Stealth Products

Alternative Drive Controls

OWNER'S MANUAL

PMPJ

Owner's Manual for i-Drive Precision Mini Proportional Joystick

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

You may reach us at:

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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 due to failure of the following 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.

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 use 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.

Supplier Reference

Supplier:

Telephone:

Address:

Purchase Date:

Model:

Before you install or begin using the i-Drive PMPJ, it is important that you read and understand the content of these installation and operating instructions. The installation instructions will guide you through the options and possibilities with the product.

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 1-800-965-9229.

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.

Ordering Documentation

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

https://stlpro.site/stealth-docs

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

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 or 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.

Warning Labels   6.1

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 **imminent** situation which (if not avoided) will result in **severe injury**, **death**, and **property damage**.
⚠ WARNING	Identifies a **potential** situation which (if not avoided) will result in **severe injury**, **death**, and **property damage**.
⚠ 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   6.2

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.

Testing   6.3

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 PMPJ should always be tested without any person sitting in the wheelchair until every alteration of the physical installation or adjustment of the joystick is complete.

Parts & Accessories Included 7.1

The i-Drive Precision Mini Proportional Joystick (PMPJ) Package includes:

- PMPJ
- i-Drive Control Interface
- Egg Switch
- 1/8" Mono Dongle
- ARMS260 Swing Away Mount
- Two #10-32 X 3/8" Button Head Screws supplied

PMPJ   **i-Drive Control Interface**   **1/8" Mono Dongle**

Egg Switch   **ARMS260 Swing Away Mount**

Mounting Options 7.2

Mounting options for the i-Drive PMPJ includes:

- Gatlin Mount
- Bib Mount
- Swing Away Arm

Gatlin Mount		**Bib Mount**	**Swing Away Arm**
GAT486	GAT497	SBM851	SM670

Factory Settings 7.3

The i-Drive interface contains 6 mini USB input ports. Ports 1,2,5 and 6 are for proximity sensors or mini-joystick. Ports 3 and 4 are for mechanical switches.

One dongle is included, and additional dongles are available for purchase. The associated *i-Drive Programmer Software* allows for quick port assignability and higher level of sensor adjustability.

Port 1	Prop Fwd/Rev	Joystick
Port 2	Prop Left/Right	Joystick
Port 3a	Unassigned	(1/8" Mono)
Port 3b	Unassigned	(1/8" Mono)
Port 4a	Reset/Mode	Egg Switch
Port 4b	Unassigned	(1/8" Mono)
Port 5	Unassigned	(micro USB)
Port 6	Unassigned	(micro USB)

NOTICE

The dongle is required for mechanical input, and provides a double input for mechanical ports.

Stealth's i-Drive PMPJ joystick housing comes with two threaded holes for mounting system fastening.

The following pictures feature the part numbers and mounts that are necessary for mounting the joystick:
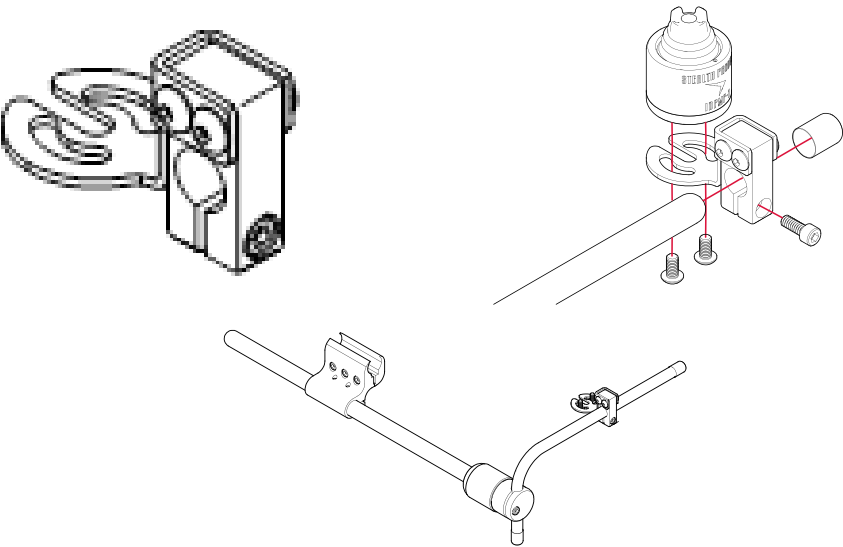
SM671

SM670 Swing Away Arm

ARM260-PMPJ

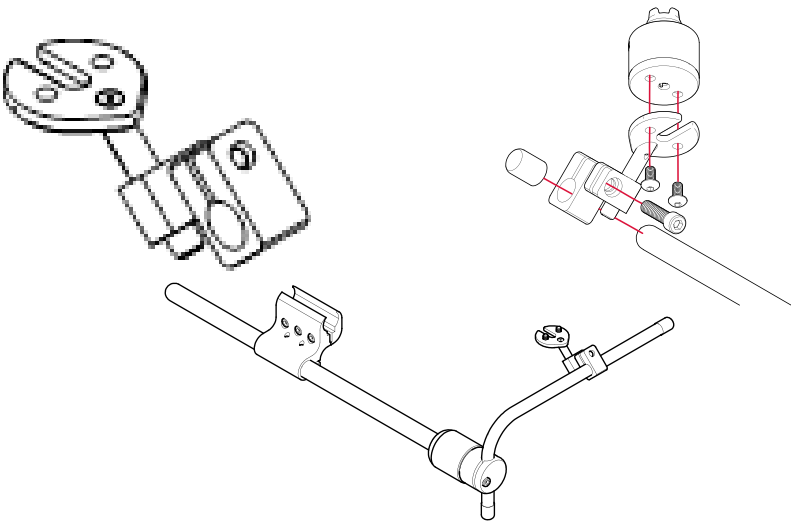**SBM851**
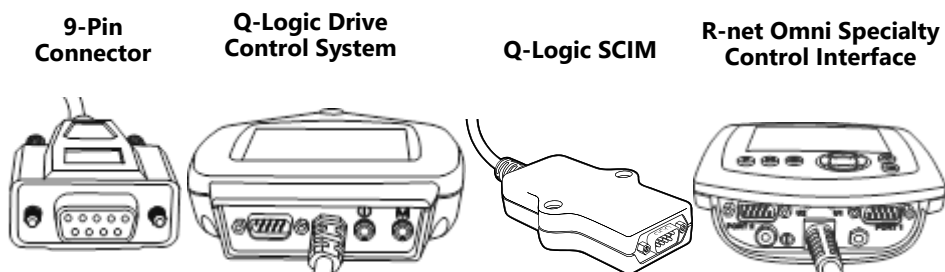
1

GAT486

GAT497

Connecting The Joystick   9.1

The i-Drive Control Interface plugs directly into the power chair's control interface using the supplied DB-9 connector. Depending on the type of interface, the location port varies.

9-Pin Connector	Q-Logic Drive Control System	Q-Logic SCIM	R-net Omni Specialty Control Interface

Joystick Operation   9.2

The i-Drive PMPJ gives the user ability to operate their wheelchair drive parameters with smooth and precise control in 360°.

NOTICE
Ensure the wheelchair and i-Drive PMPJ are correctly setup and adjusted to the user's needs.

⚠ CAUTION
If the i-Drive PMPJ does not perform as specified, turn off the wheelchair and repeat setup or contact your supplier.

## Joystick Setup   9.3

It is important to properly install the i-Drive PMPJ for the user. Take care during the assessment to identify the joystick placement and allow maximum user access and control. Do not position the joystick where the hand may be obstructed from moving in any direction.

Joystick Directions   9.4

The front divot represents the front of the joystick, or *Forward* as the factory setting.

Backward

Right   Left

Forward

Front Divot
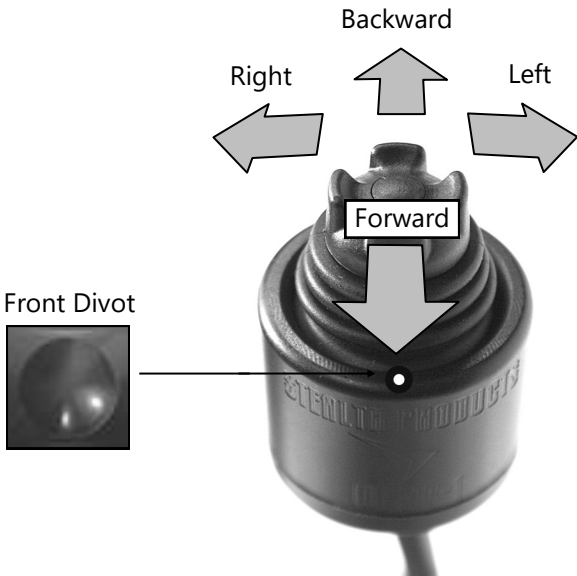
System Setup   9.5

| ⚠ WARNING | All setups should be performed by a trained technician. |

⚠ CAUTION
Manually disengage drive motors prior to setting up chair's electronics.

| ⚠ CAUTION | Refer to power chair's user manual for important instructions. |

| ⚠ CAUTION | Always use a slow speed when first operating the i-Drive PMPJ. |

Joystick Topper   9.5

There are a variety of toppers which can be utilized on the PMPJ. The joystick will ship with the Fingertip topper but can be changed to the Castle or Cone style. An extra Fingertip topper comes with the joystick so that it can be replaced as needed.

Spare Fingertip

Castle Style

Cone Style

4-40 x 3/16" Flat Head Screws

Plastic Plug
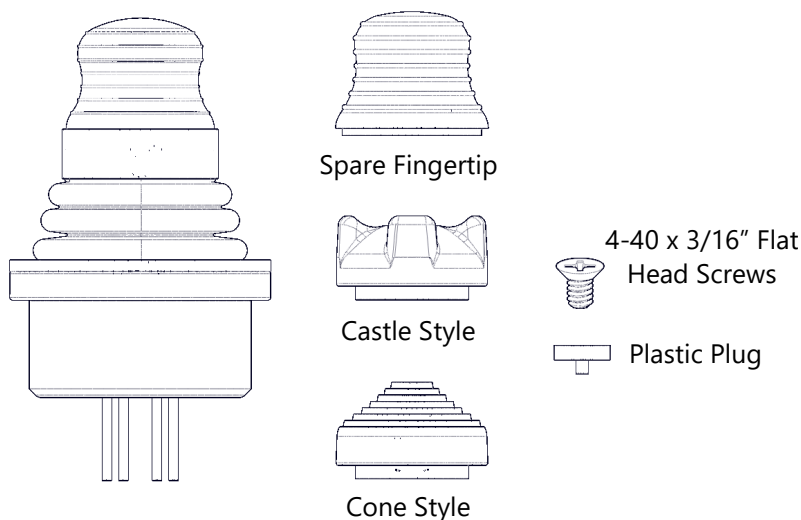
⚠ CAUTION

After installing the new topper, test the joystick in each direction and ensure that it is securely fastened.

Joystick Topper Installation 9.6

Step One: Remove the top of the fingertip topper.

Step Two: Loosen the 4-40 x 3/16" Flat Head Screw with a Phillips screwdriver.

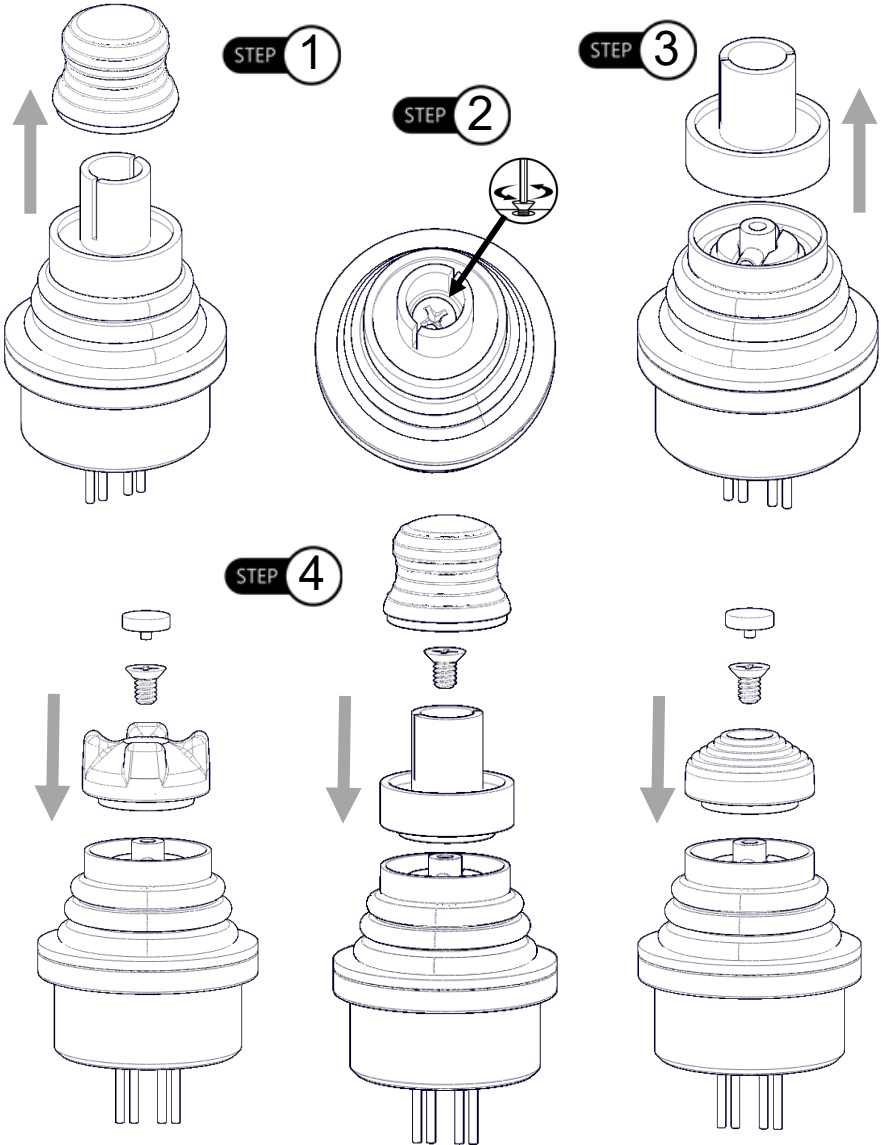Step Three: Take off the plastic post.

Step Four: Install the replacement fingertip style or another style of topper.

Q-Logic™ Programmer Setup   **10.1**

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.

Navigation

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

Plus & Minus

Toggle settings or changes values of the highlighted parameter.

Note: Q-Logic™ Enhanced Display and Q-Logic™ Handheld Programmer required.

Help Button

Displays information about options selected on screen.

1. Plug in the Q-Logic™ Handheld Programmer to the Q-Logic™ Enhanced Display or to the standalone joystick if the SCIM (Specialty Control Input Module) is in use.

2. On the Q-Logic™ Programmer, navigate with the *Left & Right* buttons ⟨ ⟩ to *Program Adjustments* ⟩ *Specialty Control* ⟩ *Active Device.*

3. Toggle with the *Plus & Minus* buttons ± from *Active Device* to *5-switch.*

4. Unplug the Q-Logic™ Handheld Programmer and *Turn Off* the system.

NOTICE

For new chairs that have never been programmed, a power cycle will need to be done after the joystick has been calibrated and before the joystick throw can be adjusted.

NOTICE

If using Q-Logic™ Specialty Control Input Module (SCIM), you will need any type of mechanical switch to plug into the power port of the standalone joystick to power *On/ Off* the chair and ensure the SCIM as master control.

R-Net™ Omni Setup   11.1

Mode

Switch mode to drive, power seating, or OBP (onboard programming)

Navigation

Up & Down button 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/OFF*.

R-Net™ Programming Dongle

1. Plug in the R-Net™ Programming Dongle in line with the Omni display and chair's electronics, and then power *ON* the chair.

2. Press the *Mode* button until you reach the *OBP (Onboard Programming)* menu. The *OBP* menu will appear as an hourglass while loading.

3. With the navigation buttons, navigate to *Omni* ∑ *Global* ∑ *Sleep 12V* and toggle *Sleep 12V* to *On* with the *Plus & Minus* buttons. ±

4. Navigate back ↵ to the *Omni* menu , then navigate to *Omni Port 1* (or *Port 2* if the *IDPMP-9* is in *Port 2*).

5. In the *Port* menu, toggle *SID* to *Swi* with the *Plus & Minus* buttons. ±

6. In the *Port* menu, navigate to *Switches.*

7. In the *Switch* menu, toggle *Switch Detect* to *Off* with the *Plus & Minus* buttons.±

8. In the *Switch* menu, toggle *9 Way Detect* to *Off* with the *Plus & Minus* buttons. ±

9. Navigate with the *Left* button ↵ back to the *Omni* menu, and then navigate to *Profiled.*

10. In the *Profiled* menu, configure a profile to use the port for the i-Drive.

11. Power off the chair, remove the R-Net± Programming Dongle, reconnect the Omni Display, and power on the chair.

- The chair should now be programmed to recognize the i-Drive. Be sure to re-engage the motors before operation.

i-Drive Programmer Software   12.1

The i-Drive's Programming Software is not required for operation. Using the software will ensure fine tuning to the user's needs. The software is available to ensure a customized fit and driving experience. Programming the i-Drive is simple. By connecting a PC or tablet via USB and using the i-Drive Programming Software, you can:

- Dynamically assign ports to control any of the 9 output types.

- Adjust the range of proximity activation, or activation sensitivity of the i-Drive PMPJ.

- Provide an easy to setup custom double tap that extends the chair's double tap limits.
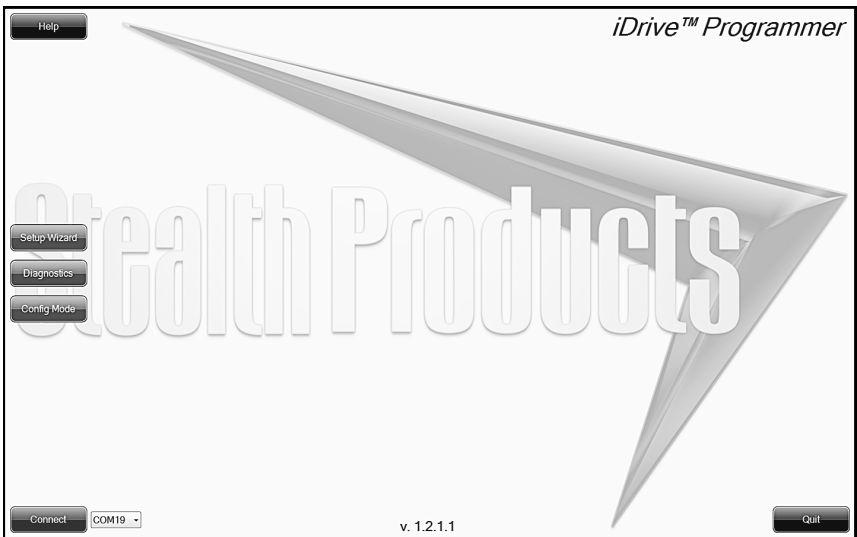
Software Installation   12.2

Included with your i-Drive package is a care with the download link for the i-Drive Programmer Software. Included with the download should be instructions on installing the i-Drive Programmer Software. If there are any difficulties getting or installing the software, or if the card is lost of misplaced, contact Stealth Products, LLC for further assistance.

Getting Started   **12.3**

1.   Using the Male USB to Male Mini USB Cable included with the i-Drive, connect your i-Drive to your PC or tablet.
2.   Launch the i-Drive Programmer Software.
3.   Click on the drop-down menu and select corresponding COM for the i-Drive.
4.   Click the connect button to digitally connect the i-Drive to the Programmer Software.

NOTICE

The i-Drive comes pre-configured, and does not require i-Drive programming for use. When the inputs from the switches are moved into different ports on the i-Drive, running the *Setup Wizard* in the programmer software will reassign to the correct switches.

NOTICE

The i-Drive needs a minimum system voltage of 12V to operate.

NOTICE

Features of the programmer will be unavailable if the i-Drive is incorrectly installed on the power chair.

Help

Clicking on buttons and menu items
will explain how it is used. Click to
toggle on and off.

Diagnostics

Displays real-time control
activation, calibrates joystick
sensitivity and double-tap
timing.

Help

iDrive™ Programmer

Stealth Products

Setup Wizard

Diagnostics

Config Mode

Disconnect   v. 1.2.1.1
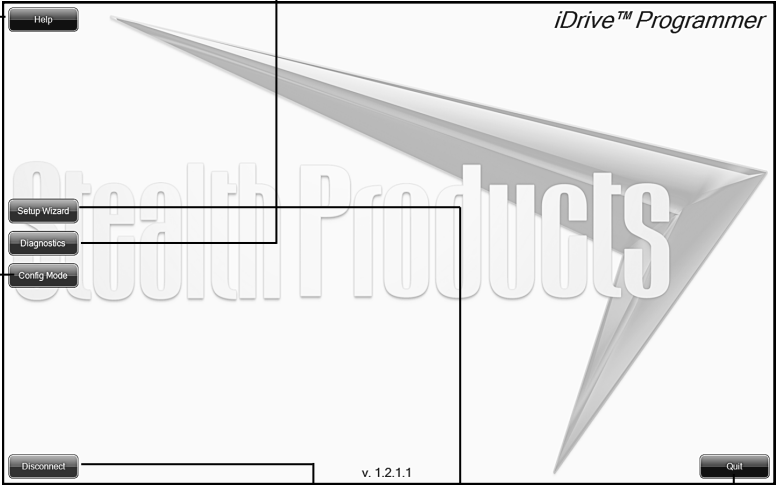
Quit

Config Mode

Individual fine-tuning of
each switch, sensor, and
joystick input.

Quit

Closes the software.

Disconnect

Disconnects the i-Drive
from the programmer.

Setup Wizard

Quickly configures the input
automatically through a series
of simple steps.

Setup Wizard   12.4
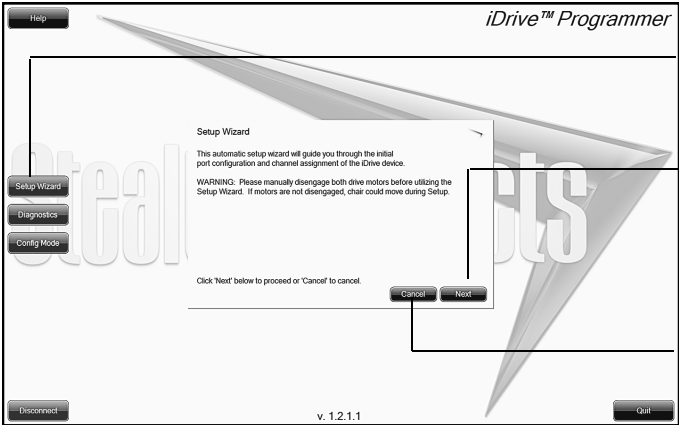

Setup Wizard Button

Click this to begin *Setup Wizard*.

Next

Goes to the next step of the *Setup Wizard*.

Cancel

Closes the *Setup Wizard*.

The *Setup Wizard* will guide you through the initial port configuration and channel assignment. It's recommended to perform a *Factory Reset* from the *Config Mode* menu before running the *Setup Wizard* to ensure that no previous setting may interfere with the new setup.
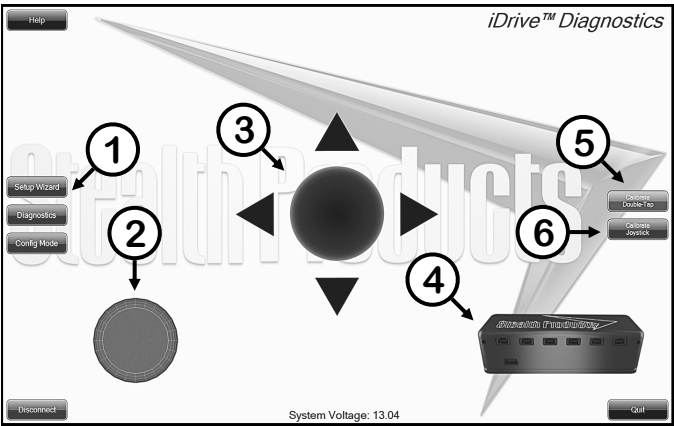
Diagnostics   12.5

Real time *Diagnostics* allows you to observe input behavior as the i-Drive sensors and switches are activated by the user. This is useful to fine tune the i-Drive.

1.   Diagnostics Button– click this to begin *Diagnostics*.
2.   Mode Switch– this will display when the mode switch is activated. Mode switches are used to change drive profiles, or activate power seating functions.
3.   Directional Activation– this displays one of the four directions that can be configured into the i-Drive. Forward, reverse, left, and right are displayed, and are the bases for drive controls.

4. i-Drive Ports– highlights which port the activated sensor or switch is plugged into.

5. Calibrate Double Tap– sets the timing of double tap used for mode reset/profile change.

6. Calibrate Joystick– sets the sensitivity for activation and proportional joystick movement.
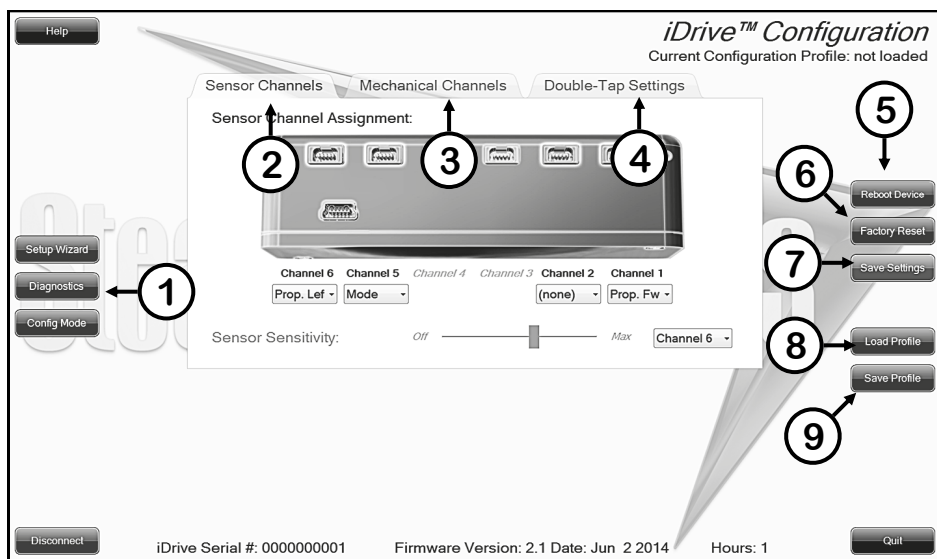
Config Mode   12.6

The *Config Mode* allows you to adjust the way the i-Drive activates, and allows you to fine tune the function and sensitivity of each sensor and switch individually.

1. Config Mode Button– click this to enter *Configuration Mode*

2. Sensor Channels Tab– opens the menu for fine–tuning sensors and proportional joysticks.

3. Mechanical Channels Tab– opens the menu for mechanical switch input assignment.

4. Double Tap Settings Tab– opens the menu to enable and fine-tune *Double Tap.*

5. Reboot Device Button– restarts and power cycles the device.

6. Factory Reset Button– resets joystick calibration, switch sensitivity and double-tap to default values. Does not affect individual channel assignment settings.

7. Save Settings Button– saves all configurations and required changes to take effect.

8. Load Profile Button– loads a configuration profile that has been saved on your computer.

9. Save Profile Button– allows you to save a profile to your computer with all the current configuration settings which can be loaded later at any time.


NOTICE

Be sure to save your settings with the *Save Settings* button after all desired changes are made. If settings are not saved, all your configuration settings will not take effect and will be lost.

Sensor Channel Assignment 12.7

1. Diagram that shows which sensor channels are available to assign and modify.
2. Drop down menu that allows you to assign the function per sensor channel.
3. *Sensor Sensitivity Slider* sets the activation range of proximity sensors.
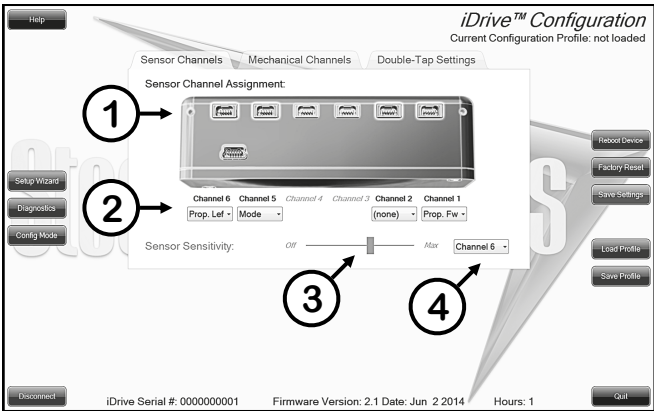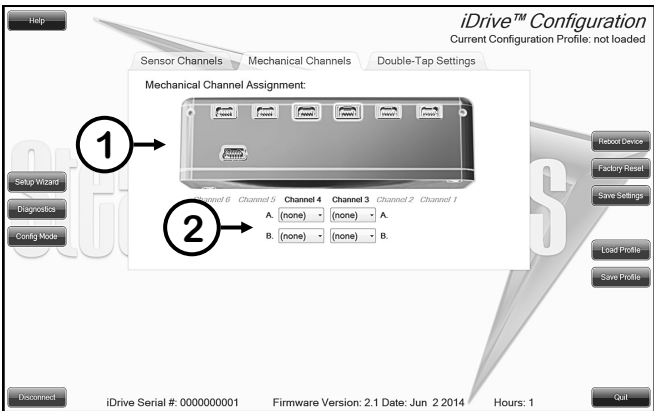

Mechanical Channel Assignment 12.8

1. Diagram that shows which mechanical channels are available to assign and modify.
2. Drop down menu that allows you to assign the function per mechanical channel.
   Mechanical channels allow for two 1/8" mono inputs via dongle per channel.
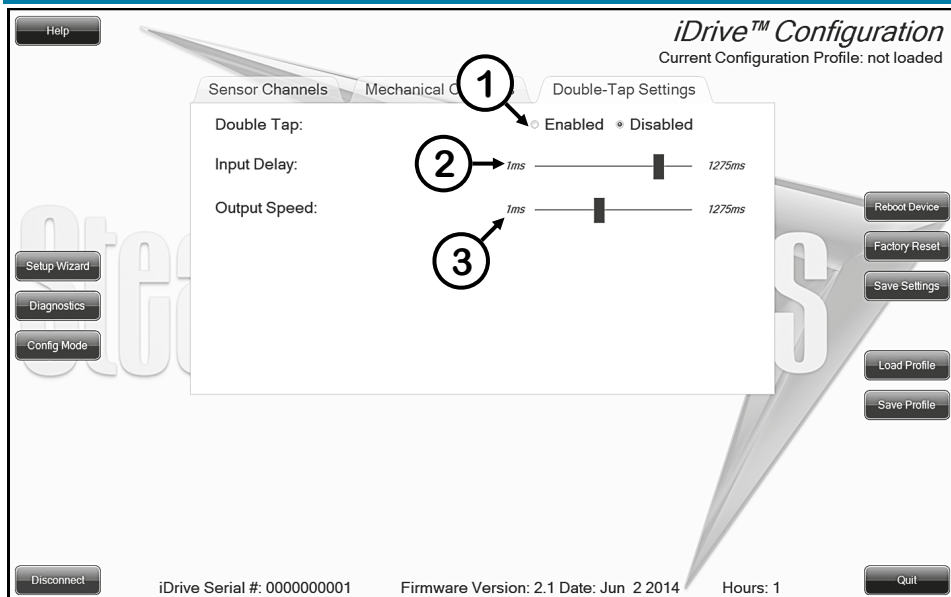
Double Tap Settings 12.9

1. Enable *Double Tap* to allow double-tap for mode/switch function, and allow input delay and output speed adjustment.
2. *Input Delay* is the amount of time allowed for double-tap command capture.
3. *Output Speed* is the time period between mode output pulses. This value should match the double-tap timing of the chair.

NOTICE

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

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

- Check the i-Drive PMPJ for intactness
- Operational Test
- Test Drive
- Stop Test

Check That The i-Drive PMPJ   13.1

- Is not bent or damaged.
- Housing, cabling, and all connectors are not damaged.
- Returns to its default position when moving and releasing the joystick forward, backward, left, and right.

Operational Test   13.2

1. Activate the wheelchair operating system.

⚠ WARNING

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

2. Check for any error messages.
3. Move the joystick slowly forward until you hear the parking breaks switch off.
4. Immediately release the joystick. You should hear the parking break react within a few seconds.

⚠ CAUTION	The wheelchair may start moving.

5. Repeat steps 3 and 4 three times, while slowly moving the joystick towards you, to the left and to the right.

Test Drive 13.3

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

Stop Test 13.4

- Drive full speed ahead and shut down the wheelchair with the joystick.
- The wheelchair may not suddenly stop, but must slow down to a gradual stop.

Dealer Assistance   14.1

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   14.2

It is important that the customer is fully aware of the installation, how to use it, and what 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 function of the joystick.

Have the user test all positions of the i-Drive PMPJ:

- Is the i-Drive PMPJ within easy reach?
- Can the user safely operate the wheelchair with minimal effort?
- Is the placement of the joystick in an optimal position for the user?

Conditions Of Use   14.3

The i-Drive PMPJ 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.

Cleaning   15.1

- Positioning accessories can be wiped clean with a damp cloth and mild, non-abrasive cleaner.

- Ensure all cleaners are approved for finished steel, aluminum, plastic, and upholstered surfaces.

> ⚠ **WARNING** | Do not immerse in water or rinse with a water hose.

Disinfecting   15.2

- When needed, surfaced can be wiped with an approved disinfecting product.

- Ensure the disinfectant is approved for finished steel, aluminum, plastic, and upholstered surfaces.

Water Contact   15.3

- Turn off the chair and disconnect the i-Drive PMPJ from the power chair.

- Thoroughly dry i-Drive PMPJ with a towel.

- All the joystick to dry for 12 hours in a warm, dry area to allow for unseen moisture to evaporate.

- Check that the i-Drive PMPJ operates to specifications before use.

Electromagnetic Interference (EMI)   15.4

The i-Drive PMPJ has been tested to a radiation immunity level of 20 volts per meter.

Electronics may be susceptible to EMI. EMI is the interfering energy emitted from sources such as radio stations, TV stations, radio transmitters, and cellular phones. The interference from radio waves may cause malfunctions and equipment damage.

Daily Maintenance Check   15.5

- Ensure all cords are properly connected and secured and show no signs of damage or wear.

- Ensure that the joystick rubber boot is free of cracks and tears.

- Move the joystick through the four quadrants, checking for smooth movement and its return to the centered position.

- Ensure all switches are functioning as programmed.

Weekly Maintenance Check   15.6

- Check all fasteners and tighten as necessary.

- Clean all surfaces and disinfect when necessary.

> ⚠ **WARNING**   Do not overtighten screws.

- Check that the mechanical condition, as well as the functions, are operating properly. If it is not, contact your supplier for immediate repairs.

Environment Safety   15.7

- Always operate or store the i-Drive PMPJ in safe temperature of –40° to +149°F (-40° to +65°C)

- Do not operate or leave the i-Drive PMPJ in rain, snow, sleet, hail, or damp environment

- DO not expose the i-Drive PMPJ to water, condensation, icing, or dampness

- Do not operate in the shower

- Do not operate or store near open flame, flammable, or combustible products

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