



# HydroTab NMEA 2000 Trim Tabs Controllers Owner's Manual

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## HydroTab NMEA 2000 Trim Tabs Controllers



### Disclaimer

The interceptor units are also steering equipment and it is the sole responsibility of the navigator-operator to ensure that, at any point, any problem that will alter the boat's course, rising from the malfunction of interceptors, should be dealt with immediately by the operator. Under no circumstances, the fault of our interceptor equipment leading to any kind of accident creates liability for the manufacturer.

### Trademark Notice

Hydro tab is a registered trademark of Olympic Engineering Ltd, Greece. All other trademarks, trade names or company names referenced herein are used for identification only and are property of their respective owners.

### Patent Notice

The Hydro tab products are protected by patents and industrial design patents, patents pending or design patents pending.

### Declaration of conformity

This product conforms to the following Electromagnetic Compatibility (EMC) regulations and standards for use in

## Technical information and Documentation

The technical information provided in this document was accurate and correct at the corresponding production time of the Hydrotab interceptors. Our operating principal for improving the manufactured product, may lead to changes regarding its specifications without prior notice. Liability will not be accepted for any inaccuracy considering the product and the user manual.

## Fair use statement

This manual can be printed or copied for your own use only. Copies should not be provided to third parties and manual should not be commercialized.

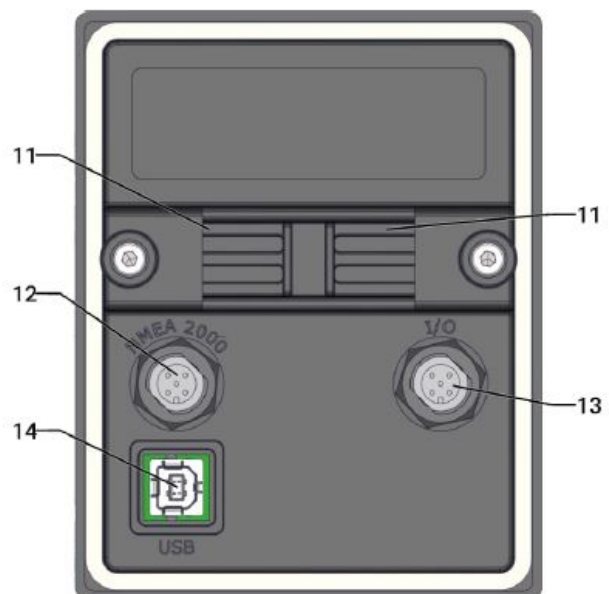
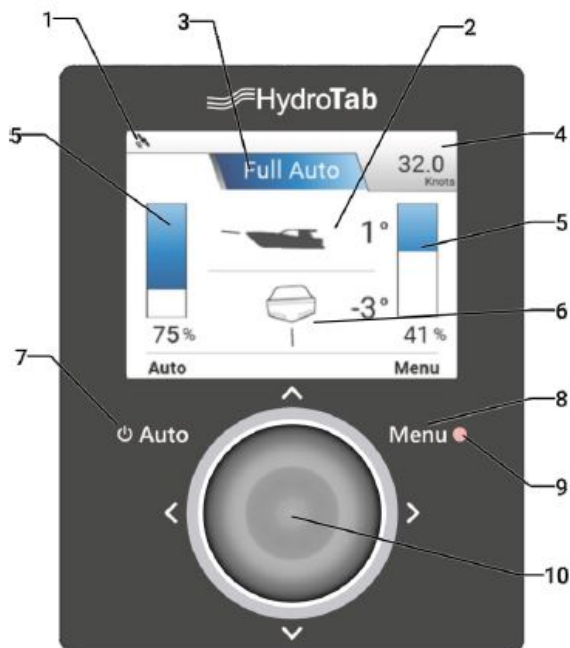
## Product Disposal

Waste removal of this product must be according to the Waste Electrical and Electronic Equipment (WEEE) Directive.

## Product Registration

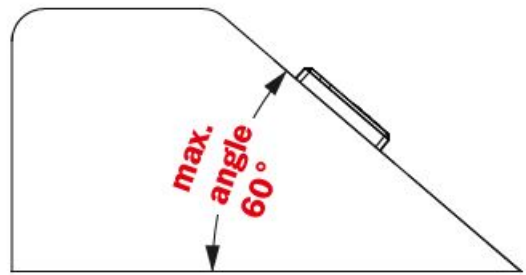
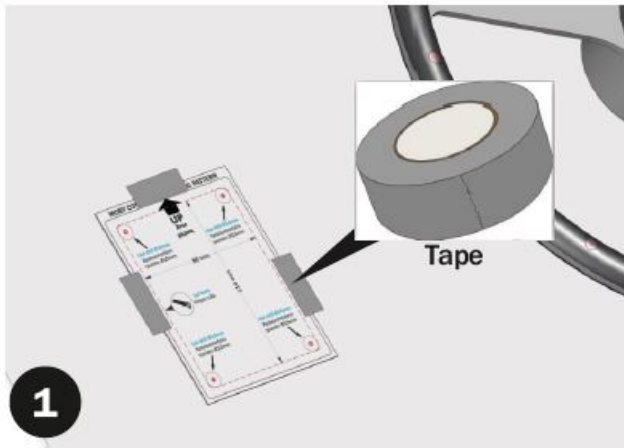
Please register your product online in order the warranty to be valid.

## MOBY CONTROLLER OVERVIEW

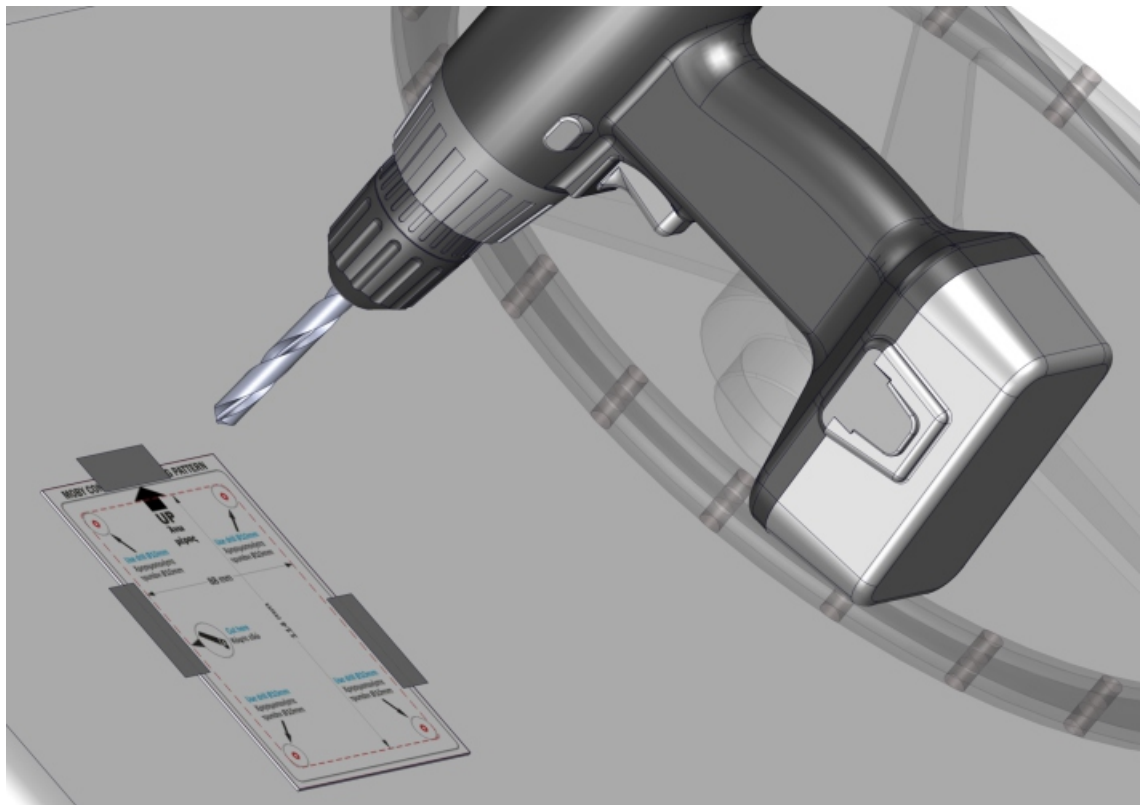


| Display Icons                     |                        |   |
|-----------------------------------|------------------------|---|
| 1                                 | GPS Icon               | Indication whether GPS signal is acquired   |
| 2                                 | Pitch icon             | Boat pitch angle indication   |
| 3                                 | System operation mode  | <ol style="list-style-type: none"> <li>1. Manual mode: manual operation of the interceptors</li> <li>2. Auto pitch: interceptors position adjusted according to the current boat speed</li> <li>3. Full auto: auto pitch and roll operation for optimal boat cruising behavior</li> </ol> |
| 4                                 | Speed                  | Current speed indication  |
| 5                                 | Gauges                 | Interceptors position % indication  |
| 6                                 | Roll icon              | Boat roll angle indication  |
| Menu Navigation and function keys |                        |   |
| 7                                 | On/Off + Auto Position | <ol style="list-style-type: none"> <li>1. Hold for 8 seconds to power on/off the system</li> <li>2. Press to select system operation mode.</li> <li>3. While in system menu, press to return to previous screen</li> </ol>  |
| 8                                 | Menu Position          | <ol style="list-style-type: none"> <li>1. enter system menu</li> <li>2. while in system menu, press to return to home screen</li> </ol>   |
| 9                                 | Light Sensor           | Adjusts the Day/Night mode  |
| 10                                | Main button            | Multi-functional button   |
| Mounting and Connection           |                        |   |
| 11                                | Sliders                | Sliding parts for mounting the controller   |
| 12                                | NMEA 2000 Port         | Connection to NMEA 2000 network   |
| 13                                | I/O Port               | Power supply  |
| 14                                | USB port               | USB port, used for controller firmware update   |

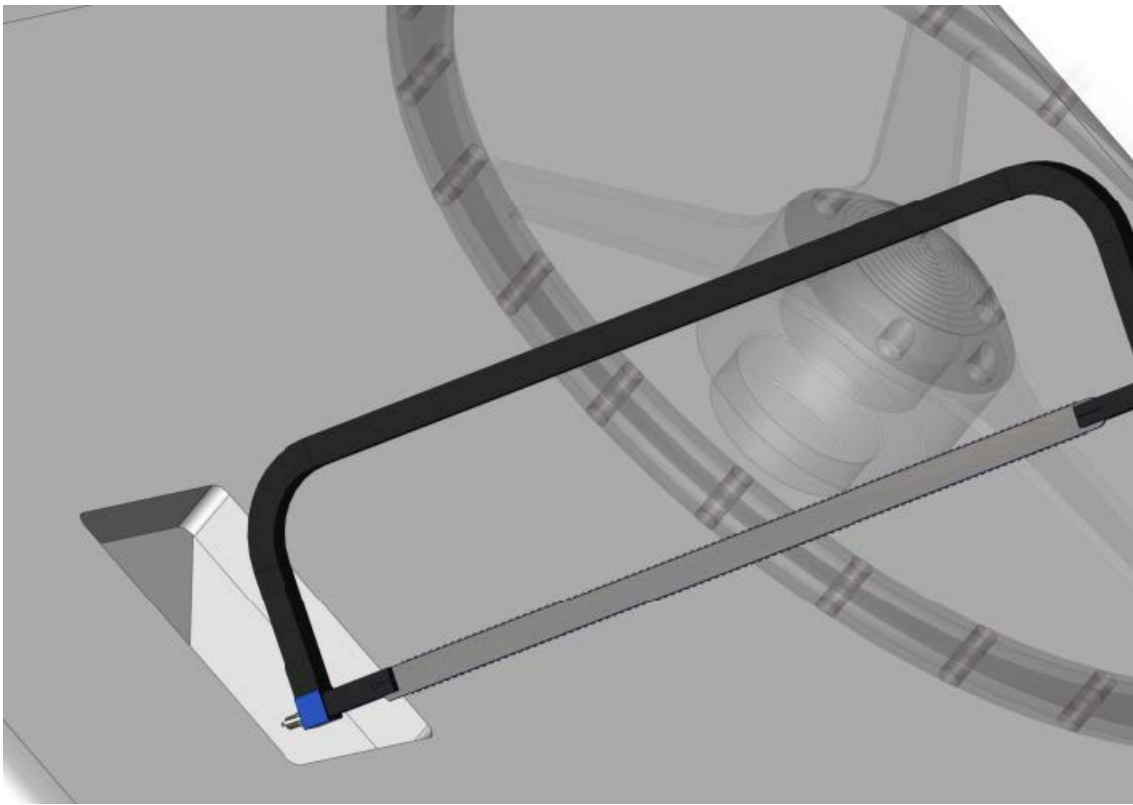
## Moby Controller Installation



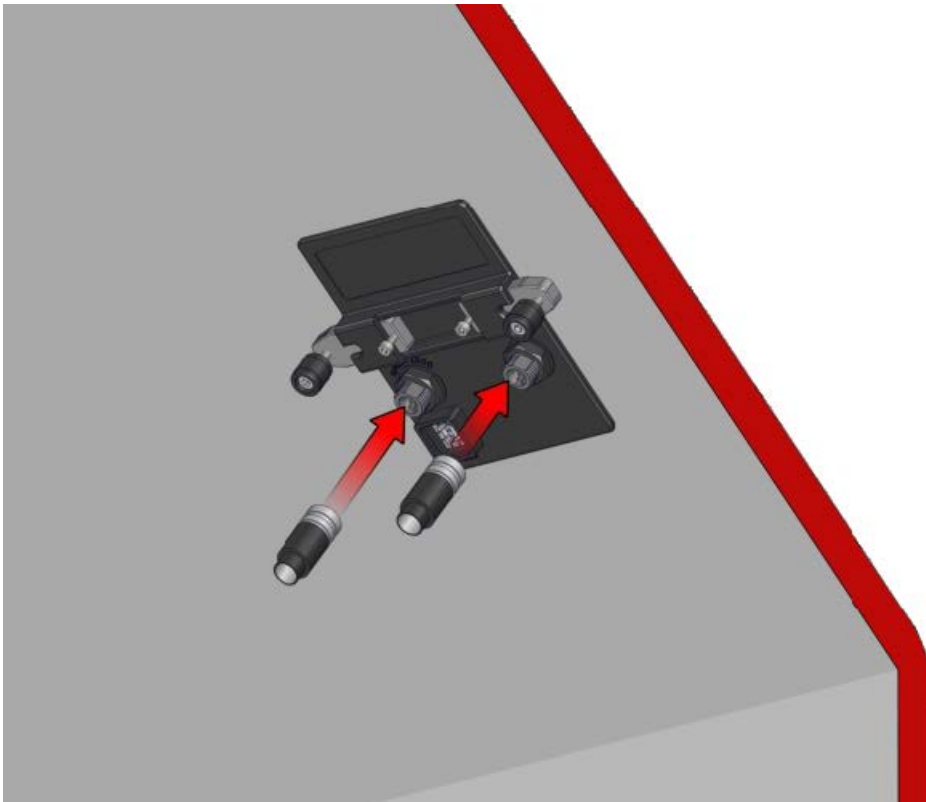
1. Place the Moby Drilling Pattern in the desired position (preferably a clean and easy-to-access area near the steering wheel of the boat, and with max. inclination angle at 60°).
2. Drill the 4 holes according to the provided drilling pattern with a 10mm bore.



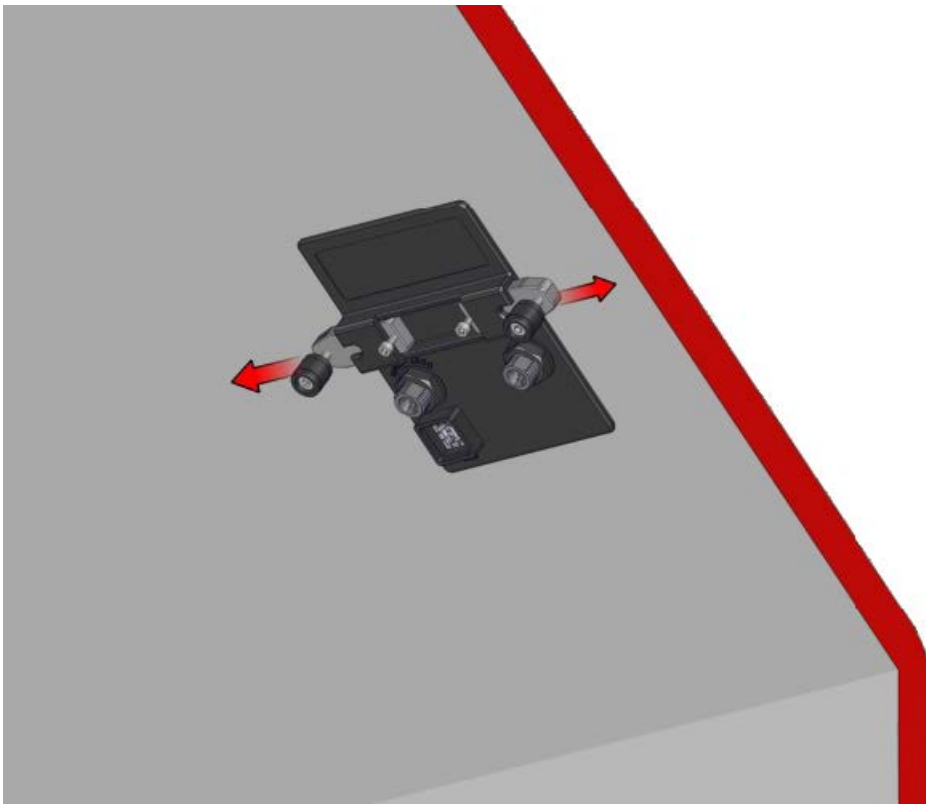
3. Create the central hole with a hacksaw.




4. Place the Moby Controller in its position, and mount it from the internal of the cockpit, with the given screws.



5. Mount the connection plugs in the 5-pole ports.




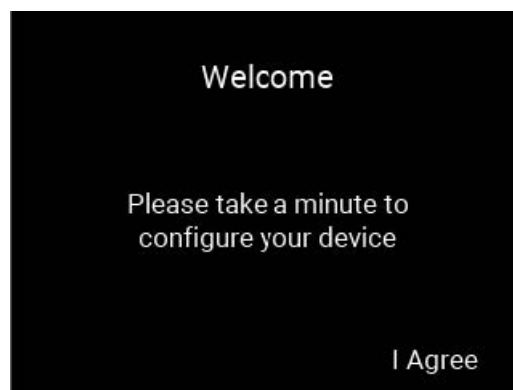
### Initial Controller Activation

Note: Before doing anything else, for Initial Controller Activation hold  for 8 seconds to activate the initial screen.

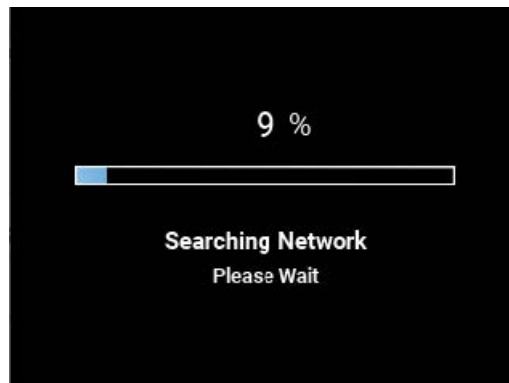
### Moby Menu Screens Explanation

Note: Before operating the Moby Controller for the 1st time, you have to configure your device.

1. Welcome Screen: Press  to proceed.



2. Searching Network: This process searching the network for other devices. it will determine if your device will be main or repeater. For more details look at the repeater section.

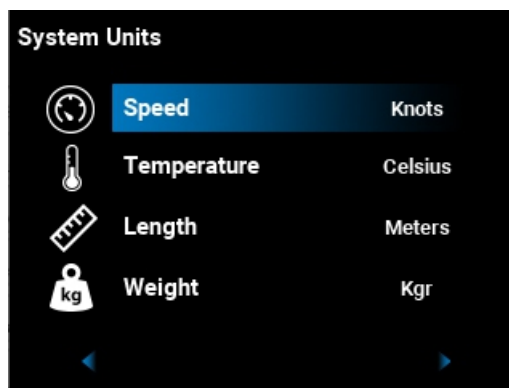


3. Language: Select from 8 different languages (EN, DE, ES, FR, IT, GR, TK, Simplified Chinese) by moving the joystick ↑ and ↓. Press ↗ to proceed.



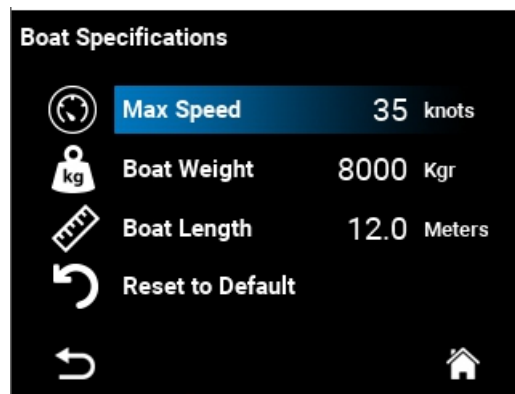
## Moby Menu Screens Explanation

1. System Units: It allows to configure the units (Metric or Imperial), and you have the following choices:

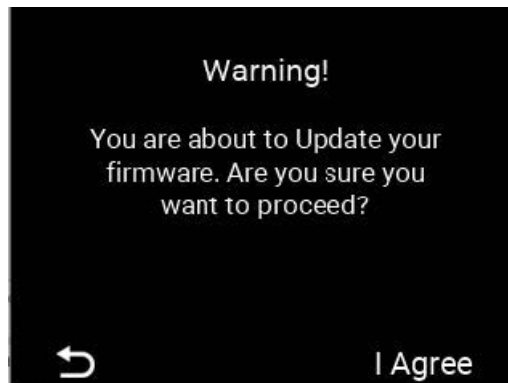


2. Speed: configure the speed units (knots, mph, kph).
3. Temperature: configure the temperature units (°F or °C).
4. Length: configure the length units (m of ft).
5. Weight: configure the weight units (kg or pounds).
6. Boat Specifications: you can adjust the values by moving the joystick ← (decrease) and → (increase). The longer you press the joystick in a direction, the faster decreases or increases the value.



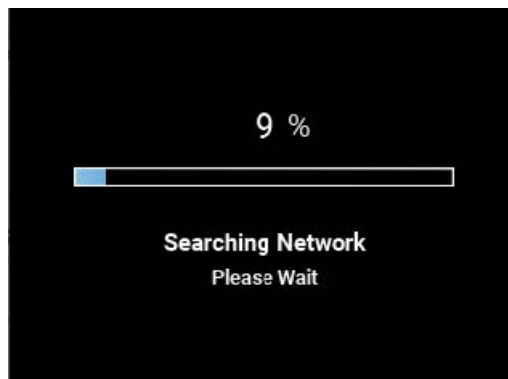


7. Warning Screen: Please pay attention to warning message. To proceed, confirm you agree by moving the joystick ↗.

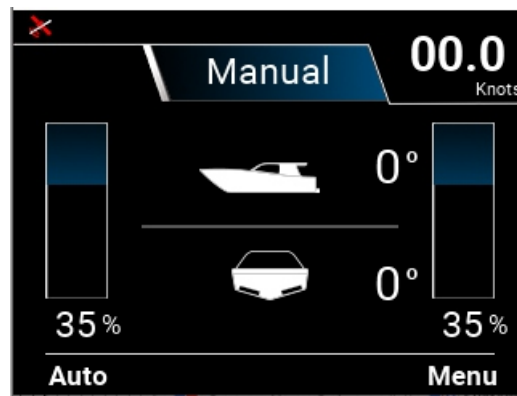


### Moby Menu Screens Explanation

1. Searching Network: This process searching the network for other devices. it will determine if your device will be main or repeater. For more details look at the repeater section.

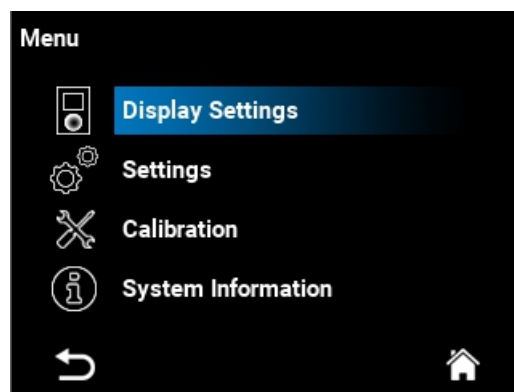


2. Main Screen: The main interface screen provides information about the boat inclination, interceptor gauges, speed, gps etc.
  1. Auto: Navigates you through the modes. e.g. From manual mode you can switch to Auto Pitch and Full Auto.
  2. Menu: Opens the menu (hold ↗ for 2 sec).



3. Main Menu Screen: You can navigate

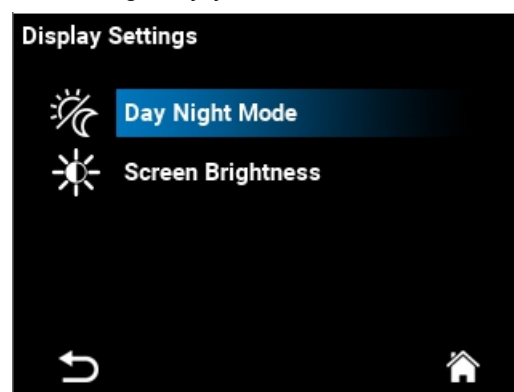
1. Display Settings
2. Settings
3. Calibration
4. System Information by moving the joystick ↑ or ↓, and select with ↗.



### Moby Menu Screens Explanation

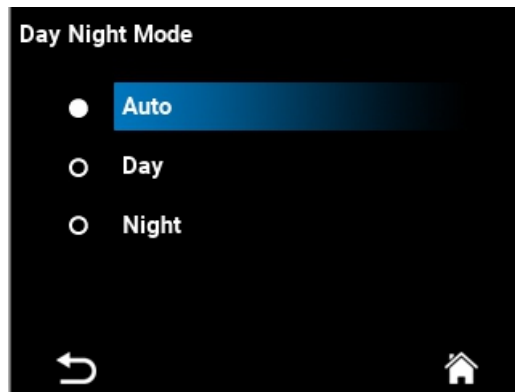
1. Display Settings: this menu allows you to modify the brightness level of your controller at a preset Day Night Mode, or at a custom level as per your needs (Screen Brightness).

1. You can navigate through options moving the joystick ↑ or ↓, and select with ↗.

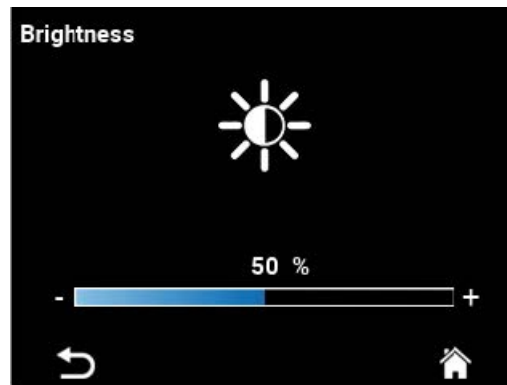


2. Day-Night Mode: Please select Auto: It Auto-switches the mode, with brightness change, according to the photosensor input.

1. Note: In Auto Mode, brightness cannot be changed manually.
2. Day: Preset screen brightness for day usage
3. Night: Preset screen brightness for night usage You can navigate through options moving the joystick ↑ or ↓, and select with ↗.



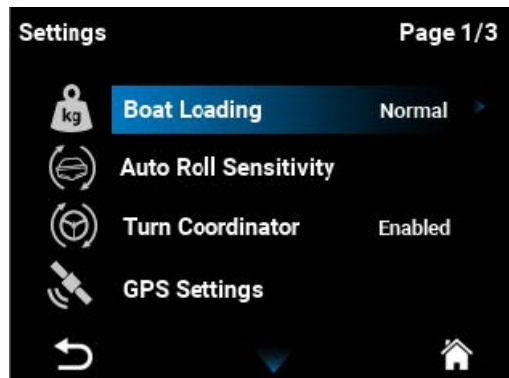
4. Screen brightness: you may adjust the screen brightness according to your preference, by moving the joystick ← or →.



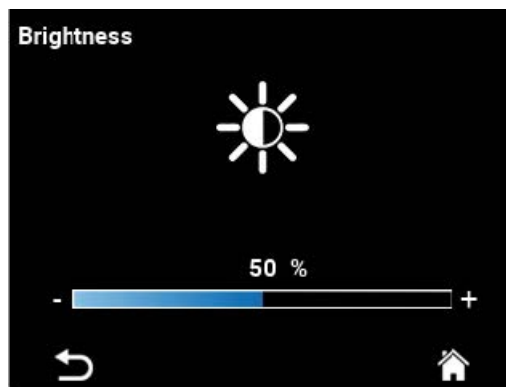
5. You can go back ↶ or return to main screen by ↷.

## Moby Menu Screens Explanation

1. Settings: The Settings menu allows you to modify the operating parameters of your system. Page 1/3 contains



2. Boat Loading: select from Light, Normal and Heavy options.
  1. Heavy: when the boat is fully loaded with fuel, water, luggage etc.
  2. Normal: when intermediate loading has been made.
  3. Light: when the boat is lightly loaded. 3.2.2 Auto Roll Sensitivity: see 3.2.2 3.2.3
  4. Turn Coordinator: assists in making smoother boat turns while traveling. You can enable or disable it.
3. GPS Settings: see 3.2.4
4. Auto Roll Sensitivity: This option provides the ability to adjust the system automatic roll sensitivity according to your needs. Higher sensitivity, increases the response of the interceptors



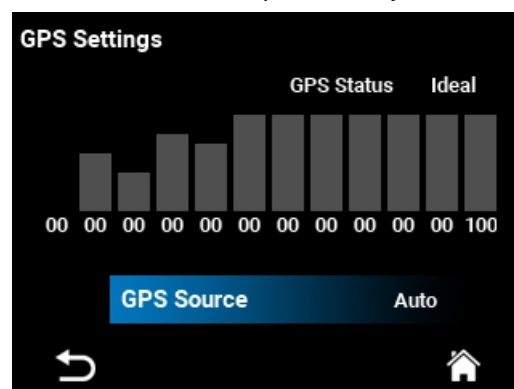
### Attention!

1. If you're going to need to maneuver sharply and/or urgently, auto-roll mode must be disabled.
2. If you set the sensitivity at max value, it may cause overheating of the Air Unit which will disable the Auto-Roll function until the system cooldown.
3. Adjust by moving the joystick ← or →. Go back by ↶ or return to main screen by ↷.

### Moby Menu Screens Explanation

#### 1. GPS Settings

1. GPS Status: the GPS can have 6 different statuses, Ideal, Excellent, Good, Moderate, Fair, Poor. even if you get a lock on satellites at Moderate status we recommend Good or over for more accurate results. The bars indicate the satellites you are able to find and when the bar is green means you are locked to the specific satellites.
2. GPS Source: You may select the GPS source for your interceptor system. Auto: The Moby determines and selects the source with the best reception. Internal: Please select this option in order to use the internal receiver with a passive (optional external) GPS antenna connected.
3. External: Please select this option to use GPS data provided by the NMEA network.

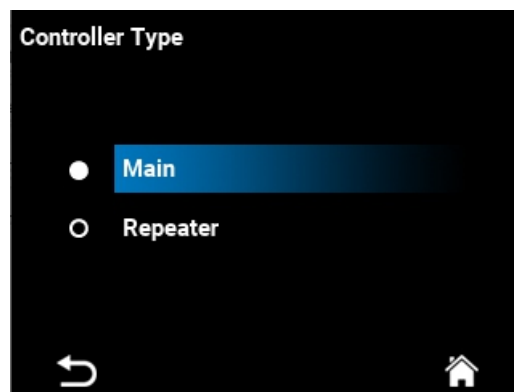


2. Settings (continued): Page 2/3 contains:
3. Controller Type: See 3.2.5
4. System Units: see 3.2.6.
5. Language: see 3.2.7.
6. Reset to factory defaults: It resets the system to factory defaults.



## Moby Menu Screens Explanation

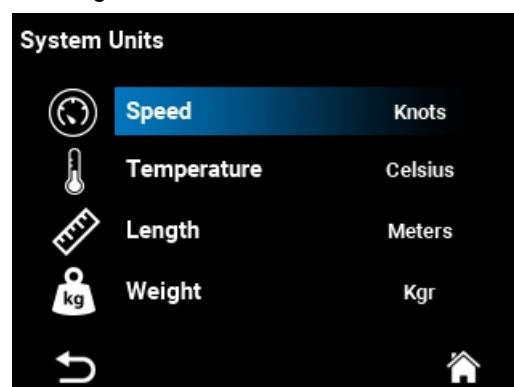
1. Controller Type: Please select Main: if the controller used is placed at the helm, or
  1. Repeater: when the controller is placed at the flybridge station.



2. In case you change the Controller Type to Repeater Mode, you will lose all the stored settings.

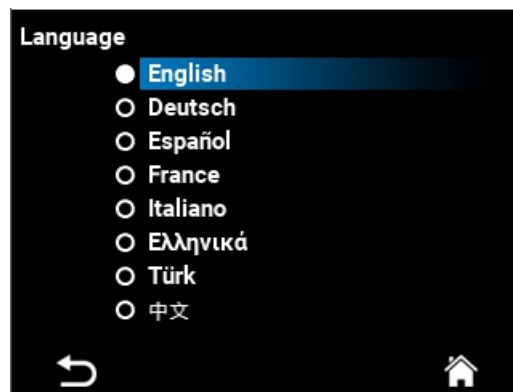


3. System Units: Contains the following:
  1. Speed: select between knots, mph, kmh.
  2. Temperature: select between °F and °C.
  3. Length: select between ft and meters .
  4. Weight: select between pounds and kgs.



## Moby Menu Screens Explanation

1. Language: select from 8 different languages (EN, DE, ES, FR, IT, EL, TR, ). You can navigate by moving the joystick ↑ or ↓, and select with ↵.



2. Reset to Factory Defaults

1. Attention! Resetting will erase all your stored settings.

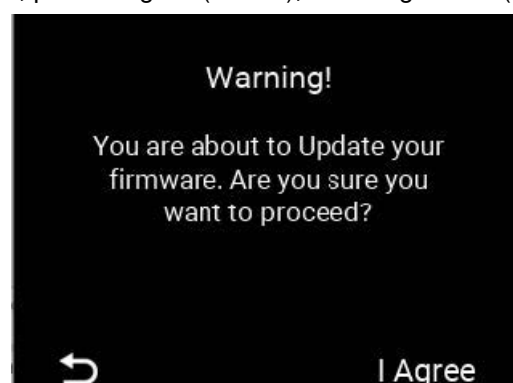


## Moby Menu Screens Explanation

1. Firmware Update: You can initialize Firmware Update process.



2. If you want to start update process, please Agree (with ↵), or else go back (with ↶).



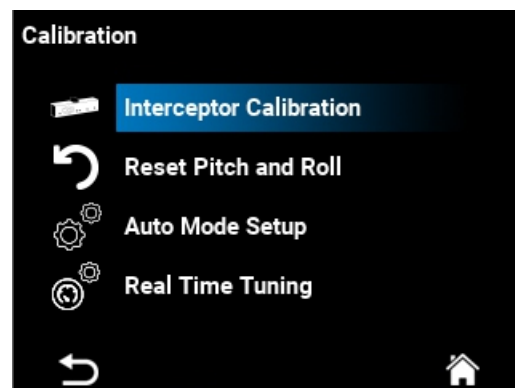
3. Please follow the instructions. For more details, check the "Update Firmware" section in the manual. You may

proceed ↗, or else go back ↖.

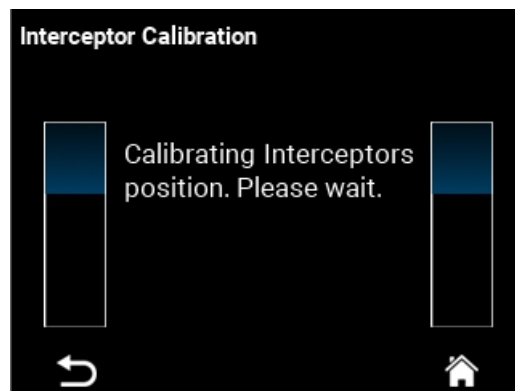


## Moby Menu Screens Explanation – Calibration

1. Main Calibration Screen: you can navigate through:



2. Interceptor Calibration: see 4.1



3. Reset Pitch and Roll: see 4.2

4. Auto Mode Setup: see 4.3

5. Real Time Tuning: see 4.4 by moving the joystick ↑ or ↓, and select with ↗.

6. Interceptor Calibration: Calibration starts automatically and when is finished, a screen pop-ups and notifies that the calibrations is over. Move the joystick ↗ to continue.

1. Go back by ↖ or return to main screen by ↗.

7. Reset Pitch and Roll: Press “Reset” to reset Pitch+Roll. It adjusts the gyroscope angles according to the controller’s placement in the boat’s panel. Reset must be done when the boat is in a calm sea and load is distributed onboard, so the plane defined by waterline is parallel to sea plane.

1. Pop-up screen shows when reset finishes. Go back by ↖ or select Reset by ↗.

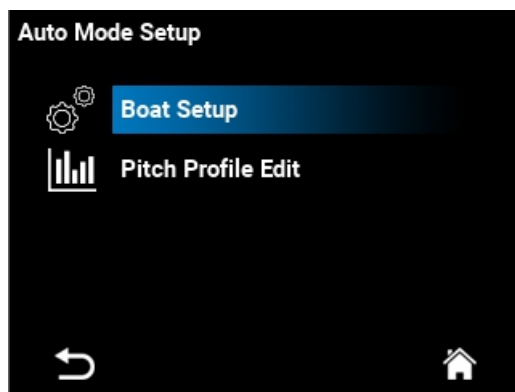
## Moby Menu Screens Explanation – Calibration

Note: take a minute to learn the right values, because they will affect the Moby Controller operation.

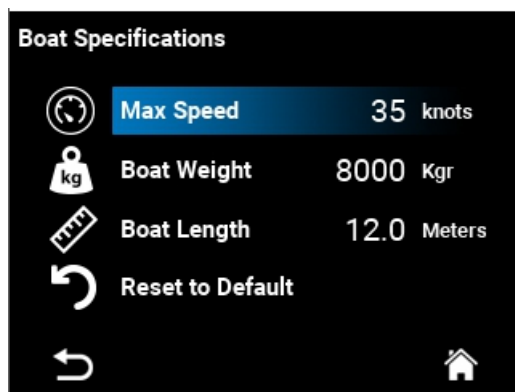
1. Auto Mode Setup: Contains



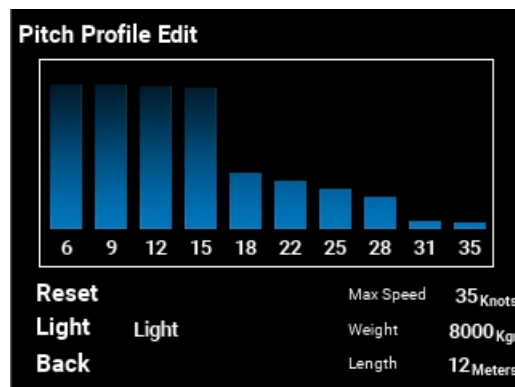
- 2. Boat Setup: import boat specifications (max speed, weight, length) or reset to defaults and
- 3. Pitch Profile Edit: see 4.3.2



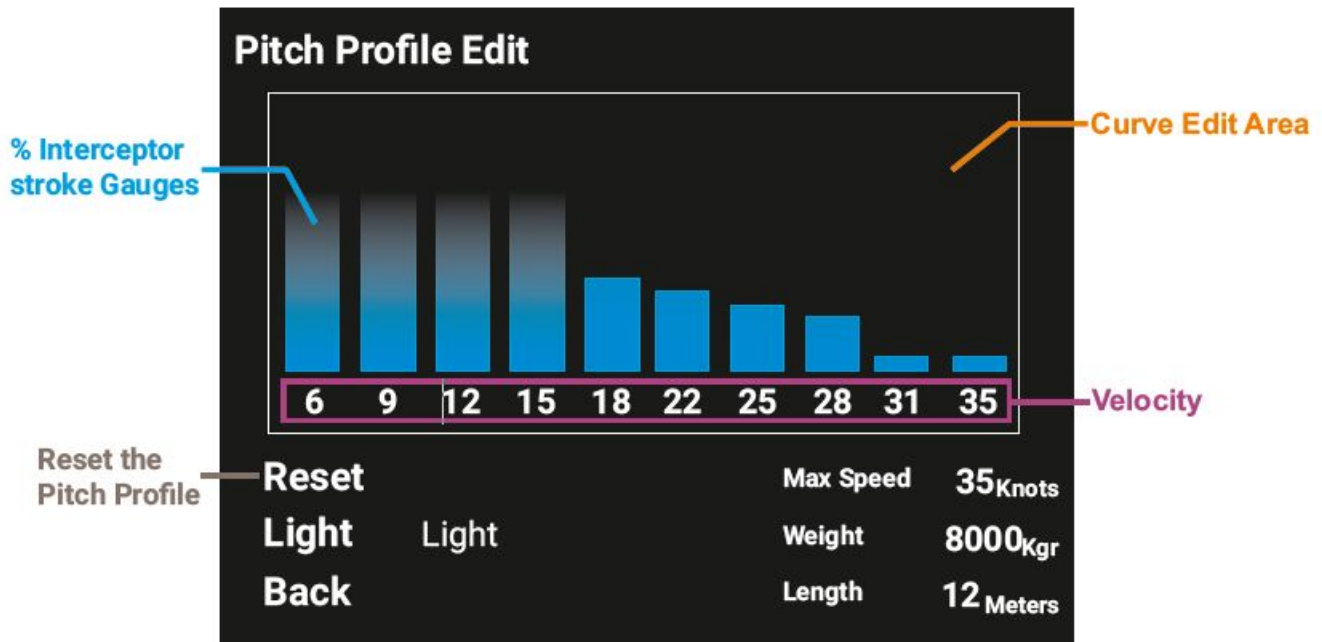
- 4. Reset Profile: see 4.3.3 Navigate by moving the joystick ↑ or ↓, and select with ↱. Go back by ↶ or return to main screen by ↱.
- 5. Boat Specifications: you can adjust the values by moving the joystick ← (decrease) and → (increase). The longer you press the joystick in a direction, the faster decreases or increases the value.



- 6. Pitch Profile Edit: You can advise the following diagram with its explanations.

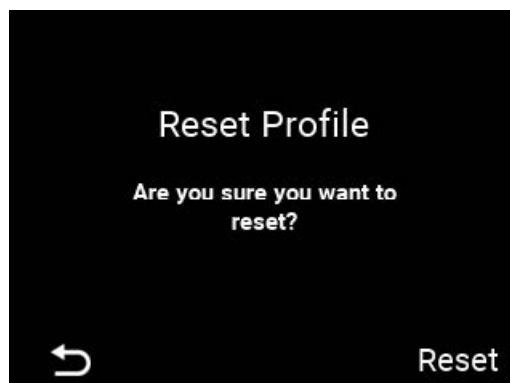






Each column in the Curve Edit Area shows the percentage of the interceptor stroke (deployment) according to the boat's velocity. You have 10 points that you can manually adjust the interceptors' stroke in a specific velocity. Use ↗ to enter/leave the area.

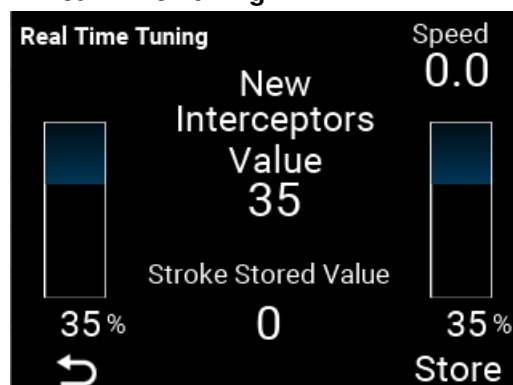
### Reset Profile



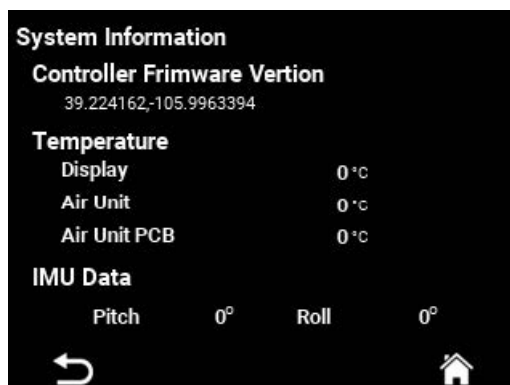
1. Reset: it resets the profile. Move the joystick ↗ to accept or ↖ if you don't accept.
2. The pitch profile is reset according to the presets of the boat setup (Max Speed, Weight, Length).
3. Go back by ↖ or select Reset by ↗.

Note: the presets cannot be edited here. You can change them in the previous screen (4.3.1 Boat Specifications).

### Moby Menu Screens Explanation – Real Time Tuning



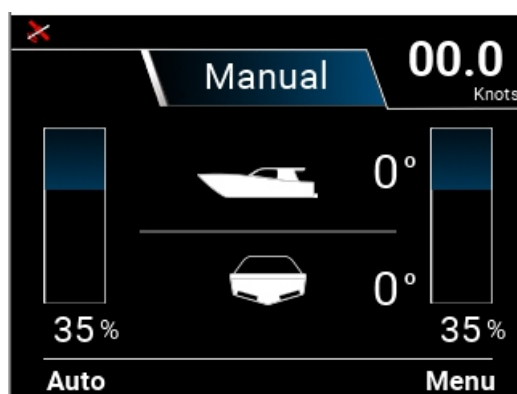
1. Real Time Tuning: Shows the interceptor stroke according to the Pitch Profile Edit Configuration (see Pitch Profile Edit) in live conditions (knots and stroke). You get feedback for your speed and your stroke, and if you adjust it properly, you can fine tune the pitch curve.
  1. When the desired value is achieved, move the joystick ↗.
2. System Information: Shows info for Moby Controller.



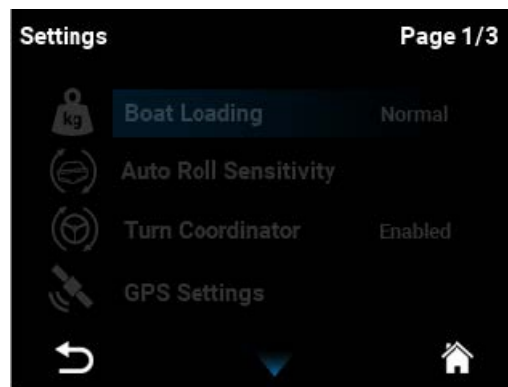
## Moby Menu Screens Explanation – Repeater Mode Screen Differentiation

### Notes

1. Your device can operate in two different modes, as Main device and as Repeater device.
- 2.



3. The Repeater mode is a mode that allows your device to operate only the basic functions of your interceptors such as control manual the interceptors and select between the Automatic modes of the controller.
  4. The Main mode allows your device to have a full control of all the available operations of your controller.
  5. A Network in a boat can have many devices that communicate simultaneously, but only one of those can be a Main device.
  6. The first device you setup must be the device you want to be the Main mode. After that, any device you setup will automatically be in Repeater mode.
  7. If you wish to change the modes of your devices you first should change the one is on Main mode to Repeater, and then the rest. \*Note that changing your controller type to Repeater will lead to lose of all your stored settings.
- Repeater Main Screen: You can recognize that the controller is on Repeater Mode because it's written in the bottom of the screen.



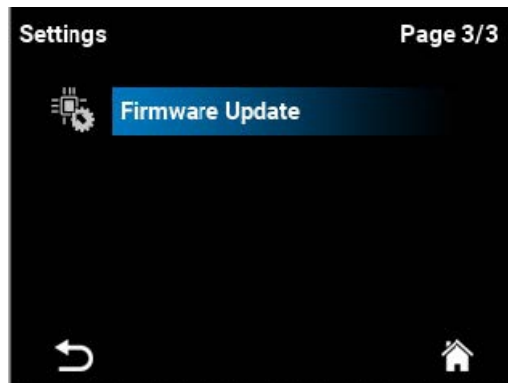
- Repeater Settings (1/3): All functions are locked. If you want to change a setting, please go to Main Controller Section.



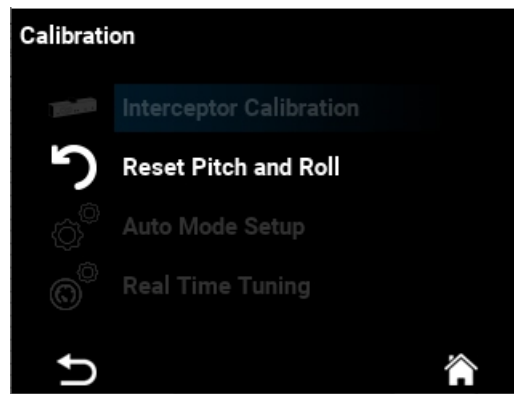
- Repeater Settings (2/3): : The only unlocked function is to choose the Controller Type (Main, Repeater). See also 3.2 Settings

## Moby Menu Screens Explanation – Repeater Mode Screen Differentiation

1. Repeater Settings (3/3): You can initialize the update firmware process.



2. Reset Repeater's Pitch and Roll: Press "Reset" to reset Pitch+Roll. It adjusts the gyroscope angles according to the controller's placement in the boat's panel. Reset must be done when the boat is in a calm sea and load is distributed onboard, so the plane defined by waterline is parallel to sea plane. Pop-up screen shows when reset finishes.
  1. Go back by ↶ or select Reset by ↗.



## Moby Menu Screens Explanation – Updating your device Firmware

Note: In case of firmware update, please advise the following screens.

### Before you start the update, you will need

- The new drivers. You can find and download the latest versions of drivers here <https://www.hydrotab.gr/downloads/>
- A USB drive. We recommend formatting the USB drive before installing the new drivers.
- The provided adapter USB a female to USB b male.

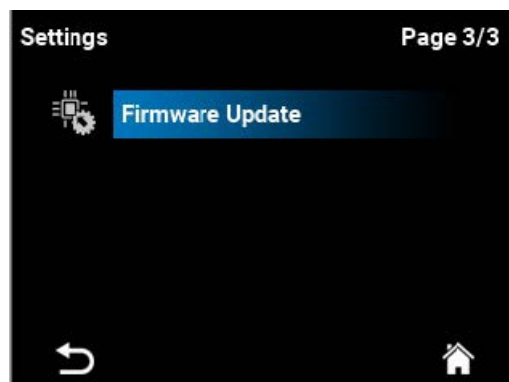
### Before you start the update, make sure:

- You will not lose power during the installation.
- The USB drive has the correct version and is the only file installed.
- Do not disconnect the USB drive during the programming and verifying process (see below).
- If you have 2 controllers, both need to be updated separately.

1. Firmware Update: Go to the 3rd page of settings, and choose Firmware Update .
2. Please follow the instructions. For more details, check the “Update Firmware” section in the manual.
  1. You may proceed ↗, or else go back ↖.

## Moby Menu Screens Explanation – Updating your device Firmware

1. The Firmware Update Programming will last until the 50% of the update process.



2. The Firmware Update Verifying will last until the 100% of the update process



#### **Note**

1. If the message "Verify Error" appears, that means something went wrong. You must restart your controller by unplugging and plug the power again, and then redo the whole process.
2. If the message "Flash Config Error" or "Disk Error" appears, get in contact with us.

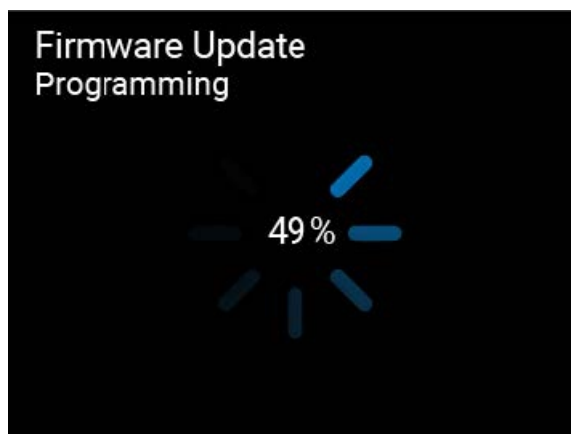
After the end of Update your device will restart and the new Firmware Installed.

#### **Note**

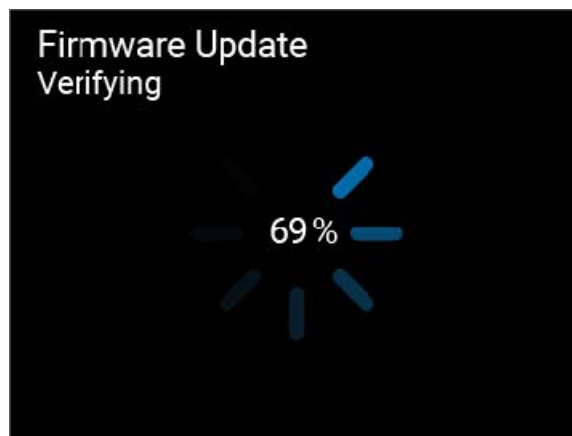
Updating your device firmware could lead to some errors, depending on your system. before you do so please consult about the correct version with an authorized technician or get in contact with us.

#### **Moby Menu Screens Explanation – Updating your device Firmware**

1. The "Waiting USB" screen will appear. It will take some seconds to recognise the USB and then a message "USB OK.." will pop.

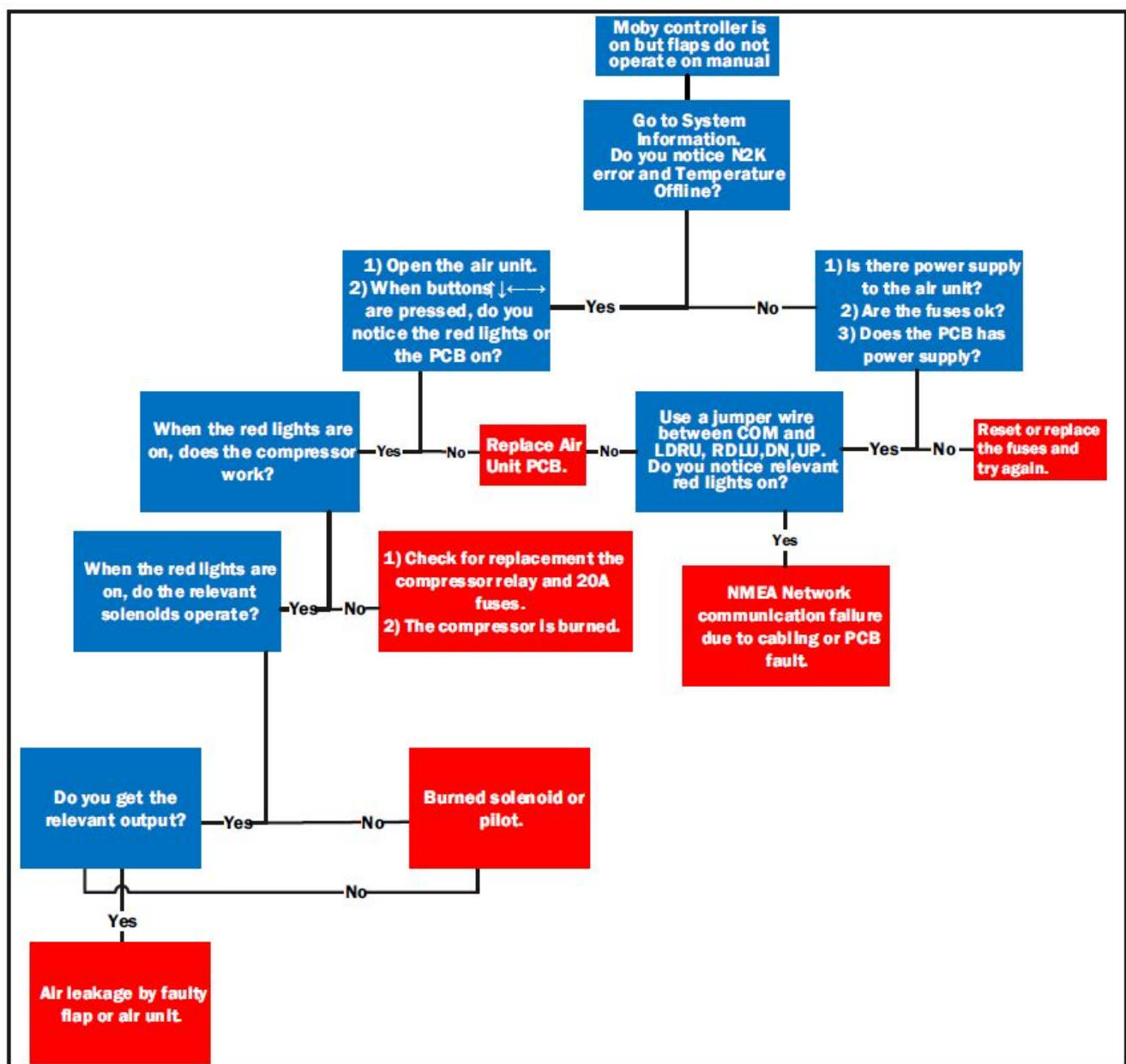


2. After recognizing the USB drive, the message "Erasing Flash" will appear. The old firmware will be erased. This will take some seconds. The process is irreversible, and you cannot go back to your old firmware at this point.



The next step, is the new firmware will start to install. The installation has two steps (see 6.2 section at the next page).

## Moby Troubleshooting



## **Warranty conditions**

1. FW, TS and BT Series Interceptor units (and not complete systems) are covered by a 5-year Warranty.
2. SR Series Interceptor units (and not complete systems) are covered by a 2-year Warranty.
3. Recoil springs, electrical/electronic parts and devices come with a 2-year warranty.
4. Anodes (consumables) are not included in the warranty (for BT, FW, TS Series).
5. Hydrotab's warranty only covers the repair or replacement of spare parts.

## **System selections**

It is the sole responsibility of the buyer to choose the correct system and even with Hydrotab's suggestion for a system, the overall responsibility is with the buyer.

## **Limited warranty**

1. Provided that the system has been installed in accordance with the installation manual we provide, and no damage has been caused due to improper handling or practices, Hydrotab will replace any defective parts or parts that failed due to improper manufacturing within the applicable warranty period.
2. The hydro tab only covers the parts' replacement. Fitting or shipping costs are not covered by the warranty.
3. The hydro tab will select if we will repair or replace any given part.
4. Repaired or replaced products will assume the remainder of the warranty time and under no conditions will the full time of warranty be renewed.

## **Limited warranty periods**

1. The limited warranty period is two years (2 years) from the product shipped from our premises.
2. The extended limited warranty period

It is provided in case

- A hydro tab trim system is included as equipment of a newly purchased boat directly by from the boat-builder or his reseller.
- The hydro tab trim system has been purchased through a Hydro tab dealer.

The extended limited warranty period is valid for three (3) years from the shipping date, provided that the customer has downloaded, completed and submitted the online registration form within one month (30) days from the purchase in the following url. <https://www.hydrotab.gr/product-registration> In case the dealer sells separate units of Interceptors, Air Units and Controllers that constitute a full system that is not initially sold (as a complete system) by Hydrotab, the dealer has the responsibility to provide the separate Serial Numbers for the Interceptors, Air Units and Controllers and guide the end user for the proper registration of his serial numbers for the extended warranty to be valid.

The authorized dealer is responsible for the product's service. For any services or spare parts requirements and replacements during warranty period, the original invoice is necessary to be presented. For the replacement of any part of the system (interceptors, Air Unit, any controller etc.) under warranty, the replaced parts must be returned to Hydrotab Marine Engineering for inspection, otherwise warranty is not valid. Cost of dismantling – assembly and spare parts transportation is borne by the user. The warranty does not foresee, under any circumstances, replacement of the whole Hydrotab system.


## What is not covered by the warranty

- Damage caused by the lack of non-replacement of worn anodes (for BT, FW, TS Series).
- Damage caused by improper installation and use is not consistent with the manual.
- Damage with externally visible deformation of the product caused by misuse of the user or other external causes.
- Damage to any component caused during transportation, installation, or repair from non-authorized personnel.

Conversions or modifications are made after the initial sale. N. Triantafyllis Ltd (Hydro tab Marine Engineering) is not liable for any incidental, indirect, or consequential damages or losses, including, without limitation: travel expenses, transport, lifting and hauling, costs, loss of income, loss of time, loss of property, loss of profits, personal injury or damage of any products, different from those that the company distributes. Any further (except the above-mentioned) commitment of the intermediate dealer regarding the sale terms or servicing of Hydro tab products does not create any liability of our company.

4, Papazoglou str. GR-17778 Athens Greece email: [info@hydrotab.gr](mailto:info@hydrotab.gr) website: [www.hydrotab.gr](http://www.hydrotab.gr)

## Documents / Resources

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|  | <p><a href="#">HydroTab NMEA 2000 Trim Tabs Controllers</a> [pdf] Owner's Manual<br/>NMEA 2000, NMEA 0183, Trim Tabs Controllers</p> |
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## References

- [Home - Hydrotab Trim Tabs Interceptors Systems](#)
- [Downloads - Hydrotab](#)
- [Product Registration - Hydrotab](#)