



i-Drive[®] 4.0

Stealth's User Manual and Maintenance Guide for i-Drive 4.0 Alternative Control with *Bluetooth*[®] Wireless Technology



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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CE

General

Read and understand all instructions prior to the use of the product. Failure to adhere to any recommendations and warnings in this document may result in property damage, injury, or death. Product misuse due to failure of following any instructions will void the warranty.

Immediately discontinue use if any function is compromised, parts are missing, loose, or shows signs of excessive wear. Consult with your supplier for repair, adjustment, or replacement.

If this document contains information you do not understand, or there are concerns about safety or operation, contact your supplier.

Google, the *Google Logo* and *Google Play Logo* are registered trademarks of Google Inc. *Apple Logo* and the *AppStore Logo* are registered trademarks of Apple Inc.

The *Bluetooth*[®] word mark and logos are registered trademarks owned by Bluetooth SIG, Inc. and any use of such marks by Stealth Products, LLC is under license. Other trademarks and trade names are those of their respective owners.

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 user manual contains programming instructions and statements that are meant to be followed by a certified ATP or trained technician.

Supplier Reference

Supplier:
elephone:
Address:
Purchase Date:
Aodel:

Before you install or begin using this product, it is important that you read and understand the content of this user manual and its warnings. This user manual will guide you through the options and possibilities with the product.

Information in this manual is written with the expressed intent of use with standard configurations. They also contain important safety and maintenance information, as well as describe possible problems that can arise during use. For further assistance, or more advanced applications, please contact your supplier or Stealth Products at (512) 715-9995 or toll free at 1-800-965-9229.

Always keep the user manual in a safe place so it may be referenced as necessary.

All information, pictures, illustrations, and specifications are based on the product information that was available at the time of printing. Pictures and illustrations shown in this manual are representative examples and are not intended to be exact depictions of the various parts of the product.

CAUTION

These products are designed to be fitted, applied, and installed exclusively by a health care professional trained for these purposes. The fitting, application and installation by a non-qualified individual could result in serious injury.

Ordering Documentation

You can download additional copies of this user manual on the Stealth website:

https://stlpro.site/stealth-docs

and search: *i-Drive 4.0 User Manual* in the search bar at the top of the page.

Warranty

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 product 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 event 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.

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

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Warning Labels

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 imminent situation which (if not avoided) will result in severe injury , death , and property damage .
A WARNING	Identifies a potential situation which (if not avoided) will result in severe injury , death , and property damage .
A CAUTION	Identifies a potential situation which (if not avoided) will result in minor to moderate injury , and property damage .
NOTICE	Identifies important information not related to injury, but possible property damage .
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 information 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 should always be programmed and tested without any person sitting in the wheelchair until every alteration of the physical installation or adjustment is complete.

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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.

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 9.2

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.

9.3

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.

Features

10.2

- Bluetooth[®] Programming App with full wireless programming capabilities.
- Smart Input Connections-sensors and mechanical switches can now be placed at any port.
- Easy interface exchange capability
- Real-time diagnostics data



NOTICE

Existing dongles will not work with the new 4.0 interface, however 4.0 dongles will work with the 3.0 interface.

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.



The i-Drive 4.0 has the capability of taking inputs from mechanical switches, proximity sensors, fiber optic sensors, joysticks, and Sip & Puff modules (all which can be configured by a certified technician). With the new i-Drive interface, there is the capability of running diagnostics with the associated Advanced Programming Software from your PC by using the supplied USB cable, and now also includes the option to download the i-Drive App and program the interface directly from your phone via *Bluetooth*[®] wireless technology.

NOTICE

The software will not read correctly if a non Bluetooth[®] dongle is plugged into a port. Any dongle plugged into the interface MUST be Bluetooth[®].

NOTICE

All connectors have blue heat shrink on the cord for visual reference and easy recognition.

11.2

Parts And Accessories

i-Drive 4.0 Packages Available

Part Number	Description
IDHBT200-1	i-Drive Tri-Array Head Support, includes 3 Proximity Sensors, non-proportional, with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT210-1	i-Drive Tri-Array Head Support with Sip & Puff, includes 3 Proximity Sensors, with egg switch for reset mode and i-Drive Bluetooth $^{\circledast}$ Interface
IDHBT250-1	i-Drive Pediatric Tri-Array Head Support, includes 3 Proximity Sensors, non-proportional with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT260-1	i-Drive Pediatric Tri-Array Head Support with Sip & Puff, includes 3 Proximity Sensors, non-proportional, with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT300-1	i-Drive Pro Series Head Support, includes 3 Proximity Sensors, occipital pad, swing away hardware for left and right side, 2 spot pads with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT310-1	i-Drive Pro Series Head Support with Sip & Puff, includes 3 Proximity Sensors, non-proportional, with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT350-1	i-Drive Pediatric Pro Series Head Support, includes 3 Proximity Sensors, non-proportional, with egg switch for reset mode change and i-Drive Bluetooth [®] Interface
IDHBT360-1	i-Drive Pediatric Pro Series Head Array with Sip & Puff, includes 3 Proximity Sensors, non-proportional, with egg switch for reset mode change and i-Drive Bluetooth [®] Interface

Replacement/Additional Parts Available

Part Number	Description
IDHBT500-17MM	i-Drive Bluetooth [®] Interface for 17mm Ball Mount
IDHBT500-1	i-Drive Bluetooth [®] Interface for 1" Ball Mount
IDHBT500	i-Drive Bluetooth [®] Interface

• All packages include 2 mono plug dongles, an extension cable, and a USB cable

11.0

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 7. 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[™] 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.

12.2

12.3

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



*PC views shown.

In order to connect to the i-Drive to the software, the serial number from the interface must be entered. The figure below indicates the location of the serial number on the interface.



Connecting To The i-Drive

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.



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. Ensure the operating system is operating properly.

ACAUTION

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



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.

Closing the i-Drive Programming Software

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 13.1

For iPhone[®] Users:

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

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System Voltage: 12.0)3V	O 🖓
Featured Categories	[★—] Top Charts	Search Updates

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.







AT&T Wi-Fi ᅙ

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. Open the app on your wireless device.
- 2. The Dealer Access Login window will appear on the screen. This login information is for a certified therapist/technician. Select Cancel to exit the window. *(Figure 1)*
- 3. Another window will appear giving the notice that Diagnostics will only be available in this app. Select OK to exit the window. (*Figure 2*)

NOTICE

Ensure your phone or wireless device has the *Bluetooth*® option turned on.

Connect Log In About **Dealer Access Login** Please enter your username and password. Login Password ок Cancel е r t u i ο w У р q а s d f g h j k I С b n \otimes $\hat{\mathbf{O}}$ z х v m 123 ۲ Ŷ space return

11:14 AM

Main Menu

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Figure 1





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- 4. When the Main Menu reappears, select Connect on the screen. (Figure 3)
- Your device will search for the i-Drive. When it has located the device, the serial number will appear. Another window will appear notifying you that Diagnostics will only be available. Select OK to exit the window. (Figure 4)

•ःः AT&T Wi-Fi 🗢	11:15 AM	7 🛛 🖇 91% 🎞	•০০০০ AT&T Wi-Fi 🗢	11:15 AM 🕇 🗃 🕅
	Main Menu		🗙 Main Menu	Devices Detected
Connect		i-Drive >	PULL DOWN TO RESO	CAN
Log In			i-Drive	CF:A3:F1:B4:64:
Diagnostics		>		
About		>		
			_	
			You	Diagnostics Only will only be able to access agnostics until you log in. OK

Figure 3





The serial number sticker for the interface is located under the port inputs.

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.

Main M	enu
Connect	i-Drive >
Log Out	
Config Mode	>
Diagnostics	>
sbout	>





After the installation of the i-Drive, execute the following tests before the wheelchair is delivered or put into service:

- Operational Test
- Test Drive
- Stop Test

Operational Test

14.1

WARNING

Execute this test only on a level surface, in an open area free of obstacles.

- 1. Activate the wheelchair operating system.
- 2. Check for any error messages.
- 3. Apply pressure to the head pad/sensor/joystick, etc. designated for moving the chair in a forward motion until you hear the parking breaks switch off. The wheelchair may start moving.
- 4. Immediately release the pressure from the head pad/sensor/joystick, etc. You should hear the parking break react within a few seconds.
- 5. Repeat *Steps 3 & 4* three times, while carefully applying pressure to the device.
- 6. Check whether the double tap features function properly.

Test Drive

- Perform a test drive with the wheelchair.
- Check whether the wheelchair and all of its operations are fully functioning.
- Check that no cabling or parts may get damaged or hindered in any possible position of the wheelchair.

Dealer Assistance

During first time use by the client, it is advised that the dealer or service technician assists and explains the different drive configurations to the customer (the user and/or the attendant). If needed, the dealer can make final adjustments.

User Testing

It is important that the customer is fully aware of the installation of the i-Drive, how to use it, and what settings in the software or App can be adjusted in order to gain as much mobility as possible. As a dealer, proceed as follows:

• Explain and show the customer how you have executed the installation, and explain the functions that have been assigned to the device.

Have the user test all configurations of the device:

- Is the device being used by the client within easy reach and in an optimal position for the user?
- Can the user safely operate the wheelchair with minimal effort?

Conditions Of Use

The i-Drive 4.0 with *Bluetooth*[®] wireless technology is intended for use as installed by the dealer, in accordance to the installation instructions in this manual.

- The foreseen conditions of use are communicated by the dealer or service technician to the user and/or attendant during the first time use.
- If the conditions of use change significantly, please contact your dealer or a qualified service technician to avoid excessive wear and tear or unintended damage.

Care And Maintenance

Ensure the hardware you are using stays in working order by keeping it cared for and maintained.

- Keep electronics dry and out of the water.
- Periodically check the hardware for looses screws or worn parts. Replace or repair the parts as needed.
- To clean the aluminum, use a mild, nonabrasive household cleaner.
- On the hardware, lightly tighten set screws until they are snug, then tighten an extra quarter turn.
- Ensure strain relief is tight (slightly pull on power cord and ensure strain relief is tight).

🛦 WARNING

Do no overtighten set screws. Over tightening set screws will prevent hardware from functioning properly and could cause irreversible damage to the hardware.

Safety

Avoid getting electronics wet and working on electronics with wet or damp hands. This could cause minor to severe electrocution, resulting in personal injury and/or product damage.

▲ CAUTION

Periodically check Diagnostics for real-time data information to verify that all sensors are functioning properly.

Technical Data

The i-Drive Bluetooth Interface was tested and found to be in compliance with the required criteria and met the standards of IEC60601-1-2:2014 (Edition 4.0); RESNA WC-2:2009.

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