

# IDHBT500, IDHBT500-1, IDHBT500-17

# i-Drive 4.0 with *Bluetooth®* Wireless Technology



# INSTALLATION INSTRUCTIONS FOR

Stealth Products i-Drive  $4.0^{\circ}$  interface with <code>Bluetooth</code> wireless technology



# **Stealth Commitment**

Stealth Products strives for 100% customer satisfaction. Your complete satisfaction is important. Please contact us with feedback or suggested changes that will help improve the quality and usability of our products. You may reach us at:

|--|--|--|

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(F



MDSS GmbH Schiffgraben 41 30175 Hannover, Germany

Installation Date: \_\_\_\_\_ Dealer: Dealer Stamp: Serial Number:

1.0

- \* IDHBT500 shown on front page.
  - i

# Federal Communications Commission (FCC) Statement (USA)

FCC ID: 2AJXVIDHBT500

#### **FCC RF Exposure Statement**

This device meets the FCC requirements for RF exposure in public or uncontrolled environments.

This device complies with FCC part 15 FCC Rules. Operation is subject to the following two conditions:

- 1. This device may not cause harmful interference, and
- 2. This device must accept any interference received, including interference that may cause undesired operation.

#### FCC Warning

Changes or modifications not approved by Stealth Products, LLC could void the user's authority to operate the equipment.

**Note:** This equipment has been tested and found to comply with the limits for Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and receiver
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

# **Important Information!**

All persons responsible for fitting, adjustment, and daily use of the devices discussed in these instructions must be familiar with and understand all safety aspects of the devices mentioned. In order for our products to be used successfully, you must:

- Read and understand all instructions and warnings.
- Maintain our products according to our instructions on care and maintenance.
- Devices should be installed and adjusted by a trained technician.

All programming and configurations MUST be completed by a certified ATP or trained technician.

This installation manual contains programming instructions and statements that are meant to be followed by a certified ATP of trained technician.

#### **Intended Use**

The i-Drive control system allows the use of alternative input devices to drive an electric wheelchair. Up to six input devices such as an egg switch, proximity pad, Sip & Puff, head array, and tray array are supported. The i-Drive system relies primarily on two types of input interpretations: switched and proportional. The interpretation used for each channel is dependent on the function assigned to it. The i-Drive system includes software that can display real-time diagnostics data, such as the desired direction of motion, to help setup and verify a configuration.

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# **Warning Labels**

# 5.1

Warnings are included for the safety of the user, client, operator and property. Please read and understand what the signal words **SAFETY**, **NOTICE**, **CAUTION**, **WARNING** and **DANGER** mean, how they could affect the user, those around the user, and property.

🛦 DANGER	Identifies an <b>imminent</b> situation which (if not avoided) will result in <b>severe injury</b> , <b>death</b> , and <b>property damage</b> .
🛦 WARNING	Identifies a <b>potential</b> situation which (if not avoided) will result in <b>severe injury</b> , <b>death</b> , and <b>property damage</b> .
▲ CAUTION	Identifies a <b>potential</b> situation which (if not avoided) will result in <b>minor</b> to <b>moderate injury</b> , and <b>property damage</b> .
NOTICE	Identifies important information not related to injury, but possible <b>property damage</b> .
SAFETY	Indicates steps or instructions for safe practices, reminders of safe procedures, or important safety equipment that may be necessary.

# **Limited Liability**

Stealth Products, LLC accepts no liability for personal injury or damage to property that may arise from the failure of the user or other persons to follow the recommendations, warnings, and instructions in this manual.

Stealth Products does not hold responsibility of final integration of final assembly of product to end user. Stealth Products is not liable for user death or injury.

# Testing

Initial setup and driving should be done in an open area free of obstacles until the user is fully capable of driving safely.

The i-Drive interface should always be programmed and tested without any person sitting in the wheelchair until every alteration of the physical installation or adjustment is complete.

# 5.3

#### Index

*Configurable Parameters*-There is only one additional configurable parameter in the i-Drive configuration application for switched inputs, sensor sensitivity.

Sensor Sensitivity–This parameter shifts the position of the switch no-change region. A higher value therefore means that a switch will always be interpreted as ON, whereas a lower value means that a switch will almost always be interpreted as OFF.

*Proportional Input Controls*–Proportional inputs can be assigned to proportional functions such as forward/reverse (F/R) and left/right (L/R). If the proportional input is determined to be nonzero it will be output to the chair.

*Configurable Parameters*-Proportional inputs have the following additional configurable parameters. Not that it is best to handle these by first calibrating the input through 'Joystick Calibration' in the i-Drive configuration applications.

*Dead Band Region*-This may be used to define the dead band low and high relative to the proportional limits minimum, center, and maximum. Calibration is required in order to calculate the center voltage.

*Calibration*-This feature is accessible directly through Config Mode rather than the Channels menu after a proportional function has been assigned. The calibration procedure calculates the center voltage as well as the recommended values for the proportional region and dead band region based on user input.

Linked Left-Right-The left and right inputs can be linked so the chair moves forward when both are engaged. This feature may be enabled under the sensor settings for 'Left' or 'Right' in the i-Drive Mobile apps, or by selecting 'Linked Left and Linked Right' to the respective channels in the i-Drive Programmer Windows application

*Multi-Tap*-The i-Drive system implements an extended double-tap timer to accommodate clients who need a longer double-tap input time. The double-tap extension time is shared with the triple-tap activation time in mouse mode, hence the name 'Multi-Tap'.

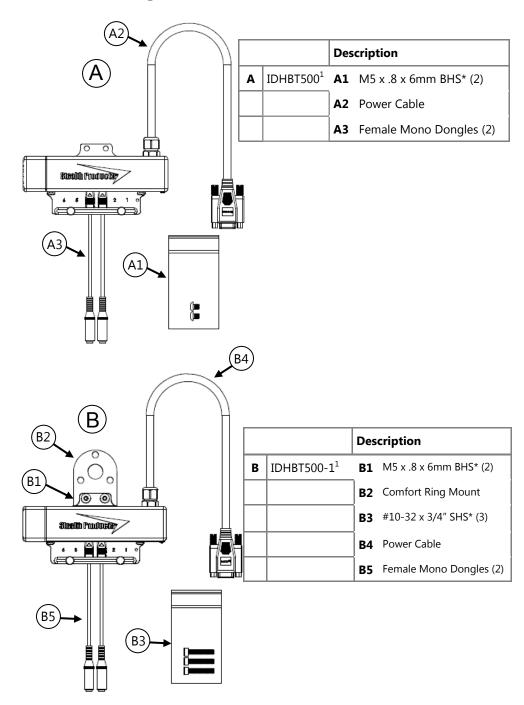
*Configurable Parameters (Mouse Emulation)*-The multi-tap feature is configurable under 'Multi-Tap' in the i-Drive configuration applications. Two parameters are configurable, Input Delay and Output Speed.

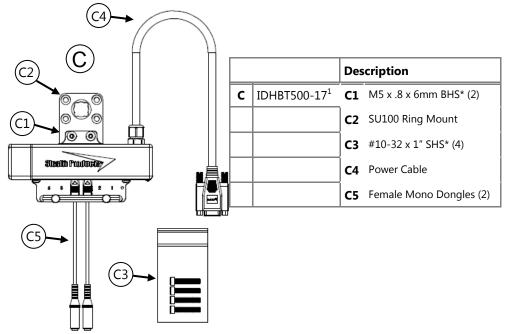
*Input Delay*-This is the longest time that the i-Drive system will wait for additional taps after the first tap is detected. It may be set manually or calibrated using the 'Calibrate' option in the i-Drive Configuration applications. No single or double tap input will be acknowledged until after time has expired, thus, this delay should be set as short as possible based on how fast the user can reliably tap the input.

*Output Speed*-This is the speed of the multi-tap pulse that is sent to the chair. The i-Drive system simulates a user inputting a multi-tap to the chair at a faster rate. This may set manually in the i-Drive configuration applications.

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# Hardware Packages/Parts





# **Mounting Hardware Tools**

7.2



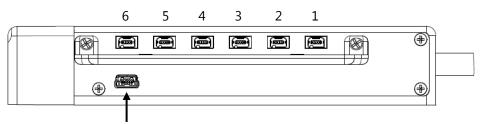
Tools*	Description	
1/8 T-Handle		A1, C1
3/16 T-Handle		B3, C3
2.5mm T-Handle		A1, C1
Torque Wrench		A, B & C

- 1. 2 Bluetooth dongles, 1 extension cable, and 1 USB plug are included with each interface package.
- Screws are included with each IDHBT package. Tools are not included.

# **Torque Specifications**

Item		Torque Specification
B3	#10-32 x 3/4" SHS	90in-Ib
С3	#10-32 x 1" SHS	34in-Ib

# **Port Assignment**



USB Port for configuration on PC

Port	Direction Assignment	
6	Left	
5	Forward	
4	Mode/Reset	
3	None	
2	Reverse	
1	Right	

The i-Drive 4.0 has the capability of taking inputs from mechanical switches, proximity sensors, fiber optic sensors, joysticks, and Sip & Puff modules. With the new i-Drive interface, there is the capability of programming the interface with the associated Advanced Programming Software from your PC, and now also includes the option to download the i-Drive App and program the interface directly from your phone via *Bluetooth®* wireless technology.

7.3

7.4

# i-Drive Minimum System Requirements

Processor	1 GHz	
RAM1	512 MB	
Disk Space	7 MB	
Operating System 1	Windows Vista SP2 or later (32-bit or 64-bit)	
Additional Requirements	Internet access and a valid DAD account for configuration features, .NET Framework 4.5.1	

# i-Drive Bluetooth Minimum System Requirements 8.2

Processor	1 GHz	
RAM1	512 MB	
Disk Space	7 MB	
Operating System	Windows 8 or later (32-bit or 64-bit)	
Screen Resolution	1024 x 768 or larger (1280 x 720 or larger recommended)	
Additional Requirements	Internet access and a valid DAD account for configuration features, Bluetooth adapter, .NET Framework 4.5.1	

#### **EMC Requirements**

Electromagnetic compatibility (EMC) up to 20 V/m

#### 🛦 WARNING

Exposure to water can result in a shortage and intermittent failure of the device.

8.0

#### **Control System Overview**

The i-Drive system operates in different modes, including RUN & CONFIG modes. In RUN mode, no settings changes are allowed and computed outputs are sent to the chair.

In CONFIG mode, settings changes are allowed and computed outputs are not sent to the chair. The i-Drive system automatically switches to CONFIG mode if the system voltage falls below 10 volts to prevent unwanted input activations due to low voltage.

Mode	Accepts Config Changes	Wheelchair Output
RUN	Νο	Yes
CONFIG	Yes	No

The USB cable enables an external device to communicate with i-Drive with the use of a virtual communications port. There is no authentication requirement to gain access.

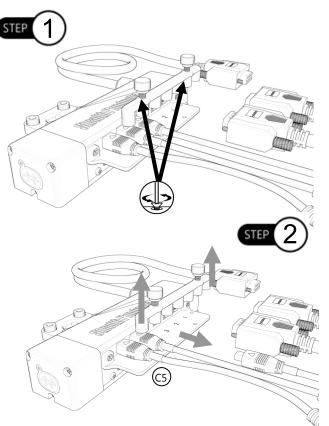
The Bluetooth interface enables an external device to communicate with the i-Drive via a secure Bluetooth connection. Authentication required to gain access.

# **Replacing/Installing Dongles**

To disconnect dongles:

**Step 1:** Loosen the thumb screws completely until the wire carrier can be removed from the interface.

Step 2: Slightly pull on the end of the dongle (C5) to disconnect from the port on the interface box.



#### 🔺 WARNING

When reattaching the dongle, check diagnostics to ensure the dongle is reading correctly.

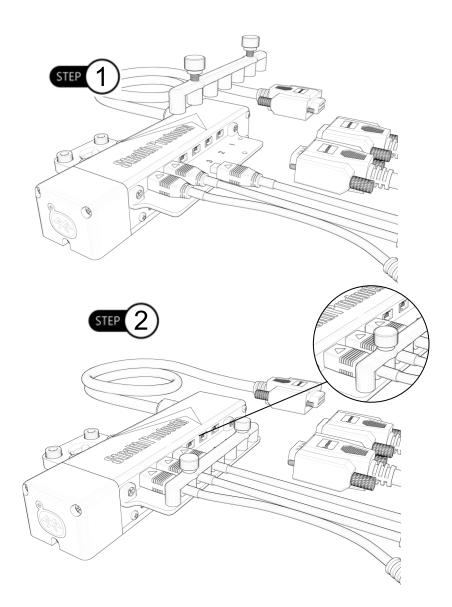
#### NOTICE

Ensure you have identified where each switch is located in the port before unplugging or replacing.

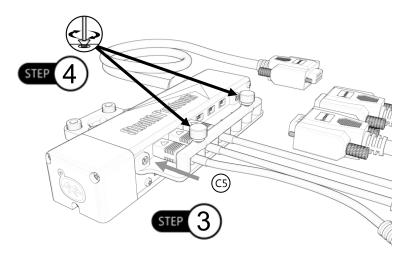
<sup>\*</sup> IDHBT500-17 shown as reference for this section.

#### To reattach dongles:

- **Step 1:** Locate the proper port each dongle/sensor needs to be plugged in to.
- Step 2: Before plugging in sensor or dongle, check that the arrow at the end of the cable is facing upward.



- Step 3: Plug each sensor/dongle (C5) into ports. Slightly pull the cable to ensure it has been securely placed into port.
- **Step 4:** Once the sensors are installed, locate the carrier plate with the thumb screws. Install the carrier plate into place by tightening the thumb screws.
  - Place even pressure firmly on the end of the cable for easier installation.
  - If the sensors are not properly connected to their ports on the interface the thumb screws will not completely secure to interface.



#### 🔺 DANGER

Ensure the dongles/sensors are plugged into the proper ports. Attaching to the incorrect port could lead to unexpected movements or direction changes of the chair.

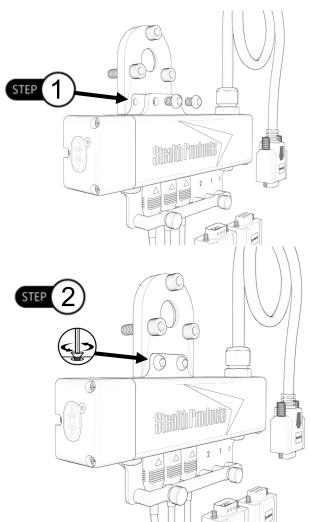
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# **Uninstalling/Replacing IDHBT500**

To install the IDHBT500 if ordered separately from an i-Drive package, follow the instructions below:

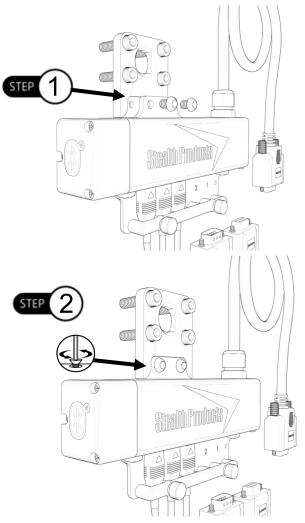
Mounting the IDHBT500 to IDHBT500-1

- **Step 1:** Using a 2.5mm T-Handle, loosen the two (2) M5 x .8 x 6mm BHS from the IDHBT500-1. It is not required to removed the ball mount from the headrest to replace the IDHBT500.
- Step 2: Place the interface and ring into the recessed pocket on the 1" mounting bracket. Ensure mounting holes are aligned. Place two (2) M5 x .8 x 6mm BHS into mounting holes. Reference Section 7.3 for correct torque specifications.



#### Mounting the IDHBT500 to IDHBT500-17mm

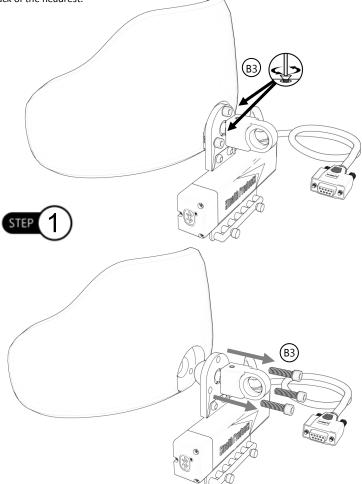
- **Step 1:** Using a 2.5mm T-Handle, loosen the two (2) M5 x .8 x 6mm BHS from the IDHBT500-17mm. It is not required to removed the ball mount from the headrest to replace the IDHBT500.
- Step 2: Place the interface and ring into the recessed pocket on the 1" mounting bracket. Ensure mounting holes are aligned. Place two (2) M5 x .8 x 6mm BHS into mounting holes. Reference Section 7.3 for correct torque specifications.



# **Uninstalling/Replacing IDHBT500-1**

To uninstall the ball kit and interface:

Step 1: With a 3/16 T-Handle, loosen the three #10-32 x 3/4" socket head screws (B3) completely from the back of the headrest.

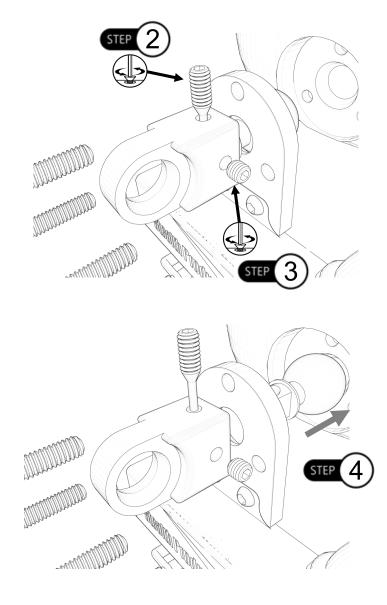


#### NOTICE

It may be easier to remove the headrest from the client's chair to do maintenance or replace the interface.

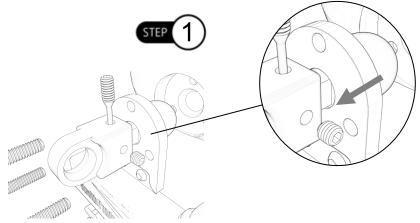
• 1" hardware is compatible with the Comfort Plus, Tri Comfort Plus, Adjustable Comfort Plus, and Ottobock style head supports.

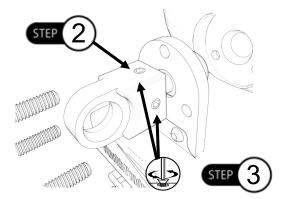
- **Step 2:** With a 2.5mm T-Handle, remove the M5 set screw taper completely from the assembly.
- **Step 3:** Loosen and remove the M5 set screw from the ball kit with a 2.5mm T-Handle.
- **Step 4:** Once both set screws have been removed, the ball will freely move.



To reinstall the interface and ball kit:

- Step 1: The 1" ball will go through the IDHBT500-1 interface mounting plate and into the hardware bracket.
- Step 2: Ensure the M5 set screw taper is flush with the top of the bracket for proper installation.
- Step 3: Insert M5 set screw and set accordingly.

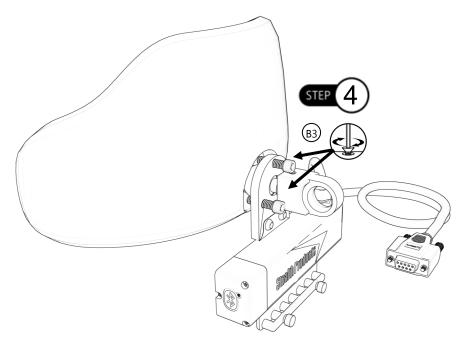




#### NOTICE

Ensure the logo on the interface is facing away from the headrest for proper installation as shown in the image above.

Step 4: Locate the three (3) #10-32 mounting screws (B3). Tighten screws evenly onto the headrest until snug and place the headrest back onto the client's chair. Refer to Section 4.4 for proper torque specifications.



#### **▲** CAUTION

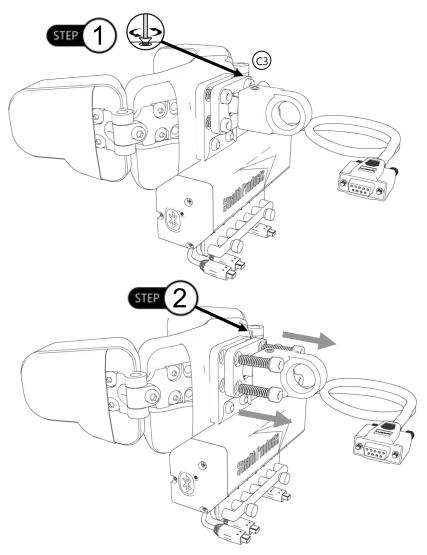
Tighten screws evenly on the hardware. Damage could occur to the hardware If the screws aren't secured evenly.

# Uninstalling/Replacing IDHBT500-17mm

To remove the interface and ball kit:

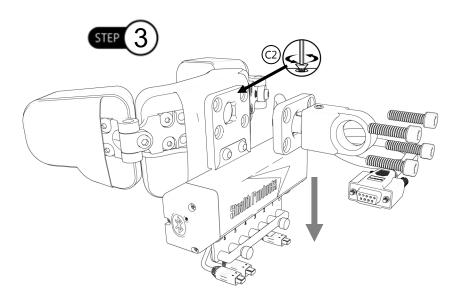
Step 1: With a 3/16 T-Handle, loosen the four #10-32 socket head screws (C3).

Step 2: Remove the screws completely from the back of the headrest.



• 17mm hardware is compatible with the Pediatric Comfort Plus, All Positioning, Combo, Stealth Ultra, and i2i style head supports.

**Step 3:** Loosen the 10-32 x 1" SHS from the ring mount (C2).



#### ▲ CAUTION

Removing the screws will cause the ring mount and interface to drop from the headrest. Use caution when removing.

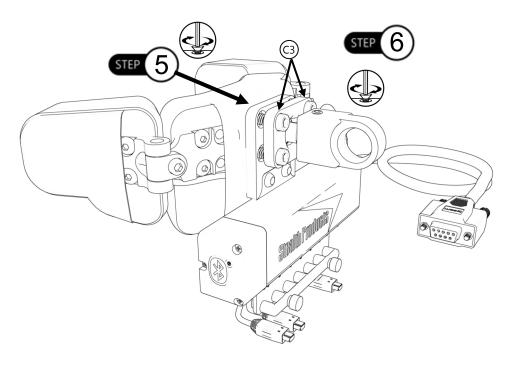
#### NOTICE

Ensure all switches and dongles are disconnected from the interface to avoid damages to ports or connectors.

#### NOTICE

It is recommended to program the interface to the client's specifications before installing the interface.

- **Step 5:** Locate the four (4) #10-32 mounting screws (C3). Tighten screws evenly onto the ring mount until snug and place the headrest back onto the client's chair.
- **Step 6:** Position the headrest appropriately on the client's chair. Once positioned, tighten the #10-32 (4) mounting screws. Refer to *Section 4.4* for proper torque specifications.



#### ▲ CAUTION

Wires from the i-Drive need to be securely attached to the chair to avoid damage. It is recommended that excess cords be zip tied.

#### ▲ CAUTION

Tighten screws evenly on the hardware. Damage could occur to the hardware If the screws aren't secured evenly.

To get the best performance from the i-Drive, calibration is required. It is important to note that calibration of the wheelchair to i-Drive is required even if i-Drive is using switched inputs.

#### NOTICE

In all cases, calibration can only be done by a user with appropriate access granted.

#### SAFETY

Chair calibration has been successfully tested on QLogic 2, QLogic3, and R-Net Omni enhanced displays. Call your sales representative for compatibility with other electronics.

# **Chair Calibration**

The chair calibration calibrates the wheelchair to the signals that the i-Drive sends. Regardless of what inputs are connected to the i-Drive, the i-Drive looks like a joystick from the perspective of the wheelchair. The values stored in the wheelchair for the center voltage and the throw ranges may not be compatible when an i-Drive is initially installed, and therefore the chair must be calibrated to set these values accordingly.

- 1. Disengage the motors on the wheelchair.
- 2. Your i-Drive should be detected on the app.

mer Weigen UT	0.42 881	146
🗸 Main Menu	<b>Devices Detected</b>	
PULL BOWN TO BES	CAN .	
i-Drive	C3:D3:V	xD9:90:92 🖌

#### \land DANGER

Calibration should be done without the user in the chair.

#### 🛦 WARNING

To prevent motion during calibration, disengage the motors of the power chair before calibrating.

3. Connect to the i-Drive and login using your username and password with configuration access.



4. Once logged on, this will enable the *Config Mode* on the app. Click on *Config Mode*.

	к02 AM 7 ¥ 🖬		9:02 AM 7 ♥ \$ ■ ifig Mode
	in Menu	Name	i-Drive
Connect	i-Drive >	-	
Log Out		Channels	
Config Mode	>	Multi-Tap	>
Diagnostics	>	Mouse	>
About	>	Reboot Device	
		Factory Reset	
		Calibrate Joystick	>
	_	Calibrate Chair	>

5. Enter *Chair Calibration* mode using the i-Drive Configuration App. During this step, the i-Drive is commanded to output a calibration sequence to the wheelchair. This sequence is equivalent to rotating a joystick counter-clockwise in two full circles. One completed, the i-Drive returns to the configuration screen.



#### A WARNING

A warning message is displayed with instructions to disengage chair motors. Chair motion can be caused if the chair is not in calibration mode before pressing OK.

- 6. Exit *Calibration* mode on the wheelchair.
- 7. After this process, the wheelchair should be calibrated to the i-Drive

# **Joystick Calibration**

To calibrate a joystick, at least one input channel must be assigned to Proportional Forward/Reverse or Proportional Left/Right. If only one is assigned then the calibration procedure only calibrates the assigned one. If both are assigned then the calibration procedure calibrates both. During calibration, the i-Drive will not output any motion signals to the wheelchair.

The joystick calibration is as follows:

1. Select *Joystick Calibration in the app* to enter Joystick Calibration Mode.

Kain Menu         Config Mode           Name         I-Drive           Channels         I-Drive           Mute-Top         Index           Mouse         Index           Reboot Device         Factory Reset           Calibrate Joystick         Index		12 AM イロネ目
Channels Multi-Top Mouse Reboot Device Factory Reset	Kain Menu Config	g Mode
Multi-Top Mouse Rebort Device Factory Resot	Name	i-Drive
Mouse Rebot Device Factory Reset	Channels	)
Reboot Device Factory Reset	Multi-Tap	)
Factory Reset	Mouse	)
	Reboot Device	
Calibrate Joystick	Factory Reset	
	Calibrate Joystick	)
Calibrate Chair	Calibrate Chair	>

2. Make channel assignments.

•••• Verizon LTE	9:04 AM	7 <b>0</b> \$ 🗰
Config Mode	Channels	Save
Channel 1 (DISCO	NNECTED)	None >
Channel 2 (DISCO	NNECTED)	None >
Channel 3 (DISCO	ONNECTED)	None >
Channel 4 (DISCO	NNECTED)	Mode >
Channel 5		Prop Fwd/Rev >
Channel 6		Prop Left/Right >

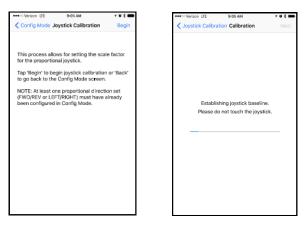
Ensure at least one channel is assigned to Prop Fwd/Rev or Prop Left/Right.

If Proportional Forward/Reverse is assigned:

- 1. Tilt the joystick full forward until the time bar expires.
- 2. Tile the joystick full reverse until the time bar expires.

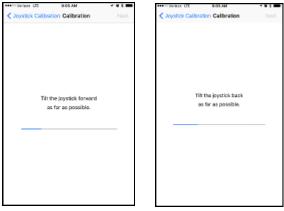
If Proportional Left/Right is assigned:

- 1. Tilt the joystick full left until the time bar expires.
- 2. Tilt the joystick full right until the time bar expires.
- 1. After assignments have been made, select Begin.



Allow the joystick to return to rest position. Wait for the time bar to expire.

Tilt and hold the joystick full throw in the requested directions until the time bar expires.





Joystick calibration is now complete. The app will return to the configuration screen.

#### **Calibration Verification**

To verify the calibration of a joystick, first disengage the wheelchair motors. Enter *Diagnostic* mode.

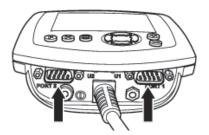
Move the joystick and verify that the diagnostic bars mirror the motion of the joystick.

To verify chair calibration, drive the chair and ensure that it drives as expected.

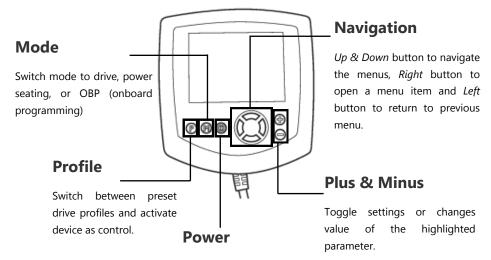
The i-Drive plugs into the 9 pin port on the power chair's control interface. The location of the port depends on the manufacturer of the interface. Follow the instructions for your interface manufacturer in these next sections.

# R-Net<sup>™</sup> Omni Setup

11.1







Turns chair ON/OFF.



An R-Net<sup>™</sup> Programming Dongle is required.

#### 🛦 WARNING

Please manually disengage both drive motors before utilizing the *Setup Wizard*, *Diagnostics*, and *Config*. If motors are not disengaged, the chair could move during setup.

#### Setup

1. Power off the chair with the power button on the joystick or display.

**DANGER** Disengage the motors before programming the chair.

- 2. Connect the R-NET programming dongle into the system.
- 3. Ensure all the cords for the display are properly connected to the chair.
- 4. Connect i-Drive Alternative Control into *Port 1* or *Port 2* on the bottom of the display with 9 pin connector.
- 5. With the chair powered off, open up the app on a Bluetooth enabled device and log in using the email and password provided to you. Power the chair on and connect to the application.
- 6. Press the *Mode* 'M' button until you enter the *OBP* menu.
- In the OBP menu, navigate with the Up & Down buttons <sup>A</sup>
   to the Omni menu option and select with the Right button. Σ
- In the Omni menu, navigate with the Up & Down buttons <sup>↑</sup> to Profiled and select with the Right button. <sup>D</sup> Ensure your chair is programmed for the port your i-Drive is connected to.
- 9. In the Omni menu, navigate to the port you have the i-Drive connected to (Port 1 or Port 2).
- 10. In the *Port* menu, navigate with the *Up* & *Down* buttons  $\stackrel{\bullet}{\forall}$  to *SID*, toggle to *Prp*, and with the *Right* button,  $\Sigma$  select. For 3 switch head array applications, set SID to 3-Prp.
- 11. Press the Left button  $\Box$  to back out of the OBP menu. Scroll down to Systems and select with the Right button.  $\Sigma$
- Scroll down to *Joystick Calibration* and with the *Right* button, ∑ select. After you select *Joystick Calibration*, toggle with the *Up* & *Down* buttons to the port you have the i-Drive plugged in to. After you select, your chair will automatically go in to calibration mode. The chair display will ask you to move the chair joystick forward.
- 13. Go to the i-Drive application on the Phone/Tablet/PC Device. Select *Config Chair* tab. Select *Calibrate Chair*. Click *Okay*.

- 14. Wait until the calibration finalizes. Your chair display will show a green checkmark meaning calibrations was a success.
- 15. On the Omni display you will need to exit the *OBP* menu and power the chair off. Now you will be able to set up the chair as required.
- 16. Check your configuration on the *Diagnostics* tab. If all is working correctly, your i-Drive is ready for use. Re-engage your motors.

\*Any configuration with 4 directions, such as Tray Array, 5-Switch Head Array, Head Array Sip & Puff combo, PMPJ-1, the *Active Device, Input Configuration,* or *SID* will be set to *Proportional.* 

# Q-Logic<sup>™</sup> Setup

12.0

# **Bookmark Buttons**

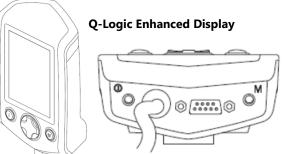
Select *Options* in the main menu. Button actions are displayed on screen above corresponding buttons. In other menus, hold button to *Bookmark Settings*, and press button to quickly go to bookmark.

# Plus & Minus

Toggle settings or changes values of the highlighted parameter.

# **Help Button**

Displays information about options selected on screen.



4

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(1) ☆ 10

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NOTE: Q-Logic<sup>™</sup> Enhanced Display and Q-Logic<sup>™</sup> Handheld Programmer required.

# Navigation

Arrows navigate the main menu. *Up & Down* to navigate the menus, *Right* to open a menu item and *Left* to return to the previous menu.

# 🛦 WARNING

Please manually disengage both drive motors before utilizing the *Setup Wizard*, *Diagnostics*, and *Config*. If motors are not disengaged, the chair could move during setup.

### Setup for Q-Logic 2

1. Power off the chair with the power button on the joystick or display.

# **DANGER** Disengage the motors before programming the chair.

- 2. Ensure all the cords for the display are properly connected to the chair.
- 3. Connect the i-Drive Alternative Control into the port on the bottom of the display with the 9-pin connector.
- 4. With the chair powered off, open up the app on a Bluetooth enabled device and log in using the email and password provided to you. Power the chair on and connect to the application.
- 5. Plug in the Q-Logic Programmer to the back of the Q-Logic Display.
- 6. On the Programmer, select the *Program Adjustment* option.
- 7. In the *Program Adjustment* menu, navigate with the *Up* & *Down* buttons  $\clubsuit$  to the *Specialty Control* option and with the *Right* button,  $\Sigma$  select.
- In the Specialty Control menu, navigate with the Up & Down buttons ♦ to Active Device and toggle with the Plus & Minus buttons ± to Proportional Head 3-Direction.
- With the Up & Down buttons, <sup>A</sup>/<sub>∇</sub> scroll down to Proportional Head-3 Direction folder. With the Right button, <sup>D</sup> select and enter folder. Scroll down to Joystick Setup folder and select.
- 10. In the *Joystick Setup* menu, with the *Up* & *Down* buttons, <sup>▲</sup> scroll down and select *Calibrate.* Select *Okay*.

- 11. The Q-Logic programmer will read, *Roll around joystick in two full circles*.
- 12. Go to the i-Drive application on the Phone/Tablet/PC Device. Select *Config Chair* tab. Select *Calibrate Chair*. Click *Okay*.
- 13. Wait until the calibration finalizes, then select *Okay* with the Q-Logic programmer and verify the calibration was successful. (If calibration was not successful, power off the chair and repeat *Steps 5-12.)*
- 14. Return to the Main Menu and exit the Q-Logic programming.
- 15. Unplug the Q-Logic handheld programmer.
- 16. Power chair off.

# 🛦 WARNING

Powering off the chair completely before operation is mandatory.

- 17. The chair is now programmed to recognize the i-Drive. Power the chair back on.
- 18. Check your configuration on the diagnostics tab. If all is working correctly, your i-Drive is ready for use. Re-engage your motors.

# Setup for Q-Logic 3

1. Power off the chair with the power button on the joystick or display.

**A DANGER** Disengage the motors before programming the chair.

- 2. Ensure all the cords from the display are properly connected to the chair.
- 3. Connect the i-Drive 9-pin connection into the port on the bottom of the Enhanced Display.
- 4. With the chair powered off, open the i-Drive mobile app on a Bluetooth enabled device and log in using the email and password provided to you. Power the chair on and connect to the application.
- 5. Plug the Q-Logic Programmer into the back of the Q-Logic display.
- 6. On the Programmer, navigate to *Program Adjustments,* and with the *Right* button,  $\Sigma$  select.
- 7. In the *Program Adjustments* option, navigate to *Enhanced Display* and select.
- In the Enhanced Display menu, navigate with the Up & Down buttons 
   <sup>†</sup> to Input Configuration. Set this to 3 Direction Proportional Head Switch Operation.
- 9. With the *Left*  $\square$  navigation button, go back into the *Enhanced Display* folder.
- 10. With the *Up* & *Down* buttons  $\frac{A}{\nabla}$  scroll down to the *Proportional Input* folder and with the *Right* button  $\Sigma$  select.
- 11. In the Proportional Input folder, using the Up & Down buttons, <sup>†</sup> select Proportional Calibration, followed by OK. The programmer will read "Roll around joystick in two full circles".
- 12. On your i-Drive mobile app, go to Config Mode, then Calibrate Chair.
- 13. Note the warning that will appear and then select, *Okay*. The app will now begin calibration on its own. Once complete, the app will return to Config Mode on its own.
- 14. Select *OK* with the Q-Logic programmer and verify that calibration was successful.
- 15. Exit the programming, unplug the programmer, and cycle power.
- 16. Check your configuration on the Diagnostics tab of the app. If all is working correctly, your i-Drive is ready to use.
- 17. Re-engage the motors.

# Q-Logic<sup>™</sup> Drive Control System Further Configuration 12.3

# Back Pad Toggle

If you want to disable or enable the back pad's ability to toggle into forward and reverse:

- 1. Reconnect the Q-Logic Handheld Programmer. Follow Steps 1-7 from Setup.
- 2. On the Q-Logic Programmer, select the *Program Adjustments* option.
- 3. In the *Program Adjustments* menu, navigate with the *Up* & *Down* buttons  $\frac{A}{\nabla}$  to *Specialty Control,* and with the *Right* button,  $\Sigma$  select.
- In the Specialty Control menu, navigate with the Up & Down buttons <sup>↓</sup> to Proportional Head 3-Direction, and with the Right button, ∑ select.
- In the 3 Switch Head menu, navigate with the Up & Down buttons <sup>A</sup>/<sub>∇</sub> to Back Switch Toggle and select with the Right navigation button. Σ
- 6. In the *Back Switch Toggle* menu, navigate with the *Up* & *Down* buttons ♦ to *m*: *Back Toggle* and with the *Plus* & *Minus* buttons ±, toggle to *Enable*. This will implement the *forward/ reverse* toggle with the back pad, or with the *Plus* & *Minus* buttons ±, toggle to *Disable* to disable toggle.
- 7. After configuring the back pad, disconnect the Q-Logic<sup>™</sup> Programmer and restart the chair's electronics (follow *Steps 10-13*), or continue to configure other operations.

# Side Pad Toggle/Control

To disable or enable *Mode* switching with the side pad:

- 1. Reconnect the Q-Logic Handheld Programmer (follow Steps 1-7 from Setup).
- 2. On the Q-Logic Programmer, select the *Program Adjustments* option.
- 3. In the *Program Adjustments* menu, navigate with the *Up* & *Down* buttons  $\oint$  to *Specialty Control* and with the *Right* button,  $\mathcal{D}$  select.
- 4. In the Specialty Control menu, navigate with the Up & Down buttons  $\frac{1}{2}$  to Proportional Head 3-Direction and with the Right navigation button,  $\Sigma$  select.
- In the 3 Switch Head menu, navigate with the Up & Down buttons <sup>A</sup>
   <sup>A</sup>
   to Device Options/ Timing and select with the Right button. 
   <sup>D</sup>
- 6. In the *Device Options/Timing* menu, with the *Up* & *Down* buttons, ♥ navigate to *m:Device Double Command* and with the *Plus* & *Minus* buttons ± toggle to *Enable*. This will set up the mode switch with the side pad, or with the *Plus* & *Minus* buttons ± toggle to *Disable* to disable the mode switch.
- 7. After configuring the back pad, disconnect the Q-Logic<sup>™</sup> Programmer and restart the chair's electronics (follow *Steps 10-13* from *Setup*), or continue to configure other operations.

### **Egg Switch Function**

If you would like to change the function of the egg switch to *Mode* or *Toggle Forward* and *Reverse*:

- 1. Reconnect the Q-Logic Handheld Programmer (follow Steps 1-7 from Setup).
- 2. On the Q-Logic Programmer, select *Program Adjustments* option.
- 3. In the *Program Adjustments* menu, with the *Up* & *Down* buttons,  $\stackrel{\clubsuit}{\bullet}$  navigate to *Specialty Control* and select with the *Right* button.  $\Sigma$
- 4. In the Specialty Control menu, navigate with the Up & Down buttons  $\blacklozenge$  to Proportional Head 3-Direction and with the Right button,  $\Sigma$  select.
- 5. In the Proportional Head 3-Direction menu, navigate to Switch Options/Timing with the Up & Down buttons ♦ and select with the Right button. Σ
- 6. In the Switch Options/Timing menu, navigate with the Up & Down buttons ♦ to m:Mode Jack Switch Type and toggle with the Plus & Minus buttons ± to Mode to enable mode switch with the egg switch, or Toggle for forward/reverse toggle.
- 7. After configuring the back pad, disconnect the Q-Logic<sup>™</sup> Programmer and restart the chair's electronics (follow *Steps 10-13* from *Setup*), or continue to configure other operations.

# i-Drive Advanced Programming Software

The i-Drive's Advanced Programming Software is not required to operate the drive control, but is available to ensure a customized fit and driving experience. Programming the i-Drive is simple. By connecting a tablet or smartphone and using the i-Drive Advanced Programming Software application you can:

- Dynamic Channel Assignment- any port can control any of the outputs
- Adjust Activation Proximity– Change the range of motion required for switch activation
- Provide an adjustable double tap feature that extends chair double tap limits
- Configuration– Programmed by Bluetooth or PC

# **Getting Started**

The first step to begin use of the i-Drive 4.0 is downloading the software. The link to download the software is listed on page 33. If there are any difficulties obtaining the software, contact Stealth Products, LLC.

After the software has been installed onto your device, you can begin utilizing the Advanced Programming Software. Launch the "i-Drive Programmer" application on your device, and with the provided USB to Mini-USB cable, connect the i-Drive to your PC or Tablet. Allow time for the i-Drive to make a full connection with your computer.

# Downloading the i-Drive Software

To program the i-Drive from your PC, the Advanced Programming Software<sup>™</sup> will need to be downloaded from the Stealth Products website:

https://stealthproducts.com/idrive/download/

The USB interface enables an external device to communicate with i-Drive with the use of a virtual communications port. There is no authentication requirement to gain access.

13.2

13.0

The Bluetooth interface enables an external device to communicate with the i-Drive via a secure Bluetooth connection.

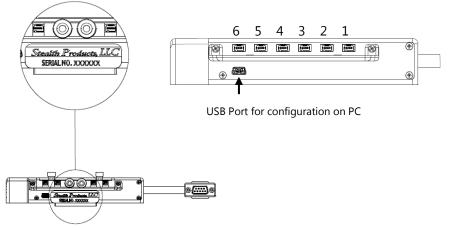


\*PC views shown.

### 🛦 WARNING

To ensure security on your i-Drive, contact Stealth Products to obtain your user name and password for the software.

In order to connect to the i-Drive to the software, the serial number from the interface must be entered. The figures below indicate the location of the serial number on the interface and the location for the USB Port.



# **Connecting To The i-Drive**

# 13.4

After adequate time is given to allow the i-Drive to connect to your computer and you have launched the application, click the *Connect* button.



# NOTICE

If may be required to change the *COM* in the drop-down menu next to the *Connect* button.

# NOTICE

When the i-Drive is connected to the software, the serial number of the interface, the firmware version of the software, and the system voltage should appear on the bottom of the screen.

# NOTICE

An incorrect serial number will not allow for proper communications and diagnostics for end user.

# **Running The Setup Wizard**

The *Setup Wizard* will guide you through the initial configuration and channel assignment of the i-Drive. To begin the *Setup Wizard*, click the *Setup Wizard* button on the left of the screen.

### Setup Wizard Feature

The *Setup Wizard* will guide you through the initial port configuration and channel assignment of the i-Drive. A window will pop-up on the screen and walk you through a 7 step setup process. Follow the instructions on the screen or push *Cancel* to quit the setup.



# i-Drive Configuration Settings

To begin the configuration, click the *Config Mode* button on the left of the screen.

# **Configuration Feature**

*Configuration* allows you to adjust the way the i-Drive activates and allows you to fine tune the function and sensitivity of the sensor/joystick/chair.

# Help I-Drive@ Configuration A Sensor Channels Double Tap Settings B Sensor Channel Assignment: Image: Channel 5 Channel 3 Channel 1 Channel 6 Channel 5 Channel 4 Channel 2 Channel 1 Channel 0 Channel 5 Channel 4 Channel 2 Channel 1 Contig Mode Orf Max Channel 6 Control Disconned Off Max Channel 6 Control

- A. Sensor Channels Tab- Navigates to the Sensor Channels menu
- B. Double Tap Settings Tab- Navigates to the Double Tap Settings menu
- C. Reboot Device Button- Reboots the i-Drive
- D. Factory Reset Button- Resets all settings to factory default
- E. Save Settings Button- Saves your settings

# **Configuration: Sensor Channels**

- 1-Diagram shows channel switches and channels currently in use
- 2-Drop down menus that allow you to assign function to each channel
- 3-Channel Deadband slider that allows sensitivity change of deadband
- 4-Changes the channel of which the deadband has been adjusted

# NOTICE

Channels that are not being used will appear in red on the screen.

Be sure to save your settings with the *Save Settings* button after all the desired changes have been made.

	1	
Help		<i>i-Drive® Configuration</i> Current Configuration Profile: not loaded
	Sensor Channels Double Tap Settings	
	Sensor Channel Assignment:	
		Rebot Device Factory Reset
Setup Wizard		annel 1 Save Settings
Diagnostics	Left v Forward V Mode v (none) V Reverse V Rig	ht _
Config Mode	Channel Deadband: Off Max	Channel 6 V
		4 Save Profile
	3	4
Disconnect		Quit

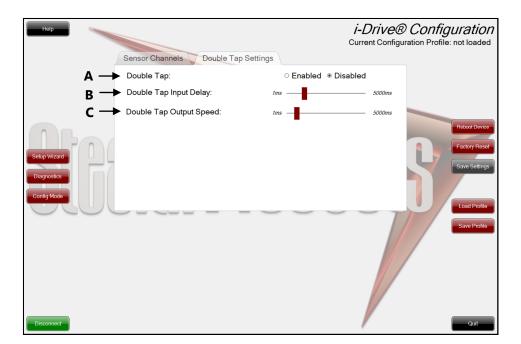
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# **Configuration: Double Tap Settings**

- A. *Double Tap*-Enabling Double Tap allows for adjustment of Double Tap input and output timing
- B. Double Tap Input Delay- Amount of time for Double Tap command capture
- C. *Double Tap Output Speed* Time period between Mode output pulses. This value should match the Double Tap Input Timing of the chair



# NOTICE

It is recommended to use *Calibrate Double Tap* option in the *Diagnostics* to get a properly timed double tap setting for the user.

# **Running Real Time Diagnostics**

To begin the *Diagnostics*, click the *Diagnostics* button on the left of the screen.

- A. Mode Switch activation
- B. Left, Right, Forward & Reverse activation
- C. Corresponding i-Drive port when switch is pressed
- D. Double Tap Calibration

# **Diagnostics** Feature

With real time *Diagnostics*, you are able to observe pad behavior as the head array is activated by the user. This is useful to fine tune the i-Drive and confirm it is operating properly.

# **A**CAUTION

Double Tap needs to be enabled in the *Configuration* menu *Double Tap Settings* before *Double Tap Calibration* can be used.



13.0

# **Help Feature**

Clicking the *Help* button will activate help. When *Help* is active, the help button will be green and a question mark (?) will be displayed next to your cursor. With *Help* active, clicking buttons and menu items will pop up with an explanation of what the clicked object is and how it can be utilized. To disable *Help*, click on the *Help* button again.



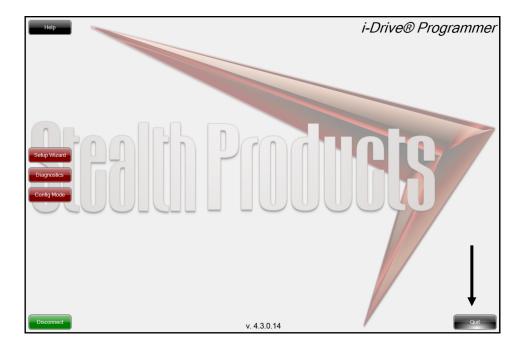
NOTICE

The Help button will appear black when inactive and green when active.

Advanced Programming Software

# Closing the i-Drive Programming Software 13.1.1

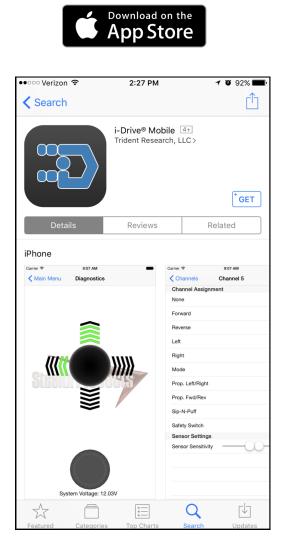
When you are finished configuring the i-Drive, you can click on the *Quit* button on the bottom right of the screen to close the application.



# Downloading the i-Drive *Bluetooth*® Application

For iPhone<sup>®</sup> Users:

- Search, "Trident Research, LLC" in the Apple<sup>®</sup> App Store<sup>®</sup>
- Install the App and then "Open" once App has been successfully installed on your phone.

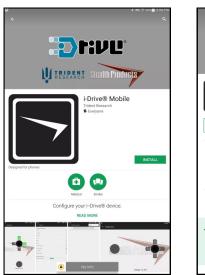


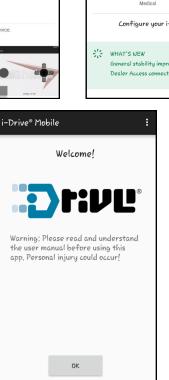
14.1

### For Android Users:

- Search "Trident Research, LLC" in the Play Store
- Select "Install" and then "Open" when the App has been successfully installed on your phone.









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# **Opening the i-Drive App**

- A battery, battery charger, dongle cable, and a 9-pin pig tail plugged into the USB port on the interface is required in order to connect the i-Drive to your phone.
- 1. To Log In, enter the User Name and Password assigned to you.
- 2. When the Main Menu appears, *Connect* to the i-Drive device (*Figure 1*).
- 3. Your Bluetooth® device will search for the i-Drive device.
- 4. When you have successfully logged in and the App has located the i-Drive device, new options will appear in the *Main Menu: Config Mode, Diagnostics,* and *About (Figure 2).*

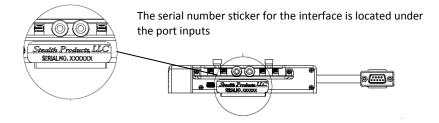
# NOTICE

Ensure your phone or wireless device has the *Bluetooth*<sup>®</sup> option turned on.

Disconnected >
Log Out
> Config Mode
Diagnostics
About



Figure 2



# **Config Mode**

- 1. In the *Main Menu*, Select *Config Mode (Figure 3)*. Like the Advanced Programming Software on your PC or tablet, channel assignments, double tap settings, and other sensor settings are adjusted here.
- 2. Under the *Name* section, you have the option of renaming your i-Drive. Changing the name of your i-Drive will require a power cycle.

Name	i-Drive	◀
Channels	>	
Multi-Tap	>	
Mouse	>	
Reboot Device		
Factory Reset		
Calibrate Chair	>	

Figure 3

### **Channel Assignment**

- 1. Select the *Channels* tab under the *Config Mode* option in the App (*Figure 4*).
- 2. The *Channels* tab view shows the standard channel assignments on the i-Drive device, and any channels that are disconnected from the device.
- 3. To assign a function to each channel, select the channel you are wishing to modify.

Config Mode Channels	Save
Channel 1	Right >
Channel 2 (DISCONNECTED)	Reverse >
Channel 3 (DISCONNECTED)	None >
Channel 4 (DISCONNECTED)	Mode >
Channel 5	Forward >
Channel 6	Left >

### **Channel Assignment Settings**

- 1. Within the channel option chosen, you will see a list of modifications and assignments that can be made to the channel.
- 2. To select the assignment for the channel, click on the assignment. To go back to the channel options, click back on the upper left hand corner.
- 3. Under the *Sensor Settings* header, the sensitivity of the sensor connected to the device can be adjusted. Slide your finger to the left or to the right to increase or decrease the sensitivity.
- 4. After channel assignments have been made, in the *Channels* tab, all of the selections will appear to the right of the channel they have been assigned to (*Figure 6*). If the channels are to the correct assignments, select *Save* in the top right hand corner.
- 5. Select back in the top left hand corner to go back to the *Main Menu*.

Channels Channel 1	Config Mode Channels Save
Channel Assignment	Channel 1 Right >
None	Channel 2 (DISCONNECTED) - Reverse >
Forward	Channel 3 (DISCONNECTED) None >
Reverse	Channel 4 (DISCONNECTED) Mode >
Left	Channel 5 Forward >
Right	
Mode	Channel 6 Left >
Prop. Left/Right	
Prop. Fwd/Rev	
Sip-N-Puff	
Safety Switch	
Tongue Touch	
Sensor Settings	
Sensor Sensitivity	-

Figure 5

Figure 6

### **Multi-Tap Setting**

- 1. To activate the Multi-Tap function, select *Multi-Tap* in the *Config Mode* menu.
- 2. Under the *Multi-Tap* setting, *Input Delay* and *Output Speed* can be adjusted. Move the cursor to the right or left to make adjustments. (*Figure 7*)
- 3. When adjustments have been made, select the *Save* option in the upper right hand corner.

Name	i-Drive	
Channels		>
Multi-Tap		>
Mouse		>
Reboot Device		
Factory Reset		
Calibrate Chair		>

Config Mode	Multi-Tap	Save
Multi-Tap		$\bigcirc$
Input Delay	-0	1 sec
Output Speed	-0	0.50 sec

Figure 7

### Diagnostics

- 1. After channel assignments and any other modifications necessary have been made, go back to the *Main Menu*.
- 2. Select *Diagnostics* in the *Main Menu*.
- Test the assignments on your i-Drive device by activating each channel. When the direction assigned to the channel has been activated, the direction should light up in green. (Figure 8)
- 4. After the diagnostics have been tested, select back in the top left hand corner to go back to the *Main Menu*.
- 5. After all updates to the interface have been made, exit the App.

М	ain Menu
Connect	i-Drive >
Log Out	
Config Mode	>
Diagnostics	>
About	>

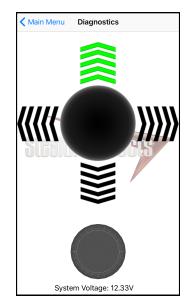


Figure 8

# **Programming Seating Functions**

# **R-Net**

To setup the chair's seating functions, follow the instructions below:

- 1. Reconnect the R-Net programming dongle.
- 2. On the Omni display, enter into the *OBP* menu.
- In the OBP menu, navigate with the UP & Down buttons <sup>A</sup>
   and select Omni with the Right button. Σ
- 4. In the Omni menu, select Port 1 or Port 2 with the Right button.  $\Sigma$
- 5. After selecting the port, select *Controls*.
- 6. Once in the Controls menu, select Actuator Axis and switch to either L/R or R/L.

# NOTICE

The left/right pads on the headrest control the seating. One side will toggle between seat functions while the other side will activate the function and toggle directions.

# Q-Logic

When the option of *Proportional Head-3 Direction* is chosen during the setup of the chair, seating functions will automatically default to *left/right* and the back pad will be deactivated. By double tapping the left pad, mode settings can be chosen.

No further programming will be needed.

Our products are designed, manufactured, and produced to the highest of standards. If any defect in material or workmanship is found, Stealth Products will repair or replace the products at our discretion. Any implied warranty, including the implied warranties of merchantability and fitness for a particular purpose, shall not extend beyond the duration of this warranty. Stealth Products, LLC does not warrant damage due to, but not limited to:

- Misuse, abuse, or misapplication of products.
- Modification of product without written approval from Stealth Products, LLC.
- Any alteration or lack of serial number, where applicable, will automatically void this warranty.
- Stealth Products, LLC is liable for replacement parts only.
- Stealth Products, LLC is not liable for any incurred labor costs.

No person is authorized to alter, extend, or waive the warranties of Stealth Products, LLC.

Stealth Products warrants against failure due to defective materials or workmanship:

Covers: 2 years

Hardware: 5 years

Electronics: 3 years

# In Case of Product Failure

In the even of product failure covered by our warranty, please follow the procedures outlined below:

- 1. Call Stealth at +1 (512) 715-9995 or toll free +1-800-965-9229.
- 2. Request the Returns Department or obtain an RA from the Returns Department and follow department or documentation instructions.

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