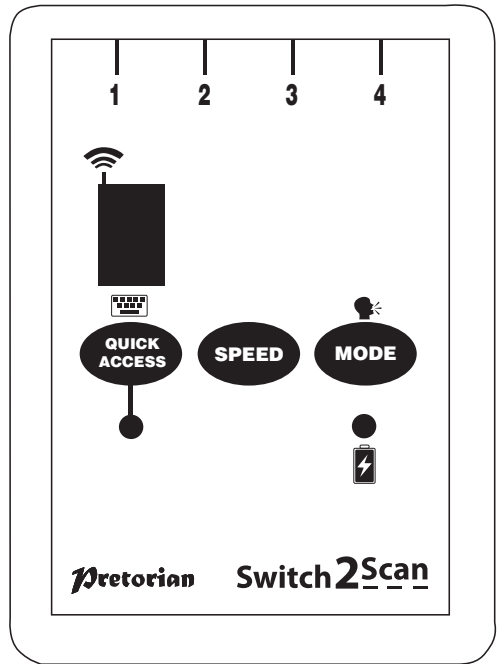


## INSTRUCTIONS

### Switch2Scan iPad/iPhone/iPod Scanning Access Device



#### Pack Contents

Carefully check the contents of the box, which are:

Switch2Scan unit  
USB charging cable  
These instructions

#### Product Description

Switch2Scan is a scanning switch access device specifically designed for the iPad/iPhone/iPod and is the only single device to give you access to both the iOS operating system (via iOS Voiceover mode) and switch adapted apps.

Specifically designed around a wide variety of users' needs, Switch2Scan is simple to set up and use, but loaded with features to cater for all requirements. Although simple to operate, to ensure you get the best experience from using your new Switch2Scan, please take time to read this instruction booklet.

- Pairs directly with your iPad/iPhone/iPod without PIN entry.
- Works in 1, 2, 3 or 4 button mode to cater for varying levels of motor skills
- Special iBooks mode supports Page Turning
- Choice of Manual or Automatic scanning.
- QuickAccess™ mode allows instant access to switch adapted apps which don't support iOS Voiceover.
- Integral button allows on-screen keyboard to be displayed or hidden at any time.
- Voice can be turned on and off.
- 20m (64') operating range.
- Integral lithium-ion rechargeable battery. Charged from any USB socket.

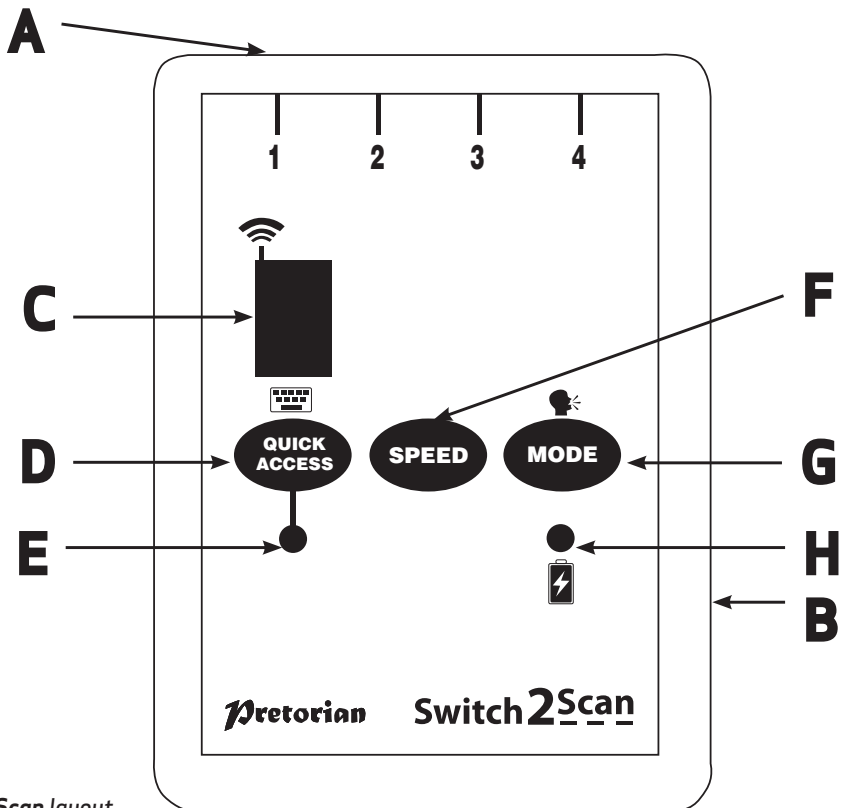


Figure 1 - Switch2Scan layout

# Compatibility

Your **Switch2Scan** is compatible with the following Apple products:

iPad 1/ iPad 2/ new iPad  
iPod Touch 3rd and 4th Generations  
iPhone 3GS and 4.

*Throughout these instructions, all references to iPad should be taken as meaning any of the above Apple products.*

**Switch2Scan** is not suitable for use with Android tablets, Apple Macs or personal computers.

## Getting your iPad and Switch2Scan ready for first use

## Charging your Switch2Scan

Ensure that the integral battery is fully charged by plugging the charging cable into **Switch2Scan** and then into a computer USB port. The charging LED (H) will illuminate green to show that charging is taking place. Once charged, the charging light is extinguished.

## Connecting to your iPad/iPhone/iPod

Wake up **Switch2Scan** by pressing any button. The display (C) will begin to show a rotating pattern to indicate it is searching for a device to connect with. If you don't see this pattern, refer to the 'Re-Connecting your **Switch2Scan**' section of these instructions.

Go to the Bluetooth menu on your iPad (Settings > General > Bluetooth). First of all ensure Bluetooth is turned on using the slider at the top of the screen.

After a few seconds the **Switch2Scan** should appear as a 'discoverable' device. It will appear as something similar to:

**Pretorian-V53.0-ABC1**

Tap on the name and the pairing process will begin. Typically it takes around 20 seconds to connect, after which the iPad will state that the device is 'Connected'.

## Notes about Bluetooth Connections

Once connected with a particular iPad, your **Switch2Scan** will no longer be visible ('discoverable') by other iPads. If you turn your iPad off, turn off Bluetooth or if you go out of range of the **Switch2Scan**, the connection between the two devices is automatically re-established when you next power on, turn Bluetooth on or go back into range.

If you wish to connect with a different iPad at any time, please refer to the 'Re-Connecting your **Switch2Scan**' section of this manual.

# Turning on Voiceover mode

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Switch2Scan makes use of the built-in Voiceover mode in compatible Apple products. Voiceover must be turned on before you will be able to make use of its features.

Go to the Accessibility menu on your iPad (Settings → Accessibility → Voiceover) and slide the Voiceover switch to 'On'. You will hear a message saying that Voiceover mode is turned on (provided the volume is turned sufficiently high on your iPad).

## Voice prompts

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First of all, decide whether you need Voiceover voice prompts. Although useful for users with visual impairments, they add little to the scanning process and can be distracting. If you do not want them, press and hold the Mode button (G) until the voice announces 'Speech Off'. Following this you will hear no more prompts. To re-engage the voice prompts, press and hold the Mode button (G) once again.

## Choosing the number of switches to use

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Press the Mode button (G) briefly and the display (C) shows the number of switches that the unit is currently set to (the factory setting is 3). Press the Mode button (G) repeatedly until the required number of switches appears on the display. The setting is saved once the display is extinguished.

Note that setting 5 actually uses 4 switches and is the special iBooks accessibility mode (see later section for more details).

The number of switches chosen is largely determined by the type, and severity, of disability. Using fewer switches is more helpful for users with good cognitive skills but poor motor or dexterity skills. Using more switches requires less cognitive skill but can be unsuitable for users with pronounced motor skill difficulties. The most suitable setting can usually be determined after brief experimentation with different numbers of switches.

## Choosing the scanning speed

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The current scanning speed can be viewed by pressing the Speed button (F) briefly. There are 4 settings:

- 1 Low speed scanning (One scan per 2 seconds)
- 2 Medium speed scanning (One scan per second)
- 3 High speed scanning (One scan per 0.7 seconds)
- 4 Escalating scanning speed.

Press the Speed button repeatedly until the required speed setting appears on the display. Once the display is extinguished the setting is saved.

Again, a short period of experimentation should allow you to determine the ideal setting. Note that the Escalating setting is useful when there are many items on a page - particularly when web browsing. The scan speed escalation starts again from the lowest speed each time a selection is made.

## Insert switches

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Insert the required number of switches for the Mode setting you have made into the 3.5mm sockets (A). For example, if you chose single switch mode (Mode 1), plug a single switch into socket 1. For Modes 4 and 5, plug a switch into all four sockets.

Any wired switch with a 3.5mm plug can be used with Switch2Scan, for example, sip/blow switches, wobble switches, pad switches, grasp switches etc.

Your Switch2Scan is now ready to use.

# Using Switch2Scan

Switch2Scan has three switch functions:

**Select.** This is the same as tapping an icon, a pop-up keyboard key or other selectable item.

**Scanning.** When Voiceover is turned on, a white box surrounds the highlighted icon or item. When you Select, the icon or item selected is the one that is currently highlighted. Scanning periodically moves the highlighted item along, either forwards or back. By choosing when to scan, and in what direction, you can quickly navigate to an item and then Select it.

**Home.** This always returns you to the home screen, i.e. it 'quits' whatever you are currently doing. Scanning stops whenever you press Home, although pressing a scanning switch will re-commence it in its previous direction.

Switch2Scan has five operating modes requiring between one and four switches. The functions assigned, and the actions required for each switch, are shown in Table 1.

Mode Setting	Switch 1	Switch 2	Switch 3	Switch 4
1 Switch	Brief press - Select Press and hold > 1s- Auto Scan Fwd/Back Press and hold > 2s- Home			
2 Switch	Auto Scan Forward/Back	Brief press - Select Press and hold > 2s- Home		
3 Switch	Auto Scan Forward/Back	Select	Home	
4 Switch	Manual Scan Forward	Manual Scan Back	Select	Home
iBooks	Brief press - Manual Scan Forward Press and hold > 1s- Page Turn Forward	Brief press - Manual Scan Back Press and hold > 1s- Page Turn Back	Select	Home

Table 1: Switch Functions

## Single Switch Mode

In single switch mode, all actions take place using a single switch plugged into socket 1. The actions are:

Brief press	Select
Press and hold for 1 second	Scanning begins or changes direction
Press and hold for 2 seconds	Home

This mode requires the most time to become familiarised with but has the advantage of requiring just one switch. It is ideal for users with good cognitive skills and limited motor skills. Unsuitable for users who cannot press a switch for an extended period.

## Two Switch Mode

In two switch mode, switch 1 is used for scanning and switch 2 for Select/Home:

Press switch 1	Scanning begins or changes direction
Briefly press switch 2	Select
Press switch 2 for > 2 sec	Home

It is ideal for users with good cognitive skills and limited motor skills. Unsuitable for users who cannot press a switch for an extended period.

# Three Switch Mode

In three switch mode, scanning is determined by switch 1, Select by switch 2 and Home by switch 3.

Press switch 1      Scanning begins or changes direction  
Press switch 2      Select  
Press switch 3      Home

This mode is very intuitive and is ideal for users with limited cognitive skills and for those who cannot press a switch for an extended period. This mode provides possibly the best compromise between the number of switches and intuitive operation. As such, it is probably the best mode to begin with when first experimenting with the unit.

# Four Switch Mode

In four switch mode, scanning is manual with forward scan on switch 1 and backward on switch 2. Select is on switch 3 and Home on switch 4.

Press switch 1      Manual scan forward  
Press and hold switch 1      Automatic scan forward  
Press switch 2      Manual scan backward  
Press and hold switch 2      Automatic scan backward  
Press switch 3      Select  
Press switch 4      Home

Note that automatic scanning occurs only as long as the switch is pressed and proceeds at a rate determined by the unit's Speed setting.

This mode requires less cognitive skills but because it uses four switches, it requires reasonable motor skills. It is an excellent choice for users who cannot press a switch for an extended period.

# iBooks Page Turning Mode

This mode is very similar to four switch mode, but includes a special feature to allow page turning in iBooks. This is necessary since iBooks uses a different access technique for page turning than it does for Voiceover access. Pretorian hopes that iBooks will be harmonised with Voiceover in the future.

Press switch 1      Manual scan forward  
Press and hold switch 1      Turn page forward  
Press switch 2      Manual scan backward  
Press and hold switch 2      Turn page backward  
Press switch 3      Select  
Press switch 4      Home

Note that to turn the page, you must first use manual scanning to highlight the page ticker at the foot of the screen. Once this is highlighted, pressing and holding either switch 1 or 2 turns the page forwards or back, respectively.

# QuickAccess™ Mode

QuickAccess™ mode is designed to allow rapid access to switch adapted Apps that don't use the Voiceover scanning technique. Switching to this mode allows you access to these Apps once you have navigated to them.

Simply press the QuickAccess™ button (D) briefly. The QuickAccess™ LED (E) lights and the sockets now assume the fixed functions given in Table 2:

Socket	Function
1	Space
2	Enter
3	-1
4	-3

Table 2: QuickAccess™ functions

Once in QuickAccess™ Mode, pressing any switch gives the functions listed in Table 2.

Note that after a minute the QuickAccess™ LED flashes to conserve battery life.

Pressing the QuickAccess™ button once more returns you to normal operation and the QuickAccess™ LED is extinguished.

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# On-Screen Keyboard

Because your **Switch2Scan** appears to the iPad as a keyboard, the iPad automatically turns off the on-screen keyboard. It is highly likely that you will need the keyboard to be enabled so that its keys may be scanned.

**Switch2Scan** allows you to deploy the on-screen keyboard at any time simply by pressing and holding the QuickAccess™ button (D) for about one second. After this time the on-screen keyboard will be deployed automatically. To turn it off again, press and hold the QuickAccess™ button for a further second.

*Note that the iPad only allows the on-screen keyboard to be deployed when a text input box is selected. It is automatically hidden when the text input box is deselected but will pop up again when another one is selected.*

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## Tips and Tricks

There are many shortcuts which will make life easier for you when using **Switch2Scan**. For example:

- If the teacher or carer wishes to make a selection while **Switch2Scan** is scanning, briefly press the Speed button to stop the scanning, then tap the icon you wish to access. Once it is highlighted, double tap it to launch. This saves you the trouble of having to turn off Voiceover.
- If you select a text box which already contains some text, and you would like to add something to the end of the existing text, pressing Select again will take the cursor to the end. A further press of Select takes the cursor back to the beginning, and so on.

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## Re-Connecting your Switch2Scan

If, when waking up your **Switch2Scan**, the display (C) does not continue to display the rotating pattern this indicates that the unit is already connected to another iPad in the vicinity. In this case you will need to 'forget' this connection before you can re-connect with another unit.

Similarly, if you have been using your **Switch2Scan** with a particular iPad that is still in the vicinity and you wish to swap it to another, you will also need to forget the existing connection.

Go to the Bluetooth menu on your iPad (Settings → General → Bluetooth) and tap the blue arrow adjacent to the unit name, for example:

Pretorian-V53.0-ABC1

Then tap on 'Forget this device'. At this point the unit is no longer connected with the original iPad and will appear as a 'discoverable' device on all iPads in the vicinity. You can then re-connect with a different iPad by again tapping on the unit name in the Bluetooth menu.

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## Automatic Sleep Mode

To conserve battery life, **Switch2Scan** automatically enters a low-power sleep mode if it remains unused for one hour. Pressing any external switch or any button on the unit instantly wakes it again. While asleep, the connection with the iPad is lost but is automatically re-established within a few seconds of wake-up.

If the unit remains unpaired for more than 5 minutes, it will also enter low-power sleep mode. Press any button or switch to wake the unit.

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## Battery Life and Battery Charging

A fully charged battery gives approximately 40 hours of use. When the battery is getting low, the Charging LED (H) begins to blink red. This is an indication that you should charge the battery soon.

Plug the charging cable into the charging socket (B) and then into a USB socket on a computer. Ensure the computer is turned on.

While charging, the Charging LED will be illuminated green. Once charging is complete (a matter of a few hours if fully discharged) the charging LED will be extinguished. You can then unplug the cable.

*Note that you can carry on using **Switch2Scan** while it is charging.*

***Switch2Scan** plugs into a computer USB port for charging purposes only - it does not give a functional connection this way.*

# Maintenance

Your **Switch2Scan** has no user serviceable parts. If repair is necessary the unit should be returned to Pretorian Technologies or an authorised distributor.

**Switch2Scan** contains a lithium ion battery that isn't user replaceable. Although the unit uses the very latest battery technology, it may eventually need to be replaced. Please contact Pretorian Technologies or your local distributor prior to returning.

Disposal of batteries is often subject to local laws. Please consult your local authorities for information relating to your locale. Never dispose of a battery in fire.

# Troubleshooting

If your **Switch2Scan** doesn't operate correctly, please use the following guide to determine the cause. If, after following this guide, your unit still doesn't operate, please contact your supplier before returning it.

Symptom	Possible Cause/ Remedy
My <b>Switch2Scan</b> is not 'discoverable' on my iPad	<ul style="list-style-type: none"><li>• Ensure battery is charged.</li><li>• Ensure unit is awake by pressing any button.</li><li>• Unit may be connected with another iPad which is in range. Use 'forget this device' in Bluetooth menu of other iPad to make unit available again.</li></ul>
My <b>Switch2Scan</b> has been connected to this iPad before but won't connect now.	<ul style="list-style-type: none"><li>• Re-connection should be automatic but if necessary, go to the Bluetooth menu and click the <b>Switch2Scan</b> entry. If this doesn't work, try 'forget this device' and then re-connect.</li></ul>

# Errata

Pretorian has located a bug in iOS 5.1 where occasionally no item is highlighted when you first go into Safari. We have reported this to Apple. Until this bug is fixed, the solution is to quit Safari and then go straight back into it (Home followed by Select).

# Warranty

Your **Switch2Scan** is warranted against defects in manufacture or component failure. The unit is designed for domestic and educational applications. Use outside these areas will invalidate the warranty. Unauthorised repair or modification, mechanical abuse, immersion in any liquid or connection to incompatible equipment will also invalidate the warranty.

Apple brand names are used for identification purposes only and are acknowledged.

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