i-Drive Tray Array

Owner's Manual - Maintenance Guide
IDTF100-1 and IDTF100-2 Tray Arrays
with Fiber Optic Sensors

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Stealth Products is committed to 100% customer satisfaction. Your complete satisfaction is important to us. Please contact us with feedback or suggestions to help us improve the quality and usability of our products.

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EC	REP

MDSS GmbH
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General

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

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

All persons responsible for fitting, adjustment, and daily use of the devices discussed in the 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, and maintain our products according to our instructions on care and maintenance. The installation instructions will guide you through this product's options and possibilities.

Instructions are 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 (800) 965-9229.

Always keep the operating instructions in a safe place so they 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 these instructions 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 healthcare professional trained for these purposes. The fitting, application, and installation by a non-qualified individual could result in serious injury.

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** does not warrant damage due to, but not limited to: misuse, abuse, or misapplication of product, and/or modification of product without written approval from **Stealth Products, LLC.** Any alteration or lack of serial number, where applicable, will automatically void all warranty.

Stealth Products, LLC Is liable for replacement parts only.   **Stealth Products, LLC** is not liable for any incurred labor costs.

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

Covers: 2 years
Hardware: 5 years
Electronics: 3 years

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

Call **Stealth Products** at (512) 715-9995 or toll free at (800) 965-9229.

Request a Return Authorization (RA) form from the Returns Department and follow the documentation instructions.

You can download additional copies of this manual by accessing the Stealth website (*https://stlpro.site/stealth-docs*) and searching *"P137D599"* in the search bar at the top of the page.

Supplier Reference

Supplier:	
Telephone:	
Address:	
Purchase Date:	
Model:	

Warning Labels

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

⚠ **DANGER**	Identifies an **imminent** situation which, if not avoided, may result in **severe injury**, **death**, and **property damage**.
⚠ **WARNING**	Identifies a **potential** situation which, if not avoided, may result in **severe injury**, **death**, and **property damage**.
⚠ **CAUTION**	Identifies a **potential** situation which, if not avoided, may 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 instructions in this manual.
Stealth Products does not hold responsibility for final integration of final assembly of product to end user. **Stealth Products** is not liable for user death or injury.

Intended Use

An **i-Drive** tray array is intended for use as an alternative drive control solution for power wheelchairs. **i-Drive Tray Arrays** are uniquely beneficial to individuals who, due to poor tone or head control, would be otherwise unable to successfully operate other i-Drive configurations, such as the i-Drive head arrays.

i-Drive Tray Arrays are offered with capacitive and fiber optic proximity sensor options, as well as mounting solutions customized to maximize user comfort and accessibility.

Features

An **i-Drive Tray Array** offers:

* adjustable fiber optic proximity sensors;
* swing-away or locking mounts;
* and easy installation process; and,
* a hollow body to allow for unhindered cable configuration.

Mounting Options

i-Drive Tray Arrays are offered with the following mounting options:

* Gatlin 400 Series (eight locking positions)
* Gatlin 405 Series (three locking positions/swing-away)

The Gatlin 400 and Gatlin 405 Series will mount to the wheelchair via the ARM240 or the ARM250 mounting clamps. Further installation information can be found in each mounts manual folder.

Note: *All Eclipse trays come standard with the GAT419 tray mount. A GAT413 is available upon request.*
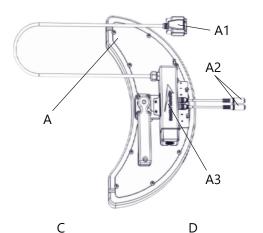
Fiber Optic Sensor Specifications
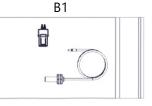
Weight	Approx. 20 grams
Differential Distance	20% max. of sensing distance
Sensor Type	Diffuse-reflective
Sensor Material	Nickel-Plated Brass
Ambient Temperature	-40°F to 158°F (-40°C to 70°C)
Ambient Humidity	35% to 85% with no condensation
Storage Temperature	-40°F to 158°F (-40°C to 70°C)
Operating Voltage Range	10-30 VDC
Cable Length	6 feet

IDTF100-1/IDTF100-2 Package Contents
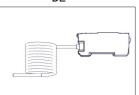
The IDTF100-1 and IDTF100-2 packages are comprised of the following parts:
- GAT400 Eclipse Tray (A) with:
  - Nine pin (DB9) Male/Female Extension, 5" (Not shown, extends A1)
  - Two Hirose Micro-Mini Interface Connector-to-Female Mono Input Dongles (A2)
  - Mounted i-Drive Interface (A3)
- (IDTF100-1:) Three Pre-installed Fiber Optic Sensors
  (IDTF100-2:) Four Pre-installed Fiber Optic Sensors (B1)
- (IDTF100-1:) Three Optic Amplifier Boxes
  (IDTF100-2:) Four Optic Amplifier Boxes (B2)
- Cable Cutting Device (B3)
- Egg Switch with Hook-and-Loop Application Patches (C)
- USB-to-MiniUSB Connector Cord (D)
- Hook-and-Loop Patches (E)

Preparations

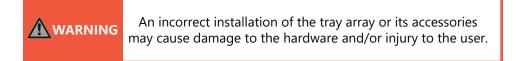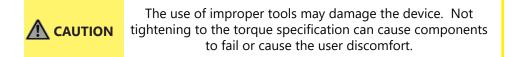Only a qualified service technician should install i-Drive tray arrays.

| ⚠ **WARNING** | An incorrect installation of the tray array or its accessories may cause damage to the hardware and/or injury to the user. |

Tools

Use the proper tools to install and adjust the i-Drive tray to the desired position for the user. Ensure all torque specifications are followed.

| ⚠ **CAUTION** | The use of improper tools may damage the device. Not tightening to the torque specification can cause components to fail or cause the user discomfort. |

Installation Plan

Set up an installation plan before beginning the installation. This plan should take into account:

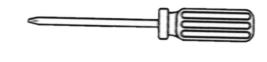- where the **i-Drive Tray Array** will be placed;
- how the tray array will be operated; and,
- the amount of necessary clearance for other hardware and accessories.

| ⚠ **WARNING** | Ensure the wheelchair is completely powered off before installing the **i-Drive Tray Array**. |

| ⚠ **CAUTION** | Connections should always be secured with all delivered screws. Only use the screws provided in the package. |

Required Tools

The tools required to install the IDTF100-1 and IDTF100-2 are:
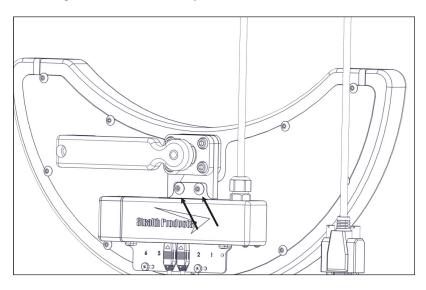
Tool:	Used on:
1/8" Hex Key	M5 x 0.8 x 6mm Button Head Screws (2)
5/32" Hex Key	#10-32 x 1" Socket Head Screws (4)
3/32" Hex Key	#6-32 x 7/8" Button Head Screws (10)
#1 Phillips Screwdriver	Phillips Head Screws (2)
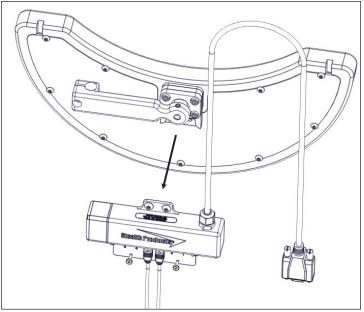
Note: Tools are not included in either IDTF package.

Installing the IDTF100-1/IDTF100-2
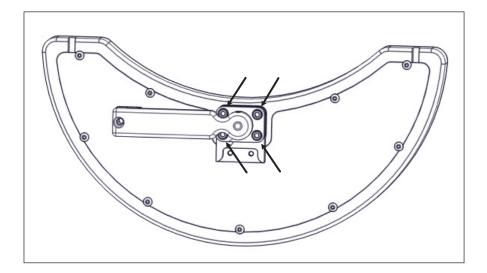
Step One: Prior to installation, carefully consider and select the ideal locations in the tray for the fiber optic sensors.
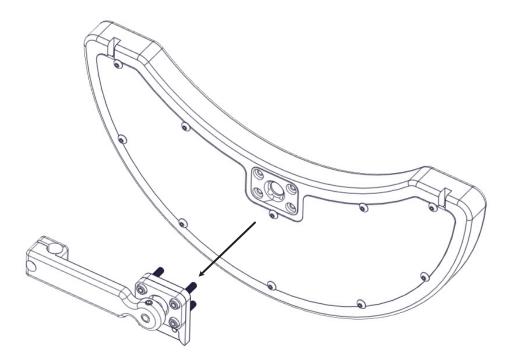
Step Two: Using the 1/8" hex key, loosen the two (2) M5 x 0.8 x 6mm button head screws attaching the i-Drive to the tray. Detach the i-Drive interface from the tray.
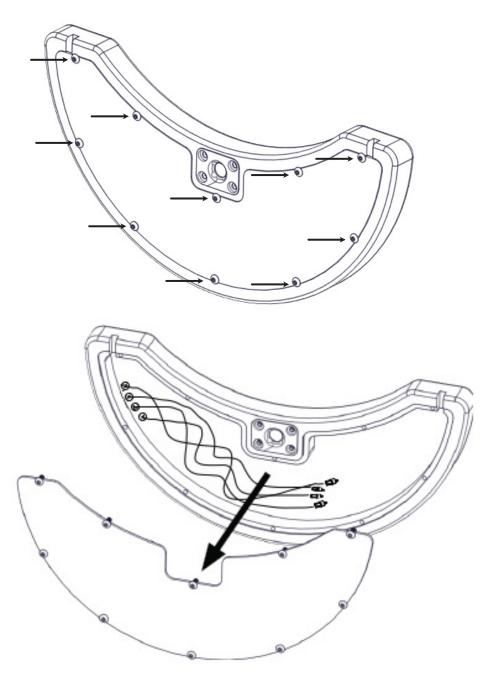
Step Three: Using the 5/32" hex key, loosen the four (4) #10-32 x 1" socket head screws attaching the tray mount to the tray. Detach the tray mount from the tray.
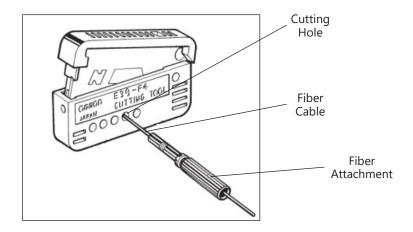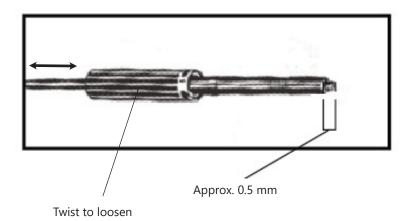
Step Four: Using the 3/32" hex key, loosen the ten (10) #6-32 x 7/8" button head screws attaching the back plate from the tray. Remove the back plate from the tray.

Step Five: Apply hook-and-loop patches to the places inside the tray chosen as amplifier box locations. One at a time, insert the fiber attachment end of each fiber cable into the appropriate hole of the cable cutting device. Press down on the blade with a single stroke to cut the fiber cable.

Cutting Hole

Fiber Cable

Fiber Attachment
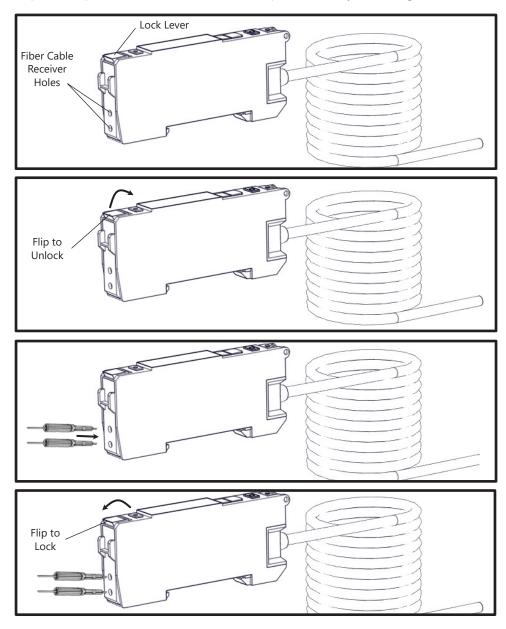
Step Six: In order to properly adjust the length of exposed fiber cable at the end of the attachment, loosen the fiber attachment by twisting the top portion only. Slide the fiber cable in or out until it extends roughly 0.5mm past the tip of the fiber attachment.

Approx. 0.5 mm

Twist to loosen

8
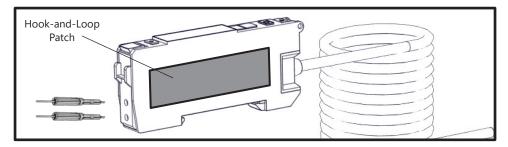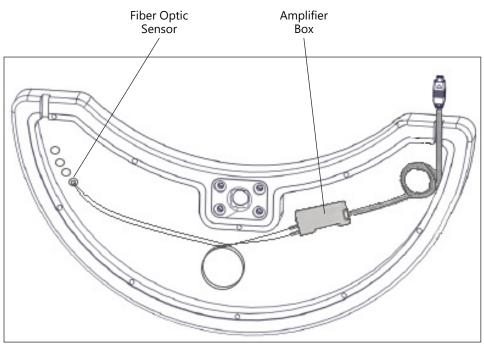
Step Seven: Select one amplifier box. Unlock the box by flipping the lock lever away from the fiber cable receiver holes. Insert the sensor's fiber cables into one of the receiver holes until it bottoms out; do not force the cables past this point. Lock the amplifier box by flipping the lock lever back to its original position. Repeat this process for each sensor and amplifier box in your configuration.

Lock Lever

Fiber Cable
Receiver
Holes

Flip to
Unlock

Flip to
Lock

Step Eight: Apply a hook-and-loop patch to the flat surface of each sensor.
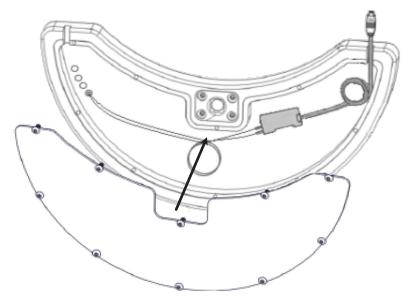
Step Nine: Using the hook-and-loop patches, affix each sensor to its pre-selected location. Ensure all cables are securely routed and each component has sufficient clearance. Feed the input cable of each amplifier box through the cable slots in the tray.
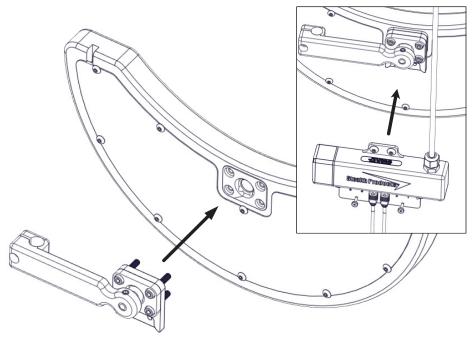
Note: It is recommended that excess cable be gently looped to avoid wear or fraying.

NOTE: Prior to installation of the cover in the next step, it is recommended to connect the sensors to the i-Drive interface and adjust the sensitivity of each sensor to achieve the desired response. Initial software configuration can be found in the section 'Software Configuration'. Future hardware sensitivity adjustments will require removal of the i-Drive interface and cover to access the amplifiers..
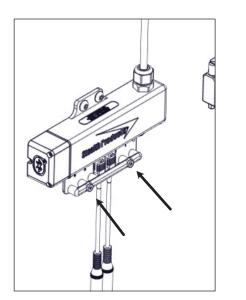
Step Ten: After positioning and adjusting the sensors, amplifiers, and cables, replace the back plate and tighten the ten (10) #6-32 x 7/8" button head screws.
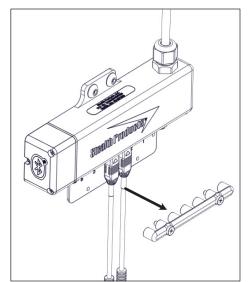
Step Eleven: Using the 5/32" hex key, install the four (4) #10-32 x 1" socket head screws, attaching the tray mount to the tray. Using the 1/8" hex key, install the i-Drive interface with the two (2) M5 x 0.8 x 6mm button head screws.
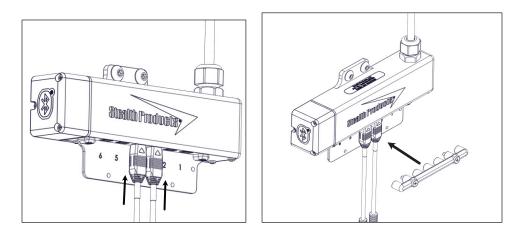
Step Twelve: Locate the two (2) Phillips head screws on the i-Drive's input plug bar. Using the #1 Phillips screwdriver, loosen both screws and detach the input plug bar from the i-Drive interface.
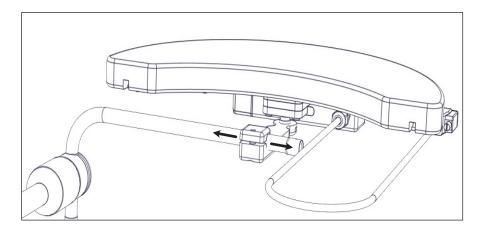
Step Thirteen: Plug the amplifier's input cables into the proper channels on the i-Drive interface and replace the input plug bar. Tighten both screws to secure it and the sensor plugs in place.
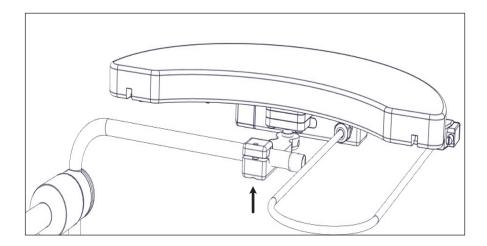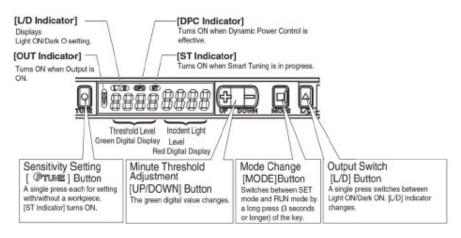
Step Fourteen: Slide the tray assembly onto the arm of the Gatlin mounting system, moving the tray assembly into the desired position.

Step Fifteen: Use the 3/16" hex key to tighten the 1/4-20 x 1/4" set screw on the clamp and secure the tray assembly in place.

Fiber Optic Amplifier Box Layout

[L/D Indicator]
Displays
Light ON/Dark O setting.

[OUT Indicator]
Turns ON when Output is
ON.

[DPC Indicator]
Turns ON when Dynamic Power Control is
effective.

[ST Indicator]
Turns ON when Smart Tuning is in progress.

Threshold Level
Green Digital Display

Incident Light
Level
Red Digital Display

Sensitivity Setting
[TUNE] Button
A single press each for setting
with/without a workpiece.
[ST Indicator] turns ON.

Minute Threshold
Adjustment
[UP/DOWN] Button
The green digital value changes.

Mode Change
[MODE]Button
Switches between SET
mode and RUN mode by
a long press (3 seconds
or longer) of the key.

Output Switch
[L/D] Button
A single press switches between
Light ON/Dark ON. [L/D] Indicator
changes.

- **L/D (Light On/Dark On)**

When set to Light On, the beam must be broken (interrupted) to activate the signal to the chair. When set to Dark On, the beam must be uncovered to activate the chair. This is most commonly used in a situation when the fiber optic is being used as an emergency stop function (e.g. when attached to a Sip-n-Puff straw).

- **Tuning**

Tuning is used to precisely set the distance at which the activations will occur. This will help produce a more precise driving experience.

- **Threshold Level**

Threshold level numbers are displayed in green. These numbers indicate the level that must be achieved to cause a successful activation.

- **Incident Light Level**

Incident light level numbers are displayed in red. These numbers indicate the level at which the fiber optic is currently sensing a reflection (i.e., the distance between an object and the sensor).

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Tuning

Automatic Tuning

Automatic Tuning will capture the capabilities of the end user, automatically assigning a threshold level based on light levels during tuning.

1. Press the Tune button once while breaking the beam.
   The display will read St 1Pnt.

2. Press the Tune button again, this time with nothing breaking the beam.
   The display will read St 2Pnt.

3. Tuning is complete.

NOTICE	Begin with automatic tuning. If automatic tuning fails or if small adjustments are still required, try minute tuning.

NOTICE	Steps One and Two can be reversed. The threshold will be based off the larger of the two light levels.

Minute Tuning

Minute tuning allows the user to make fine adjustments to the threshold level.

Press the (+) or (-) button until the appropriate threshold is found. (+) will increase the threshold, requiring a closer distance to the emitter to activate the sensor. (-) will decrease the threshold, requiring a farther distance from the emitter to activate the sensor.

Tuning Errors

Error Displayed	Cause	Remedy
nEAr Err	The light level between the two points is too low.	Re-tune the system or mount the sensor closer to the surface breaking the beam.
ovEr Err	The light level is too high	Re-tune the system, increase the tuning level, or mount the sensor farther from the surface breaking the beam.
Lo Err	The light level is too low	Re-tune the system, decrease the tuning level, or mount the sensor closer to the surface breaking the beam.

Additional Features

Reset Settings

Using the reset feature will return the amplifier to factory default settings.

1. Press and hold the *Tune* button. While holding the *Tune* button, press the *L/D* button. (Hold for three (3) seconds or longer.)

2. Select the *rSt* option on the display with the (+) or (-) buttons. (Press the *Mode* button.)

3. Select the *rSt init* option on the display with the (+) or (-) buttons. (Press the *Mode* button)

Locking Buttons

Using this feature will disable all button operation. *Loc-On* will display when a button is pressed.

1. Press and hold either of the (+) or (-) buttons and *Mode* at the same time. (Hold for three (3) seconds or longer.)

2. Repeat the above step to unlock.

Configurator Software for Windows

Configuration software for Windows ("i-Drive Config") 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 computer, tablet, or smartphone, and using i-Drive Config, you can:

- control any of the outputs via any port;
- change the range of motion required for switch activation;
- provide an adjustable double-tap feature that extends chair double-tap limits; and/or
- use Bluetooth or USB to configure and program.

Getting Started

The first step to begin use of the i-Drive 4.0 is to download i-Drive Config to your PC, tablet, or phone. It is available at the Microsoft Store, Apple's App Store, or Google Play. If you experience difficulties obtaining the software, please contact Stealth Products, LLC.

The next step is to establish a link between your PC, tablet or phone and the i-Drive interface. The included USB cable enables your device to communicate with the i-Drive interface via a virtual communications port. Bluetooth enables your device to communicate with the i-Drive via a secure wireless connection. In either case, authentication is required to gain access.

USB port for configuration on PC or tablet.

The figure to the left shows the location of the serial number that must be entered to pair with the device through Bluetooth.

After the software has been downloaded and installed to your PC, tablet or phone, you will need to connect the i-Drive interface to the device. Pair your device with the interface using the Bluetooth app on your device or use the USB cable provided with the i-Drive.
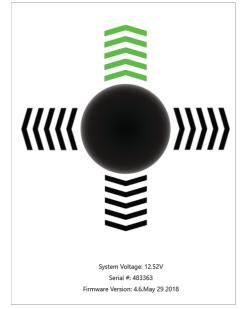
Connecting to the i-Drive

Once you have successfully logged in, you may use the features allowed by your account type. Click 'Ok' to be directed to the home screen and to access available adjustment features.

i-Drive

i-Drive

Connect

Log Out

Diagnostics

Configuration

Legal

Diagnostics

The 'Diagnostics' feature shows the user the i-Drive's input activations, enabling real-time diagnoses of potential input issues. It also aids in finding and improving the location of switches to maximize the efficacy and consistency of switch activation.

System Voltage: 12.52V
Serial #: 483363
Firmware Version: 4.6, May 29 2018

The activation of an i-Drive's connected input through the 'Diagnostics' feature is shown here.

Configuration

The 'Configuration' page of the software provides users with options for altering channel assignments, calibrations, and other items.

Assignments: Change the input channel assignments for any devices connected to the i-Drive.
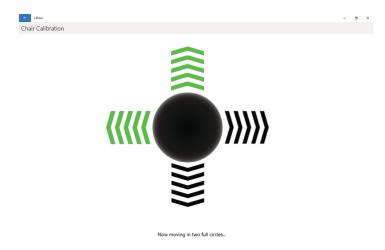
Calibration: Calibrate the chair and the i-Drive to the same neutral state.

Channel Assignment

After having selected a particular channel, a screen will pop up listing the available selections for that channel, along with an adjustment bar for the input sensor sensitivity.

Chair Calibration

Selecting 'Chair Calibration' allows a user to calibrate the chair with the i-Drive, leveling both to the same neutral position. To get the best performance from the i-Drive interface, it is important to calibrate the interface to the wheelchair electronics. It is important to note that calibration is required even if the interface is using switched inputs.

To properly calibrate the chair, follow the on-screen prompts after having selected 'Chair Calibration'. Note that only users with with appropriate access rights may perform a chair calibration.

⚠ **DANGER**	Calibrations should not be performed with a user in the chair.

⚠ **WARNING**	To prevent motion during calibration, disengage the motors of the power chair prior to starting the calibration procedure.

SAFETY	Chair calibration has been successfully tested on Q-Logic 2, Q-Logic 3, and R-net Omni enhanced displays. Call your sales representative to ask about compatibility with other electronics

Firmware Update

Updates for the i-Drive's firmware are sometimes made available. In order to update the firmware for your device, select 'Firmware Update' in the 'Configuration' menu (as pictured above) and follow the on-screen prompts.

Factory Reset

Selecting 'Factory Reset' allows a user to restore all i-Drive settings to their original out-of-the-box, preset assignments.

Output Mode

Selecting 'Output' allows a user to change the i-Drive's output mode from proportional to switched, or vice-versa. It also allows a user to adjust the output speed.

The latest version of the i-Drive firmware allows for either proportional or switched output, which improves functionality and compatibility with multiple wheelchair electronics systems.

The output mode capabilities for each electronics system are as follows:

SYSTEM	PROPORTIONAL	SWITCHED
Q-Logic 2	*Yes**	*Yes*
Q-Logic 3	*Yes**	*Yes*
R-Net	*Yes*	*Yes**
MK6i	*No*	*Yes*
DX	*No*	*Yes*
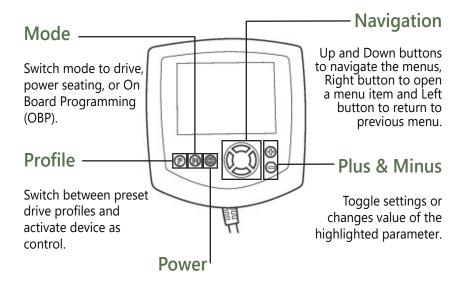
* Optimal output mode for this system.

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. In the next sections, follow the instructions provided by your interface provider.
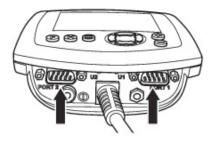
R-net™ Omni Setup

NOTICE	An R-net™ programming dongle is required.

Mode

Switch mode to drive, power seating, or On Board Programming (OBP).

Navigation

Up and Down buttons to navigate the menus, Right button to open a menu item and Left button to return to previous menu.

Profile

Switch between preset drive profiles and activate device as control.

Plus & Minus

Toggle settings or changes value of the highlighted parameter.

Power

Turns chair ON or OFF.

⚠ DANGER	**ALWAYS** disengage motors completely before programming a wheelchair. Failing to do so may lead to serious injury and/or property damage.

R-net Setup: Switched Output

⚠️ **WARNING**	Manually disengage both drive motors before utilizing the Setup Wizard, Diagnostics, and/or Config. If the motors are not disengaged, the chair could move during setup.

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

2. Connect the R-net programming dongle into the system.

3. Ensure all display cords 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 a 9-pin connector.

5. With the chair powered off, open 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* button until you enter the *On Board Programming (OBP)* menu.

7. In the *OBP* menu, use the *Up* and *Down* buttons to navigate to the *Omni* menu option. Use the *Right* button to select this option.

8. In the *Omni* menu, use the *Up* and *Down* buttons to navigate to the *Port 1* or *Port 2* option. Use the *Right* button to select this option. Ensure your chair is programmed for the port to which your i-Drive is connected.

9. In the *Omni* menu, navigate to the port to which you have the i-Drive connected (*Port 1* or *Port 2*).

10. In the *Port* menu, use the *Up* and *Down* buttons to navigate to the SID option, toggle to:

11. In the *Port* menu, use the *Up* and *Down* buttons to navigate to the *Switches* option. Use the *Right* button to select this option.

    a) "3swi" for any configuration that does not have a reverse direction, such as a 3-switch head array or linked left/right driving.

    b) "Swi" for any configuration that includes an assigned reverse direction, such as a 5-switch head array, a Sip 'n' Puff combo, or a PMPJ-1.

12. In the *Switches* menu, use the *Up* and *Down* button to navigate to the *Switch Detect* option. Use the *Up* and *Down* buttons to set this option to *Off*

13. Press the *Left* button to return to the *Port* menu. Use the *Up* and *Down* button to navigate to the Controls option, then use the *Right* button to select it.

14. Scroll to the *Actuator Axis* option. Use the *(+)* and *(-)* buttons to set the appropriate selection:

    a) *L/R* - a left SID command will select the available actuator axes and a right SID command will move the selected axis. The direction of movement is changed via a short operation by a right SID command.

    b) *R/L* - a right SID command will select the available actuator axes and a left SID command will move the selected axis. The direction of movement is changed via a short operation by a left SID command.

    c) *Swap* - forward and reverse SID commands will select the available actuator axes, and left and right commands will move the selected axis.

    d) *Normal* - left and right SID commands will select the available actuator axes. Forward and reverse commands will move the selected axis.

Q-Logic™ Setup

Bookmark Buttons

Navigation

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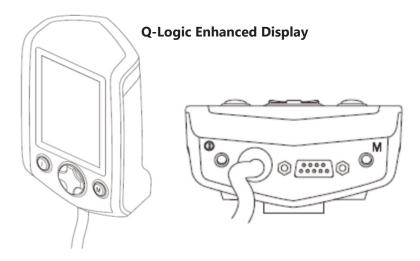
Plus and Minus

Toggle settings or changes values of the highlighted parameter

Help Button

Displays information about options selected on the display.

Q-Logic Enhanced Display

(*Note:* Q-Logic™ Enhanced Display and Q-Logic™ Handheld Programmer Required)

Q-Logic™ 2 Setup: Proportional Output

⚠️ **WARNING**	Manually disengage both drive motors before utilizing the *Setup Wizard*, *Diagnostics*, and/or *Config*. If the motors are not disengaged, the chair could move during setup.

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

2. Ensure all display cords 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 the app on a Bluetooth-enabled device and log in using the email and password provided to you. Power on the chair and connect to the application.

5. Plug in the Q-Logic Programmer (HHP) to the back of the Q-Logic display.

6. On the HHP, select the *Program Adjustments* option.

7. In the *Program Adjustment* menu, use the *Up* and *Down* buttons to navigate to the *Specialty Control* option. Use the *Right* button to select this option.

8. In the *Specialty Control* menu, use the *Up* and *Down* buttons to navigate to the *Active Device* option. Use the *Plus* and *Minus* buttons to toggle to:

    a) *Proportional Head 3-Direction* for any configuration that does not have a reverse direction assigned, such as a 3-switch head array or linked left/right driving.

    b) *Proportional* for any configuration that includes an assigned reverse direction, such as a 5-switch head array, a Sip 'n' Puff combo, or a PMPJ-1.

9. Use the *Up* and *Down* buttons to scroll to the *Proportional Head-3 Direction* folder. Use the *Right* button to select and enter the folder. Scroll down to the *Joystick Setup* folder and use the *Right* button to select it.

10. In the *Joystick Setup* menu, use the *Up* and *Down* buttons to scroll down to the *Calibrate* option. Select this option and click *OK*.

11. The Q-Logic programmer will read, "*Roll around joystick in two full circles.*"

12. On the phone, tablet or PC device, go to the i-Drive application. Select the *Config Mode* option. Select *Calibrate Chair* and click *OK*.

13. Wait until the calibration finalizes, then select *OK* 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 off the chair.

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 everything is working correctly, your i-Drive is ready for use. Re-engage your motors.

⚠️ **WARNING**	The chair *must* be completely powered off before operation.

Back Pad Toggle

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

- Reconnect the Q-Logic handheld programmer. (Follow steps 1-5 from *Setup*.)

- On the Q-Logic Programmer, select the *Program Adjustments* option.

- In the *Program Adjustments* folder, use the *Up* and *Down* buttons to navigate to the *Specialty Control* option, and use the *Right* button to select it.

- In the *Specialty Control* menu, use the *Up* and *Down* buttons to navigate to the *Proportional Head 3-Direction* option. Use the *Right* button to select it.

- In the *3-Switch Head* menu, use the *Up* and *Down* buttons to navigate to the *Back Switch Toggle* option. Use the *Right* button to select it.

- In the *Back Switch Toggle* menu, use the *Up* and *Down* buttons to navigate to the *m: Back Toggle* option, and use the *Plus* and *Minus* buttons to toggle to and select the *Enable* option. To disable, toggle to the *Disable* option and select it.

- After configuring the back pad, disconnect the Q-Logic programmer and restart the chair's electronics, or continue to configure other operations.

Side Pad Toggle/Control

To disable or enable mode switching with the side pad.

- Reconnect the Q-Logic handheld programmer. (Follow steps 1-5 from *Setup*.)

- On the Q-Logic Programmer, select the *Program Adjustments* option.

- In the *Program Adjustments* menu, use the *Up* and *Down* buttons to navigate to the *Specialty Control* option, and use the *Right* button to select it.

- In the *Specialty Control* menu, use the *Up* and *Down* buttons to navigate to the *Proportional Head 3-Direction* option, and use the *Right* button to select it.

- In the *3-Switch Head* menu, use the *Up* and *Down* buttons to navigate to the *Device Options/ Timing* option, and use the *Right* button to select it.

- In the *Device Options/Timing* menu, use the *Up* and *Down* buttons to navigate to the *m:Device Double Command* option. Use the *Plus* and *Minus* buttons to toggle to the *Enable* option. To disable, toggle to the *Disable* option and select it.

Egg Switch Function

If you would like to change the function of the Egg Switch to Mode or Toggle Forward and Reverse:

- Reconnect the Q-Logic handheld programmer. (Follow steps 1-5 from *Setup*.)

- On the Q-Logic Programmer, select the *Program Adjustments* option.

- In the *Program Adjustments* menu, use the *Up* and *Down* buttons to navigate to the *Specialty Control* option, and use the *Right* button to select it.

- In the *Specialty Control* menu, use the *Up* and *Down* buttons to navigate to the *Proportional Head 3-Direction* option, and use the *Right* button to select it.

- In the Proportional Head 3-Direction menu, use the Up and Down buttons to navigate to the Switch Options option, and use the Right button to select it.

- In the Switch Options/Timing menu, use the Up and Down buttons to navigate to the m:Mode Jack Switch Type option. Use the Plus and Minus buttons to toggle to *Mode* to enable mode switch with the Egg Switch, or *Toggle* for forward/reverse toggle.

- After configuring the Egg Switch, disconnect the Q-Logic programmer and restart the chair's electronics, or continue to configure other operations.

Q-Logic™ 3 Setup: Proportional Output

> ⚠️ **WARNING** Manually disengage both drive motors before utilizing the *Setup Wizard*, *Diagnostics*, and/or *Config*. If the motors are not disengaged, the chair could move during setup.

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

2. Ensure all display cords 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 in the Q-Logic Programmer (HHP) to the back of the Q-Logic display.

6. On the Programmer, navigate to *Program Adjustments* option and use the *Right* button to select it.

7. In the *Program Adjustment* menu, navigate to the *Enhanced Display* option and select it.

8. In the *Enhanced Display* folder, use the *Up* and *Down* buttons to navigate to the *Input Configuration* option. Set this to:

    a) *3-Direction Proportional Head* for any configuration that does not have a reverse direction assigned, such as a 3-switch head array or linked left/right driving.

    b) *Proportional* for any configuration that includes an assigned reverse direction, such as a 5-switch head array, a Sip 'n' Puff combo, or a PMPJ-1.

9. Use the *Left* navigation button to go back into the *Enhanced Display* folder.

10. Use the *Up* and *Down* buttons to scroll to the *Proportional Input* folder and use the *Right* button to select it.

11. In the *Proportional Input* folder, use the *Up* and *Down* buttons to navigate to and select the *Proportional Calibrations* option. Select *OK*. The programmer will read, "*Roll around joystick in two full circles*".

12. On your i-Drive mobile app, go to *Config Mode*, then select *Calibrate Chair*.

13. Note the warning that appears and select *OK*. The app will now automatically begin calibration. Once calibration is complete, the app will automatically return to *Config Mode*.

14. Using the Q-Logic programmer, select *OK* and verify that calibration was successful.

15. Exit the programming. Unplug the programmer and cycle power.

16. Check your configuration on the app's *Diagnostics* tab. If everything is functioning correctly, your i-Drive is ready to use.

> ⚠️ **WARNING** The chair *must* be completely powered off before operation.

> ⚠️ **WARNING** Manually disengage both drive motors before utilizing the *Setup Wizard*, *Diagnostics*, and/or *Config*. If the motors are not disengaged, the chair could move during setup.

Q-Logic™ 3 Setup: Switched Output

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

2. Ensure all display cords 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 the app on a Bluetooth-enabled device and log in using the email and password provided to you. Power on the chair and connect to the application.

5. Plug in the Q-Logic Programmer (HHP) to the back of the Q-Logic display.

6. On the HHP, select the *Program Adjustments* option.

7. Use the Up and Down buttons to navigate to the *Enhanced Display* (or SCIM) option, then select it with the *Right* button.

8. Scroll down to reach the *Input Configuration* option, then use the *Right* button to select it. Use the navigation buttons to set this option to the setting that most closely matches the desired input configuration:

    a) *2-Switch* for any configuration utilizing *Linked L/R* mode.

    b) *3-Switch* for any tray array or IDPMPJ-1 combination with no assigned reverse, and for *Linked L/R* mode.

    c) *4-Switch* for any IDPMPJ-1 combination or a tray array with an assigned reverse.

    d) *5-Switch* for any IDPMPJ-1 combination or a tray array with an assigned reverse.

    e) *3-Switch Head* for any 3-switch head array or a head array with Sip 'n' Puff and and no assigned reverse.

    f) *4-Switch Head* for any 4-switch head array, a head array with Sip 'n' Puff and an assigned reverse, or any IDPMPJ-1/head array combination.

    g) *5-Switch Head* for any 5-switch head array, a head array with Sip 'n' Puff and an assigned reverse, or any IDPMPJ-1/head array combination with a mode-change option.

Q-Logic™ 3 Further Configuration

Back Pad Toggle

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

- On the Q-Logic Programmer, select the *Program Adjustments* option. (Follow steps 1-5 from *Setup*.)

- In the *Program Adjustments* folder, use the *Up* and *Down* buttons to navigate to the *Enhanced Display* option, and use the *Right* button to select it.

- In the *Enhanced Display* menu, use the *Up* and *Down* buttons to navigate to the *3-Direction Arrow Toggle Settings* option. Use the *Right* button to select it.

- In the *3-Direction Arrow Toggle Settings* menu, use the *Up* and *Down* buttons to navigate to the *Toggle Command* option. Use the *Right* button to select it.

- In the *Toggle Command* menu, use the *Plus* and *Minus* buttons to toggle to and select the *Enable* option. To disable, toggle to the *Disable* option and select it.

- After configuring the back pad, disconnect the Q-Logic programmer and restart the chair's electronics, or continue to configure other operations.

Double Command

If you wish to enable a double activation to perform a Mode command:

- On the Q-Logic Programmer, select the *Program Adjustments* option. (Follow steps 1-5 from *Setup*.)

- In the *Program Adjustments* folder, use the *Up* and *Down* buttons to navigate to the *Enhanced Display* option, and use the *Right* button to select it.

- In the *Enhanced Display* menu, use the *Up* and *Down* buttons to navigate to the *Device Options/Timing* option. Use the *Right* button to select it.

- In the *Device Options/Timing* menu, use the *Up* and *Down* buttons to navigate to the *Device Double Command* option. Use the *Right* button to select it.

- In the *Device Double Command* menu, use the *Plus* and *Minus* buttons to toggle to and select either the *Enabled Right* or *Enabled Left* option.

- After configuring the back pad, disconnect the Q-Logic programmer and restart the chair's electronics (follow Steps 10-13), or continue to configure other operations.

Tilt Threshold Head Control

To define the angle beyond which a head input device will be changed to two-way operation:

- On the Q-Logic Programmer, select the *Program Adjustments* option. (Follow steps 1-5 from *Setup*.)

- In the *Program Adjustments* folder, use the *Up* and *Down* buttons to navigate to the *Seat* option, and use the *Right* button to select it.

- In the *Seat* menu, use the *Up* and *Down* buttons to navigate to the *Tilt Threshold Head Control* option, and use the *Right* button to select it.

- Use the *Plus* and *Minus* buttons to select the desired tilt angle.

Egg Switch Function

If you would like to change the function of the Egg Switch (plugged into the Enhanced Display):*

- On the Q-Logic programmer, select the *Program Adjustments* option. (Follow steps 1-5 from *Setup*.)

- In the *Program Adjustments* menu, use the *Up* and *Down* buttons to navigate to the *Enhanced Display* (or SCIM) option, and use the *Right* button to select it.

The modes for switch commands can be adjusted for each jack input. The available options for switch commands are Mode, Mode Shortcut, Toggle, Sleep, Home, and Inactive. To adjust, for example, the switch command mode for Jack 1:**

- In the *Enhanced Display/SCIM* menu, use the *Up* and *Down* buttons to navigate to the *Jack Commands* option, and use the *Right* button to select it. Scroll to select *Jack 1*.

  - In the *Jack 1* menu, select *Mode Jack Short Command*. Use the *Plus* and *Minus* buttons to adjust this to the desired setting.

  - In the *Jack 1* menu, select *Mode Jack Long Command*. Use the *Plus* and *Minus* buttons to adjust this to the desired setting.

  - In the *Jack 1* menu, select *Mode Jack Double Command*. Use the *Plus* and *Minus* buttons to adjust this to the desired setting.

  * When switching modes through a 9-pin plug or when the switch is plugged into the i-Drive, select D-Sub (9-pin) in the Enhanced Display/SCIM menu, then proceed as detailed above.

  ** If the option for a jack is set to Inactive, no switch command (short, long, or double) will be recognized for that parameter.

MK6i™ Programmer Setup

⚠️ **WARNING**	Completely disengage motors before programming any wheelchair. Failing to do so can cause serious injury and property damage.

PWR/INFO

Turn the programmer on and off, and display Help information while the programmer is on.

Navigation Keys

Up, Down, Left, and Right buttons scroll through menu structure and increase or decrease values.

SELECT

Display adjustable values or selection choices, choose new values, and/or begin memory card transfers.

SAVE

Press twice to save highlighted values.

MK6i™ Setup: Switched Output

> ⚠️ **WARNING** Manually disengage both drive motors before utilizing the Setup Wizard, Diagnostics, and/or Config. If the motors are not disengaged, the chair could move during setup.

1. Power off the chair using the power button on the joystick or display. Disengage all motors.

2. Ensure all display cords are properly connected to the chair. Press the chair display power button to turn the chair on.

3. Plug the MK6i programmer into the back of the joystick. Turn the programmer on.

4. On the programmer, use the *Up* and *Down* buttons to scroll to the *Performance Adjust* option, then select it with the *Right* button.

5. In the *Performance Adjust* menu, use the *Up* and *Down* buttons to scroll to the *Input Type* option. If you wish to select all drive profiles (D1-D4), press the *Select* button to do so. If you wish to select a specific drive profile, use the *Left* and *Right* buttons to navigate to the desired profile. Highlight the profile and press the *Select* button.

6. After selecting the drive profile(s), use the *Up* and *Down* buttons to scroll to the *Digital* option from the i-Drive list, then press the *Select* button to select it.

7. If you would like to enable *Reverse Mode* with the reset switch, access the *Performance Adjust* menu and use the *Up* and *Down* buttons to scroll to the *RIM Control* option, then set the desired drive profile's *RIM Control* to *On* or *Off*.

8. Use the *Save* button to save your current settings. (A prompt should appear - press *Save* again to save, or to cancel, select *Cancel* with the *Select* button.)

9. After saving, the screen will display that the save was successful. Power off the programmer or continue to make further adjustments.

10. Unplug the programmer. Turn off the chair. (The chair is now programmed to recognize the i-Drive.)

Powered Seating Control

1. Reconnect the MK6i programmer.

2. On the programmer, use the Up and Down buttons to scroll to the Powered Seating option, then use the Right button to select it.

3. In the Powered Seating menu, use the Up and Down buttons to scroll to the Actuator Control option, then set your desired drive profile's Actuator Controls to an actuator control type.

4. Use the Save button to save your current settings. (A prompt should appear - press Save again to save, or to cancel, select Cancel with the Select button.)

5. After saving, the screen will display that the save was successful. Power off the programmer or continue to make further adjustments.

6. Unplug the programmer. Turn off the chair.

> ⚠️ **WARNING** The chair *must* be completely powered off before operation.

Troubleshooting

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY	NOTES
No reaction from i-Drive	No power to i-Drive	Check Cables	• *Find where power ends.* • *Ensure all connection cables are fully connected.* • *Check the cables for possible damage.* • *Remove DB9 extension and plug in directly to chair.* • *Using APS, plug in USB, go to diagnostics and see if i-Drive shows any voltage.*
No reaction from i-Drive; can connect to i-Drive programming	i-Drive is in *Config Mode*	Put programming in another mode	• *i-Drive will not send a signal to the device in Config Mode. It must be in the Diagnostics view to send a signal.*
	Inappropriate settings	Check Channel Assignments	• *Make sure that the channel is set for the appropriate assignment*
		Check input settings on chair	• *Check the setup guide* • *If the chair is set for a switched input device, the i-Drive may not function or may behave strangely.*
No reaction from channel(s)	Inappropriate settings	Check channel assignments	• *Make sure that the channel is set for the appropriate assignment*
	Inappropriate input	Check switches	• *Try an established, functioning switch in the place of the non-reactive switch or sensor*
		Check dongle	• *Try an established, functioning dongle in the non-reactive channel*
		Check location	• *Ensure sensors & mechanicals are in the appropriate locations for old versions of i-Drive.*
Difficult or inconsistent activations from individual channel.	User positioning issues	Ensure user is positioned correctly	• *Proper and consistent user position is key to consistent successful activations.*
	Switch positioning issues	Ensure switch or sensor is in the proper location	• *Proper and consistent switch and sensor positioning is key to consistent successful activations*
	Joystick calibration issues	Recalibrate joysticks	• *Try recalibrating the PMPJ* • *Make sure all axes respond to deflections*
	Sensitivity adjustment issues	Adjust sensitivity	• *Try slightly increasing the sensitivity on sensors, fiber optics, etc.*
	Obstruction	Ensure the switch is making good contact	• *Is there anything the user is wearing obstructing contact?*

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY	NOTES
Channel(s) constantly on or activated	Cable Damage	Inspect cables and connections for damage	• *Look for breaks, cuts, or tears in the cable, or if the cable is being crimped or restricted.* • *Try an established, functioning switch in the place of the non-reactive switch or sensor.*
	Adjustment issues	Check the adjustment screw	• *i-Drive will not send a signal to the device in Config Mode. It must be in the Diagnostics view to send a signal.*
	Issues with the cover	Check the cover for conductive materials	• *Check for moisture on the cover.* • *Check for metallic objects or other conductive materials* • *Remove cover fully, then fully replace it.*
Difficulty calibrating i-Drive to chair	Inappropriate sequence	Recalibrate i-Drive to the chair	• *See the setup guide.* • *Ensure that the chair is placed into Calibration Mode, then i-Drive.*
	Problem with DB-9 extension	Remove DB-9 and recalibrate i-Drive to the chair	• *Occasionally a DB-9 extension will cause issues with calibration. Remove the DB-9 and plug the interface straight into the 9-pin port, no extension, and recalibrate.*
Channel responds incorrectly	Inappropriate settings	Check channel assignments	• *Ensure the channel is set for the appropriate assignment*
	Calibration issue	Recalibrate i-Drive to chair	• *Calibration might have been effective enough for the chair to function, but not precise enough*
PMPJ-1 causes out of center error on chair	Calibration issue	Calibrate joystick	• *Calibrate joystick to i-Drive (Config Mode > Calibrate joystick)*

Testing

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY	NOTES
Difficulty toggling forward/reverse in Linked L/R Mode	Inappropriate settings	Check input settings on chair	• *See setup guide* • *If the chair is set for a switched input device, the i-Drive may not function correctly*
	Problem with R-net system	N/A	• *R-net requires an extremely quick and accurate click for reverse. It is highly difficult to consistently toggle forward/ reverse*
Invalid login credentials	Inaccurate entry	Ensure client has correct login information	• *Ensure the information provided and entered is accurate*
	Issues with local app data	Manually remove login credentials for Windows Configurator	• *Delete any folders that begin with 'iDrivearray.exe'*
APS/Windows app will not connect	Device not recognized	Update PC drivers	• *Download and install the USB drivers available from the download page*
	APS is out of date	Download newest software	• *Older versions will not connect to 4.0 interfaces*
	Communication error	Cycle power	• *'Wait 10 min' error displays if software does not receive an i-Drive response.* • *In the device manager, uninstall the current i-Drive COM port.*
		Use a new USB cable	
		Establish a new COM port	
Windows app/APS USB will not display a connectable device	Device not recognized	Update PC drivers	• *Download and install the USB drivers from the download page*
APS Bluetooth will not display a connectable device	Device not connected	Pair device to PC Bluetooth	• *First connect with the PC Bluetooth, then connect in APS*
	i-Drive is paired elsewhere	Disconnect and reconnect device	• *Disconnect from all mobile apps and PC's in range, then cycle the power and retry*
PC Bluetooth will not pair with i-Drive	Incorrect entry of serial number	Enter serial number again	• *"Forget" the device, reconnect and try again*
		Adjust hard detection time	• *Please refer to the Sip 'n' Puff Owner's Manual*
Mobile app will not display a connectable device	i-Drive is paired elsewhere	Disconnect and reconnect device	• *Disconnect from all mobile apps and PC's in range, then cycle the power on the i-Drive and retry*
Mobile app will not connect to system	Location services disabled	Enable location services	• *Go to your phone settings, then the app settings, then 'i-Drive Mobile', and enable location services.*
	Incorrect entry of serial number	Enter serial number again	• *"Forget" the device, reconnect and try again*
		Connect to the device via USB	• *Go to Diagnostics and ensure the serial number programmed matches the serial number sticker*

SYMPTOM	POSSIBLE CAUSE	POSSIBLE REMEDY	NOTES
Mobile app will not allow for changes	Incorrect entry of serial number	Enter serial number again	• *"Forget" the device, reconnect, and try again*
		Connect to the device via USB	• Go to diagnostics and ensure that the serial number programmed matches the serial number sticker
Mobile app crashes when used	Incorrect entry of serial number	Enter serial number again	• *"Forget" the device, reconnect, and try again*
		Connect to the device via USB	• Go to diagnostics and ensure that the serial number programmed matches the serial number sticker
'Loonz' will not connect to i-Drive	Problem with firmware	Use latest version of firmware	• Update to latest version of Windows Configurator, if necessary
	'Loonz' not connected	Pair device to PC Bluetooth	• *Connect with the PC Bluetooth first then connect with the APS*
	Mouse emulation connected	Disconnect mouse	• These two features cannot be paired simultaneously
'Loonz' has no reverse	Reverse has not been assigned	Double Tap	• A double tap will toggle to reverse if no reverse is assigned in 'Loonz'
Mouse emulation will not pair with system	'Loonz' connected	Disconnect from Loonz'	• *These two features cannot be paired simultaneously*
Mouse emulation will not connect once paired	Multi Tap currently off	Enable Multi Tap	• *Multi tap enables the ability to put an i-Drive into*
	Triple click time too fast	Extend the Multi Tap time	• *It might be necessary to use the Calibrate Multi*
	issues with .net framework	Download the correct .net framework	• *Check that the framework level matches the requirements in the manual*
	Not reconnected after update	Reconnect to the Windows app	• *The app will store the settings and push them onto the next interface recognized with a serial number of 0*

Dealer Assistance

During first-time use by the client, it is advised that the dealer or service technician not only assembles the components, but also explains the configuration or user positioning to the customer (i.e., the user and/or the attendant). If needed, the dealer or service technician can make final adjustments.

User Testing

It is important that the customer is fully aware of the installation of the i-Drive tray array, how to operate it, and how it can be adjusted according to the needs of the client. A dealer should explain and demonstrate the necessary installation steps, and should explain the functions of the device's components.

Have the user test the position of the i-Drive tray array.

•   Is the hardware in the proper position for the client?

•   Can the user safely operate all controls with minimal effort?

If necessary, make adjustments to the positioning. Explain potential problems to the customer and how best to address them.

Conditions of Use

i-Drive tray arrays are intended for use as installed by the dealer or service technician, in accordance with 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 usage conditions change significantly, please contact your dealer or a qualified service technician to avoid unintended damage.

Cleaning

Use a soft, damp cloth to clean the hardware and its components. Ensure all cleaners are approved for finished steel, plastic, and aluminum.

Disinfecting

Gently wipe the hardware with a soft cloth dampened with a household disinfectant.

General Maintenance

These care and maintenance guideline instructions will keep the hardware in good condition for a longer period of time and will prevent damage:

Check and re-tighten all fasteners to the proper torque specifications on a regular basis. Reference the installation manual to find the proper torque specifications.

Check components for any breakdown.

Repair or replace parts as needed.

Gently remove dust and dirt from hardware with a soft, damp cloth.

NOTICE	Alteration or improper installation of the components included in i-Drive tray arrays will void their warranties.
SAFETY	Replace or repair parts as needed.

Stealth Products

Warranty Information	Home Page	Online User Manual