



# NEUBOAT DOCK

360° VIEW BOAT DOCKING SYSTEM  
Software version: ORU v1.4.0 / CCU v1.1.5.0

## OPERATION INSTRUCTIONS

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# CHAPTER 1: IMPORTANT INFORMATION

## Safety warnings



### Warning: System requirements of use

The Neuboot Dock system ("System") is intended to aid visibility around the vessel only. The captain and crew should maintain a thorough lookout at all times when using the System.

At all times while the System is in use, the captain **MUST**:

- Maintain awareness of the vessel's speed, position, direction of travel as well as the proximity of the boat to other vessels, docks and other objects/obstacles.
- Remain in full control of the boat and its movements.
- Always be responsible for ensuring the vessel is driven in a safe manner, at the appropriate speed, with an appropriate distance to other vessels and objects/obstacles.



### Warning: System limitations

- The System is intended to aid situational awareness and visibility around the vessel only.
- Objects/obstacles on the display may be closer to the vessel than they appear to be on the display.
- The System may have blind spots where obstacles cannot be detected.
- The System must be maintained at all times:
  - Cameras cannot be obscured; and
  - Cameras must be cleaned regularly.
- The System uses an optical camera system:
  - Lighting and weather conditions may affect performance of the System.
  - Without appropriate light/visibility the System will not function correctly.
- The System must not be used if any of the cameras become damaged
- The system is not a substitute for the captains attention and judgement



### Warning: Product installation and operation

- This product must be installed and operated in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.
- Certified installation by an approved installer is recommended. A certified installation qualifies for enhanced product warranty benefits. Contact your dealer for further details.



### **Warning: Switch off power supply**

Ensure the vessel's power supply is switched OFF before starting to install this product. Do NOT connect or disconnect equipment with the power switched on, unless instructed in this document.



### **Warning: Ensure system power source is charged by vessel's engine under normal operation**

The power source for the system MUST be one that is charged by the vessel's engine (under normal operation). Failure to ensure a constant source of power to the system potentially puts yourself, your crew and your vessel at risk of harm.



### **Warning: Entrapment hazard**

This product features moving parts that provide a potential entrapment hazard. Keep clear of moving parts at all times.

## **Regulatory notices**

### **Cleaning the camera**

The camera housing and lens require regular cleaning. You should clean the lens when system performance appears to deviate from its usual level, or when excessive contaminant buildup is seen on the lens. You should also ensure that the camera's protective cover is also unobstructed and operating correctly.

When cleaning this product:

- Do NOT wipe the lens window with a dry cloth, or with abrasive materials such as paper or scrub brushes, as this could scratch the coating.
- Do NOT use acid or ammonia based products.
- Do NOT pressure wash.

Particular care should be taken when cleaning the lens window, as this has a protective anti-reflective coating which may be damaged by improper cleaning.

1. Switch off the power to the unit.
2. Clean the camera body with a clean, soft cotton cloth. You can moisten the cloth and use a mild detergent if required.
3. Clean the camera lens.
  - Rinse the lens with fresh water to remove all dirt particles and salt deposits, and allow to dry naturally.
  - If any spots or smears remain, very gently wipe the lens window with a clean microfibre cloth or soft cotton cloth.
  - If necessary, use isopropyl alcohol (IPA) or a mild detergent to remove any remaining spots, marks, or salt deposits.

### **Disclaimer**

Raymarine does not warrant that this product is error-free or that it is compatible with products manufactured by any person or entity other than Raymarine.

Raymarine is not responsible for damages or injuries caused by your use or inability to use the product, by the interaction of the product with products manufactured by others, or by errors in information utilized by the product supplied by third parties.

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## **Warranty registration**

To register your Raymarine product ownership, please visit <https://bit.ly/raymarine-home> and register online.

It is important that you register your product to receive full warranty benefits. Your unit package includes a bar code label indicating the serial number of the unit. You will need this serial number when registering your product online. You should retain the label for future reference.

## **IMO and SOLAS**

The equipment described within this document is intended for use on leisure marine boats and workboats NOT covered by International Maritime Organization (IMO) and Safety of Life at Sea (SOLAS) Carriage Regulations.

## **Technical accuracy**

To the best of our knowledge, the information in this document was correct at the time it was produced. However, Raymarine cannot accept liability for any inaccuracies or omissions it may contain. In addition, our policy of continuous product improvement may change specifications without notice. As a result, Raymarine cannot accept liability for any differences between the product and this document. Please check the Raymarine website (<https://bit.ly/raymarine-home>) to ensure you have the most up-to-date version(s) of the documentation for your product.

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# CHAPTER 2: DOCUMENT INFORMATION

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- 2.3 Product documentation — page 11
- 2.4 Applicable software version — page 11
- 2.5 Document illustrations — page 11
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## 2.1 Applicable products

This document is applicable to the following products:

NeuBoat Dock Basic System, part number: E70699

## 2.2 Multifunction display requirement

The NeuBoat Dock system requires a Raymarine® Axiom multifunction display, running LightHouse 4, v4.6.103 or later.

For software, visit: <https://bit.ly/rym-software>

Compatible displays	Required software
<b>Axiom 2 Series:</b> Axiom 2 Pro, Axiom 2 XL	• LightHouse 4, v4.6.103 or later
<b>Axiom Series:</b> Axiom, Axiom+, Axiom Pro, Axiom XL	• LightHouse 4, v4.6.103 or later

## 2.3 Product documentation

The following documentation is applicable to the NeuBoat Dock system:

Documentation number	Description
<b>81418</b>	NeuBoat Dock Operation Instructions (this document)
<b>87480</b>	NeuBoat Dock Installation Instructions
<b>87479</b>	NeuBoat Dock Surround View Monitor Camera Mounting Template
<b>87478</b>	NeuBoat Dock Camera Conversion Unit Mounting Template
<b>87477</b>	NeuBoat Dock Object Recognition Unit Mounting Template

## 2.4 Applicable software version

Product software is updated regularly to add new features and improve existing functionality.

This document has been updated to reflect the following software versions:

- **Object Recognition Unit (ORU)** software version: v1.4.0
- **Camera Conversion Unit (CCU)** software version: v1.1.5.0

Check the website for the latest software:

NeuBoat Dock **software download link**

<https://bit.ly/rym-software>

LightHouse 4 **software download link**

<https://bit.ly/LH4-download>

## 2.5 Document illustrations

Your product and if applicable, its user interface may differ slightly from that shown in the illustrations in this document, depending on product variant and date of manufacture.

All images are provided for illustration purposes only.

## 2.6 Document conventions

### Formatting of user interface menus and settings.

References to menus and setting options are formatted using square brackets [].

#### Examples:

- The *[Camera position indicator]* represents the position of a camera on your boat and its field of view.
- *[Views]*— Select to show the *[View selection popup]*. You can either choose a docking preset via the *[Docking]* tab or select individual camera views via the *[Cameras]* tab.

### Procedures for navigating menu hierarchies.

Menu hierarchies are used in this document to provide a quick summary on how to access a particular function or menu option.

**Examples:**

- You can access the following settings via the *[Settings]* menu: *[NeuBoat Dock app > Menu > Settings]*.
- Data overlays can be added, customized or deleted by selecting *[Edit data overlays]* from the app's *[Page settings]* menu: *[Menu > Settings > Page settings > Edit data overlays]*.

# CHAPTER 3: SOFTWARE UPDATES

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- 3.1 Software updates — page 14
- 3.2 Removing MicroSD card from its adapter — page 14
- 3.3 Inserting a MicroSD card — Camera Conversion Unit — page 15
- 3.4 Inserting a MicroSD card — Object Recognition Unit — page 15

## 3.1 Software updates

Raymarine regularly issues software updates for its products, which provide new and enhanced features and improved performance and usability. It's important to ensure that you have the latest software for your products by regularly checking the Raymarine website for new software releases.

To check for the latest software updates and the software update procedure for your specific product(s) refer to: <https://bit.ly/rym-software>

Unless otherwise stated, software updates for Raymarine products are performed using a Raymarine MFD/chartplotter.

- Where applicable, you should always backup your user data and settings before performing a software update.
- To update SeaTalk NG products you must use the datamaster MFD/Chartplotter which is physically connected to the SeaTalk NG backbone.
- Ethernet (RayNet) products can be updated from any MFD/Chartplotter on the same network as the product to be updated.
- In order to perform a software update, any connected Autopilot or Radar must be switched to Standby.
- The MFD's/Chartplotter's "Check online" feature is only available when the MFD has an Internet connection.

### Note:

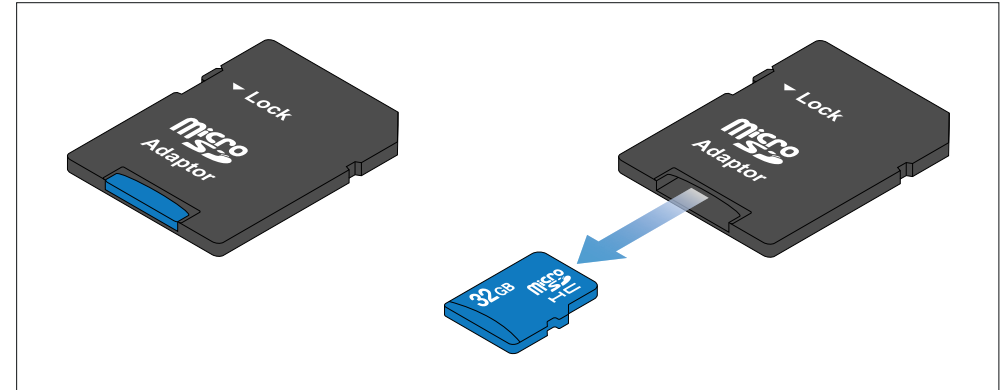
If in doubt as to the correct procedure for updating your product software, refer to your dealer or Raymarine technical support.

### Caution: Installing software updates

- The software update process is carried out at your own risk. Before initiating the update process ensure you have backed up any important files.
- Ensure that the product(s) has a reliable power supply and that the update process is not interrupted.
- Damage caused by an incomplete update is not covered by Raymarine warranty.
- By downloading the software update package, you agree to these terms.

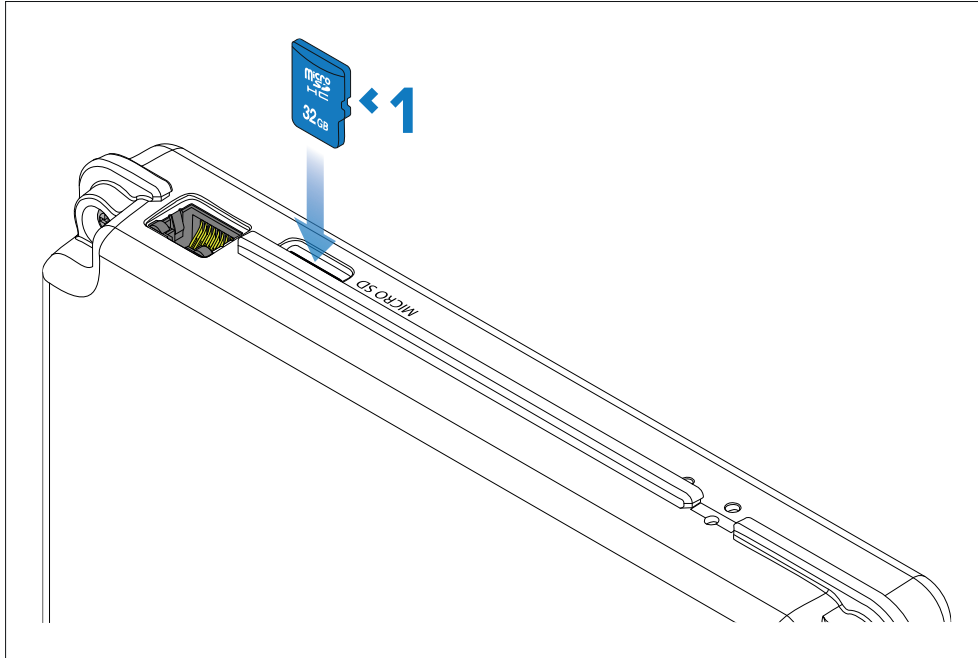
## 3.2 Removing MicroSD card from its adaptor

MicroSD memory cards are typically inserted into an SD card adaptor when supplied. The card will need to be removed from the adaptor before inserting into your Camera Conversion Unit or Object Recognition Unit.



### 3.3 Inserting a microSD card — Camera Conversion Unit

The Camera Conversion Unit has a single slot microSD card reader located at the top of the unit for the purpose of software updates.

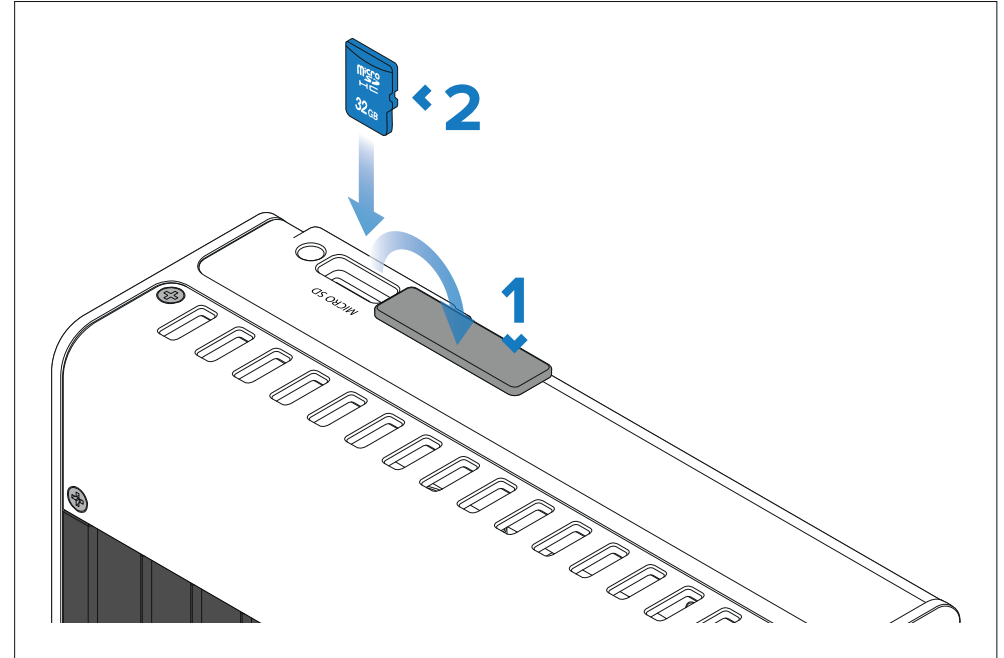


In order to insert your microSD card:

1. Position the microSD card with the contacts facing down and push the card into the slot.

### 3.4 Inserting a microSD card — Object Recognition Unit

The Object Recognition Unit has a single slot microSD card reader located at the top of the unit for the purpose of software updates.



In order to insert your microSD card:

1. Pull back the microSD card reader cover as shown above.
2. Position the microSD card with the contacts facing down and push into the card into the slot.

**Note:**

The microSD card slot is fitted with a protective cap.

The protective cap should remain in place until the microSD card is inserted. If a microSD card insertion is not required then the protective cap should not be removed.

# CHAPTER 4: CALIBRATION

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- [4.1 NeuBoat Dock system calibration — page 17](#)

## 4.1 NeuBoat Dock system calibration

The NeuBoat Dock system calibration procedure **must** be performed with the guidance of Raymarine® Product Support.

Raymarine® Product Support can provide this guidance remotely if required, via a screen-sharing video call, or similar.

For contact details, refer to the following section:

**[p.37 – Raymarine product support and servicing](#)**

# CHAPTER 5: OPERATION

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- 5.1 NeuBoat Dock app prerequisites — page 19
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- 5.9 Top-down only view zoom and pan controls — page 23
- 5.10 Distance guides — page 23

## 5.1 NeuBoat Dock app prerequisites

Before attempting to use the *[NeuBoat Dock app]*, ensure that:

### Important:

- The NeuBoat Dock system has been correctly installed in accordance with the instructions found within the NeuBoat Dock Installation Instructions (**87480**).
- You have a Raymarine® Axiom multifunction display, running LightHouse™ 4, version 4.5 or later.
- The NeuBoat Dock system has been correctly calibrated in accordance with the instructions found in the following section: **p.16 – Calibration**
- You have read the information related to NeuBoat Dock, contained in the *Homescreen* chapter of the latest version of the LightHouse™ 4 operation instructions document (**81406**).
- You have read and understood the NeuBoat Dock app features and settings found in the following section: **p.18 – Operation**
- All cameras are displaying their video feeds correctly and nothing is obscuring the image.
- There are no active alarms or system faults.

## 5.2 Adding the NeuBoat Dock app to LightHouse™ 4 Homescreen

Before you can access the *[NeuBoat Dock app]* app on your multifunction display, you must first add the app to your Homescreen.

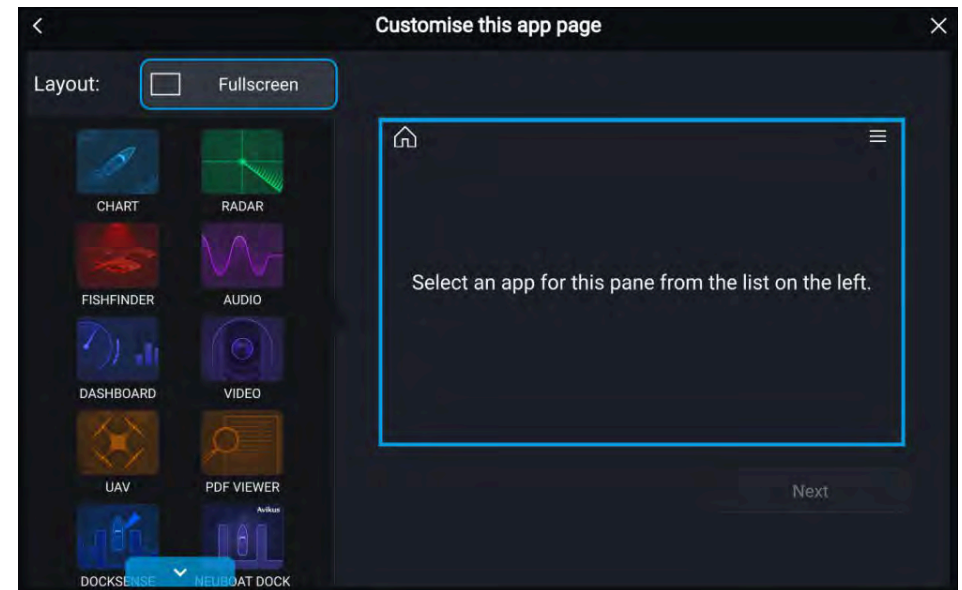
### Note:

- Your multifunction display must first be connected to the NeuBoat dock system in order for the *[NeuBoat Dock app]* to appear on the list of available apps as an option.
- The *[NeuBoat Dock app]* is supported in the *[Fullscreen]* app page layout only.

To create a new app page for *[NeuBoat Dock app]*:

Operation

1. Either,
  - i. Select and hold an existing App icon on the Homescreen to display the pop-over options.
  - ii. Select *[Customize]*.
2. Or,
  - i. Press and hold on a blank space on the Homescreen.
3. Select the *[Layout]* option and change the page layout to *[Fullscreen]*.
4. From the list of available apps, select *[NeuBoat Dock]*.



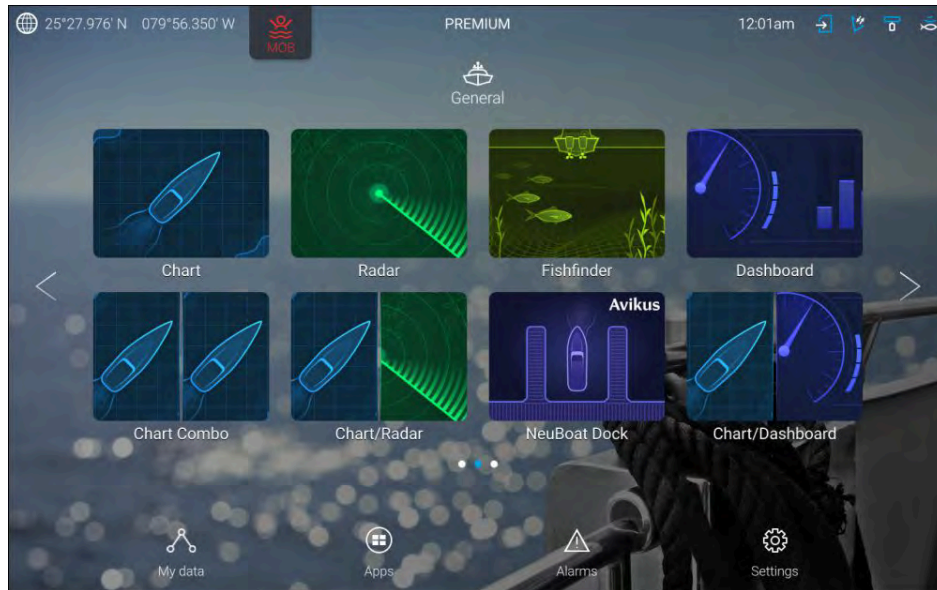
5. Select *[Next]* and enter a name for the app.
6. Select *[Save]*.

The *[NeuBoat Dock]* page icon is now saved and accessible from the LightHouse™ 4 Homescreen.

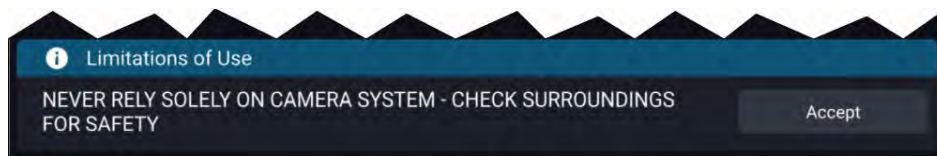
## 5.3 Opening the NeuBoat Dock app

To start using the NeuBoat Dock system, begin by opening the *[NeuBoat Dock app]*.

1. From the Lighthouse *[Homescreen]* select the *[NeuBoat Dock app]*.



2. After the app has opened, ensure that you have read and understood the *[Limitations of Use]* before selecting *[Accept]* to continue.



### Important:

The NeuBoat Dock system can take up to 1 minute to fully power on.

Once powered, the NeuBoat Dock system is ready to use.

### Note:

If a *[System not detected]* pop-up appears and your multifunction display is connected to the NeuBoat Dock system, refer to the following section for more information: [p.28 — Troubleshooting](#)

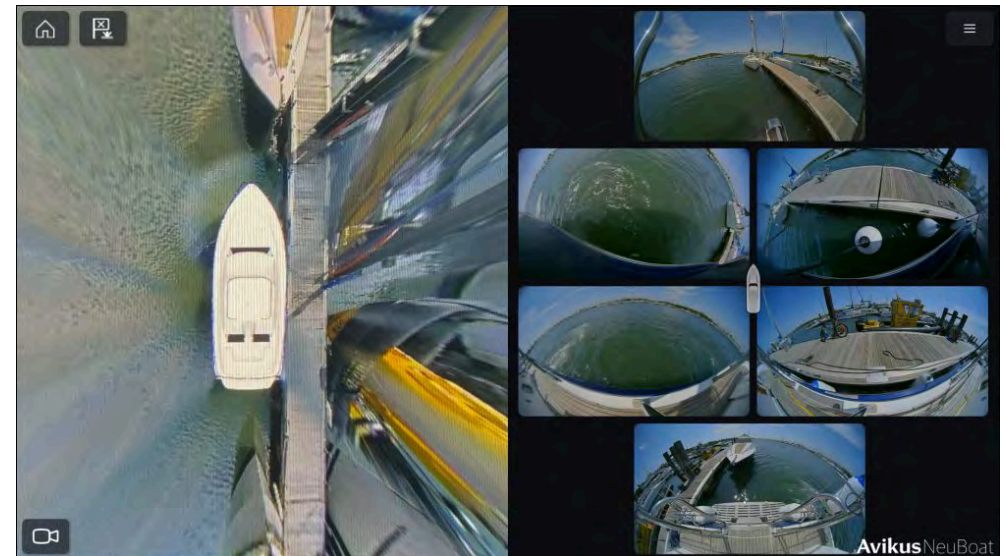
## 5.4 NeuBoat Dock app overview

The *[NeuBoat Dock app]* combines a top-down, bow-up surround view around your vessel, as well as 6 individual camera feeds to provide assistance when performing docking maneuvers.

The app can be configured to display a fullscreen *[Top-down only view]* which can be zoomed and panned, or, splitscreen top-down and individual camera feed views.

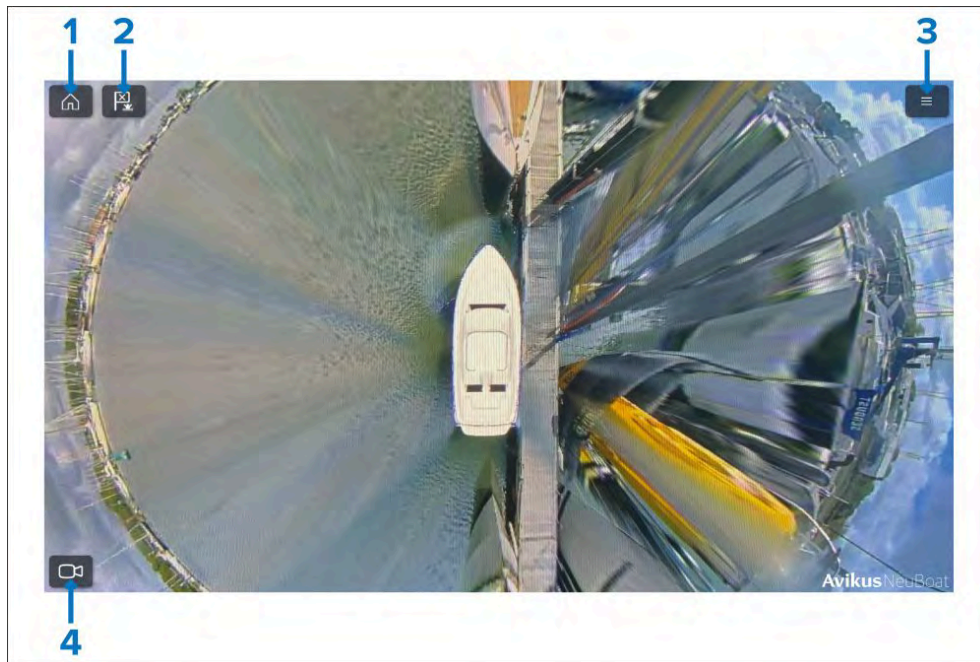
Any changes to the default view configuration (including fullscreen view pan and zoom operations) will persist over a power cycle.

Camera view configurations are local to each instance of the *[NeuBoat Dock app]* on your system.



## 5.5 Onscreen controls

The following fixed position onscreen controls are available:

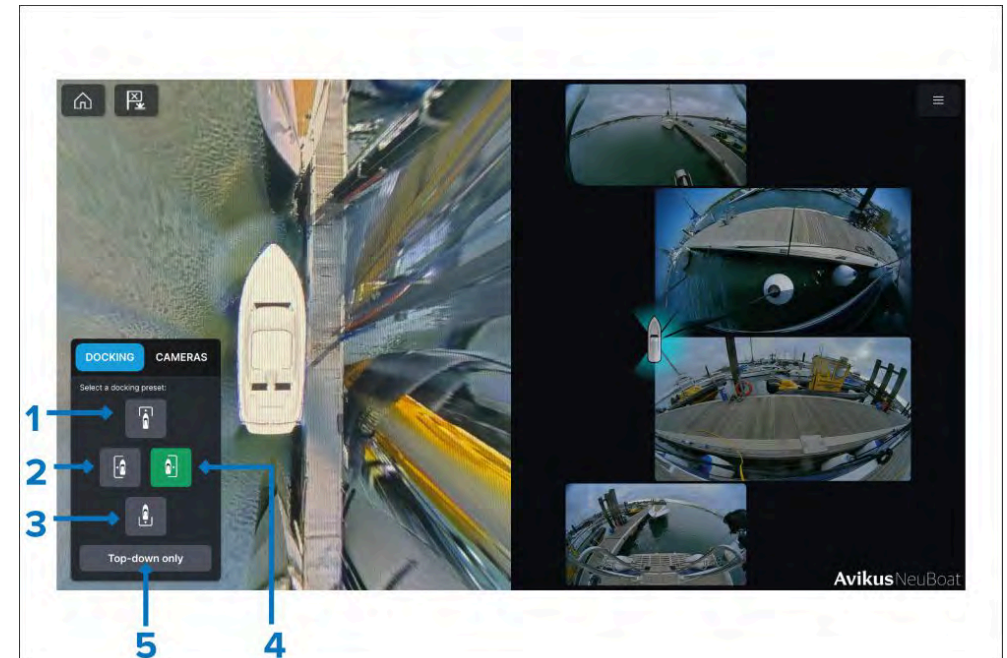


1. *[Home]*— Select to return to the Homescreen.
2. *[Waypoint / MOB]*— Select to place a waypoint at your vessel's location, or press and hold to activate Man overboard (MOB) alarm.
3. *[Menu]*— Select to open the NeuBoat Dock app menu.
4. *[Views]*— Select to show the *[View selection popup]*. You can either choose a docking preset via the *[Docking]* tab or select individual camera views via the *[Cameras]* tab. For more information, refer to:
  - [p.21 — Docking tab \(preset views\)](#)
  - [p.22 — Cameras tab \(individual views\)](#)

## 5.6 Docking tab (preset views)

If the *[Views]* icon has been selected, two selectable tabs will appear.

The *[Docking]* tab contains 4 preset camera view configurations. These show a splitscreen view layout of the individual camera feed views alongside the top-down view.



1. *[Bow camera view preset]*— presents a splitscreen page layout of the individual bow, blind-port, port, blind-starboard and starboard camera views alongside the top-down camera view.
2. *[Port camera view preset]*— presents a splitscreen page layout of the individual bow, blind-port, port and stern camera views alongside the top-down camera view.
3. *[Starboard camera view preset]*— presents a splitscreen page layout of the individual bow, blind-starboard, starboard and stern camera views alongside the top-down camera view.
4. *[Stern camera view preset]*— presents a splitscreen view of the individual stern, port and starboard camera views alongside the top-down camera view.

5. *[Top-down only view]*— returns the configuration to a fullscreen top-down camera view.

To dismiss the *[View selection popup]*, tap outside of the menu area or wait 10 seconds for the menu to automatically dismiss.

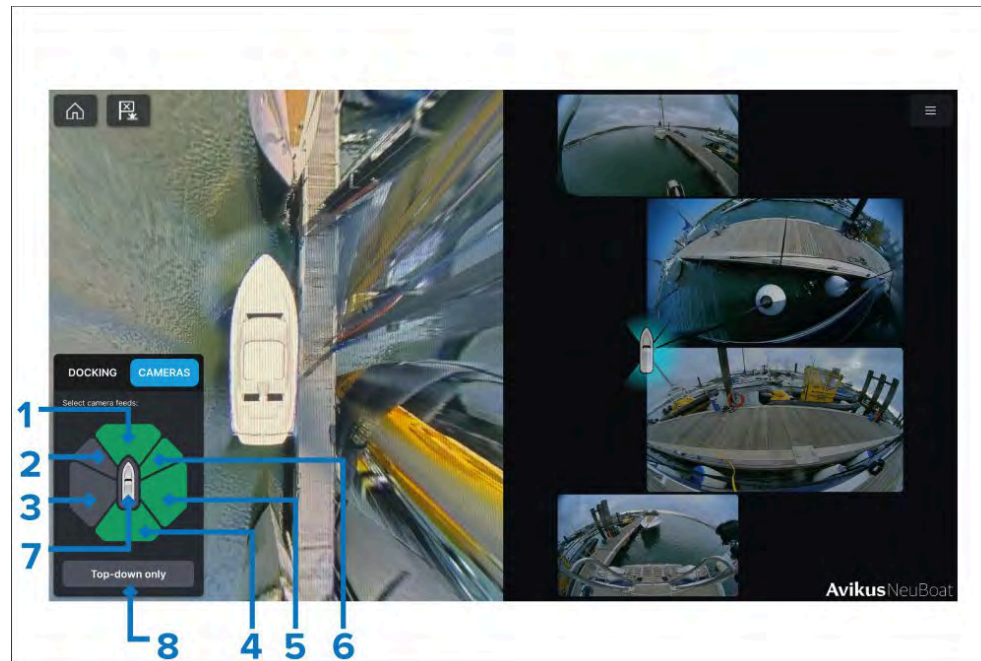
**Note:**

Enabled preset camera views will be replaced if an individual camera view is toggled via the *[Cameras]* tab. For more information, refer to: [p.22 — Cameras options \(individual views\)](#)

## 5.7 Cameras tab (individual views)

If the *[Views]* icon has been selected, two selectable tabs will appear.

The *[Cameras]* tab contains selectable segments for all 6 cameras. These can be used to toggle individual camera feed views *[On]* (indicated by a green segment) and *[Off]* (indicated by a gray segment).



1. *[Bow camera view toggle]*— toggles the bow camera view to display on a splitscreen page layout (currently toggled *[On]*).

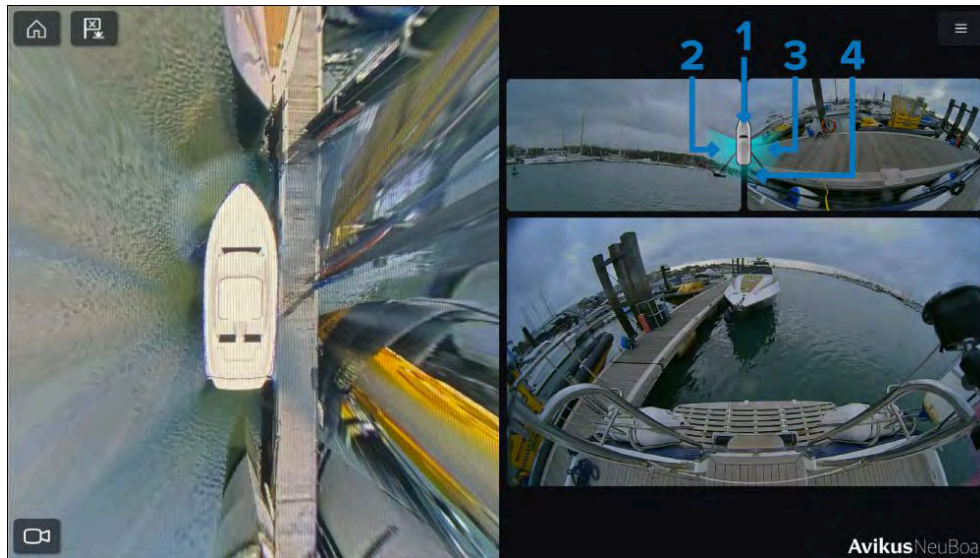
2. *[Blind-port camera view toggle]*— toggles the blind-port camera view to display on a splitscreen page layout (currently toggled *[Off]*).
3. *[Port camera view toggle]*— toggles the port camera view to display on a splitscreen page layout (currently toggled *[Off]*).
4. *[Stern camera view toggle]*— toggles the stern camera view to display on a splitscreen page layout (currently toggled *[Off]*).
5. *[Starboard camera view toggle]*— toggles the starboard camera view to display on a splitscreen page layout (currently toggled *[On]*).
6. *[Blind-starboard camera view toggle]*— toggles the blind-starboard camera view to display on a splitscreen page layout (currently toggled *[On]*).
7. *[All camera views toggle]*— toggles all 6 camera views to display on a splitscreen page layout (currently toggled *[Off]*).
8. *[Top-down only view]*— returns the configuration to a fullscreen top-down camera view.

To dismiss the *[View selection popup]*, tap outside of the menu area or wait 10 seconds for the menu to automatically dismiss.

## 5.8 Camera position indicator

The *[Camera position indicator]* represents the position of a camera on your boat and its field of view.

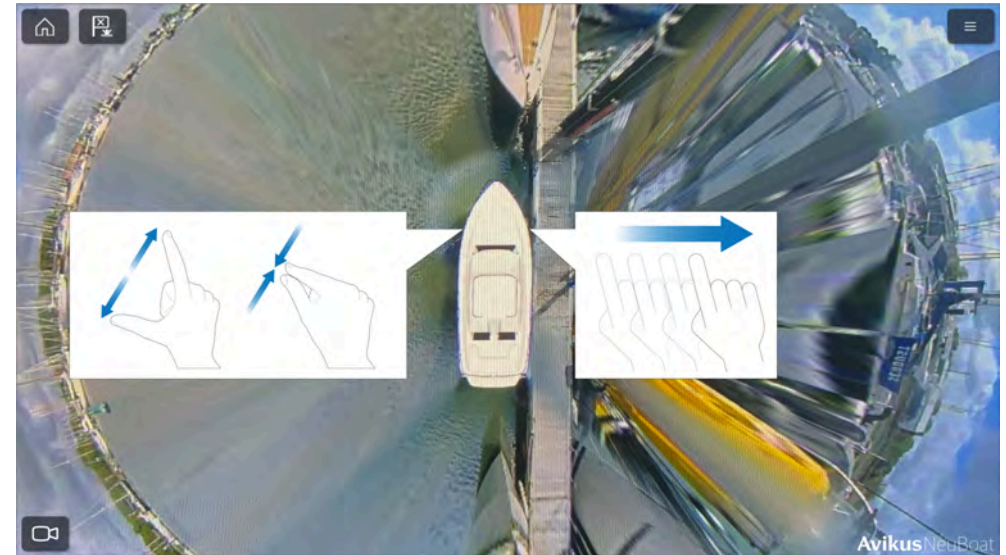
Whenever a camera feed view is changed via either the *[Docking]* or *[Camera]* tabs, the *[Camera position indicator]* will automatically change to reflect the positions of the selected cameras on your boat, and their fields of view.



1. *[Boat indicator]*— represents the position of your boat in relation to each of the enabled camera views.
2. *[Port camera indicator]*— points towards the port camera's current outward view.
3. *[Starboard camera indicator]*— points towards the starboard camera's current outward view.
4. *[Stern camera indicator]*— points towards the stern camera's current outward view.

## 5.9 Top-down only view zoom and pan controls

The *[Top-down only view]* camera feed can be zoomed by pinch zooming inward and outward or panned by tap-hold dragging the screen in the direction you wish to pan to.



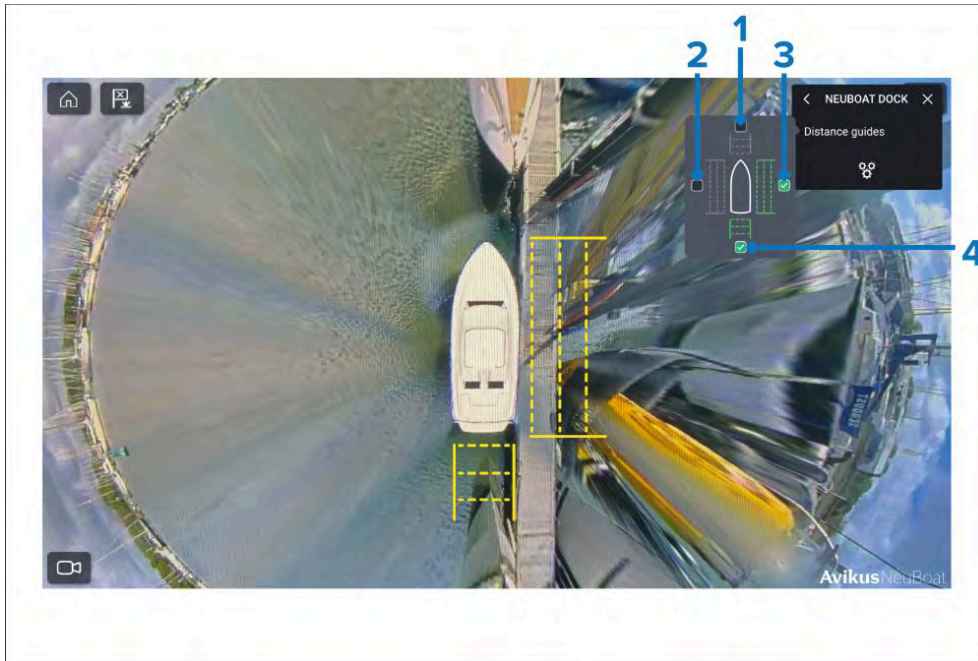
If the camera feed is tapped once more, the *[Top-down only view]* will reset to its original position.

## 5.10 Distance guides

Optional *[Distance guides]* can be enabled via the *[Menu]* to provide static overlay distance markers on both the top-down and individual camera feed views.

### Important:

The maximum *[Distance guides]* length and the interval between each line marker is not defined by a set measurement. When using *[Distance guides]*, ensure that you maintain a visual watch of your vessel's surroundings.



1. *[Toggle bow distance guide]*— toggles a distance guide to display on the top-down view bow position and the *[Bow camera view]* (currently toggled *[Off]*).
2. *[Toggle port distance guide]*— toggles a distance guide to display on the top-down view port position, the *[Port camera view]* and the *[Blind-port camera view]* (currently toggled *[Off]*).
3. *[Toggle starboard distance guide]*— toggles a distance guide to display on the top-down view starboard position, the *[Starboard camera view]* and the *[Blind-starboard camera view]* (currently toggled *[On]*).
4. *[Toggle stern distance guide]*— toggles a distance guide to display on the top-down view stern position and the *[Stern camera view]* (currently toggled *[On]*).

# CHAPTER 6: SETTINGS

## CHAPTER CONTENTS

- [6.1 Settings overview — page 26](#)
- [6.2 NeuBoat calibration settings — page 26](#)
- [6.3 Data overlay settings — page 26](#)

## 6.1 Settings overview

You can access the following settings via the *[Settings]* menu: *[NeuBoat Dock app > Menu > Settings]*.

1. *[NeuBoat calibration settings]*
2. *[Data overlay settings]*

## 6.2 NeuBoat calibration settings

Found under the *[Advanced]* menu, the *[Calibrate]* option enables a Raymarine® Product Support member to login and begin the NeuBoat Dock system calibration process.

### Important:

System performance cannot be guaranteed if any calibration settings are changed without assistance from a Raymarine® Product Support member.

For more *[NeuBoat Dock app]* calibration information, refer to:  
[p.16 – Calibration](#)

## 6.3 Data overlay settings

Found under the *[Page settings]* menu, the *[Edit data overlays]* option enables you to add data overlays to the *[NeuBoat Dock app]*.

### Data overlays

Data overlays can be used to display system data on homescreen app pages. Up to 4 data overlays can be added to each app page. Data overlays are not available for the Mercury VesselView app or for fullscreen partner integration interface pages.

Data overlays can be added, customized or deleted by selecting *[Edit data overlays]* from the app's *[Page settings]* menu: *[Menu > Settings > Page settings > Edit data overlays]*.

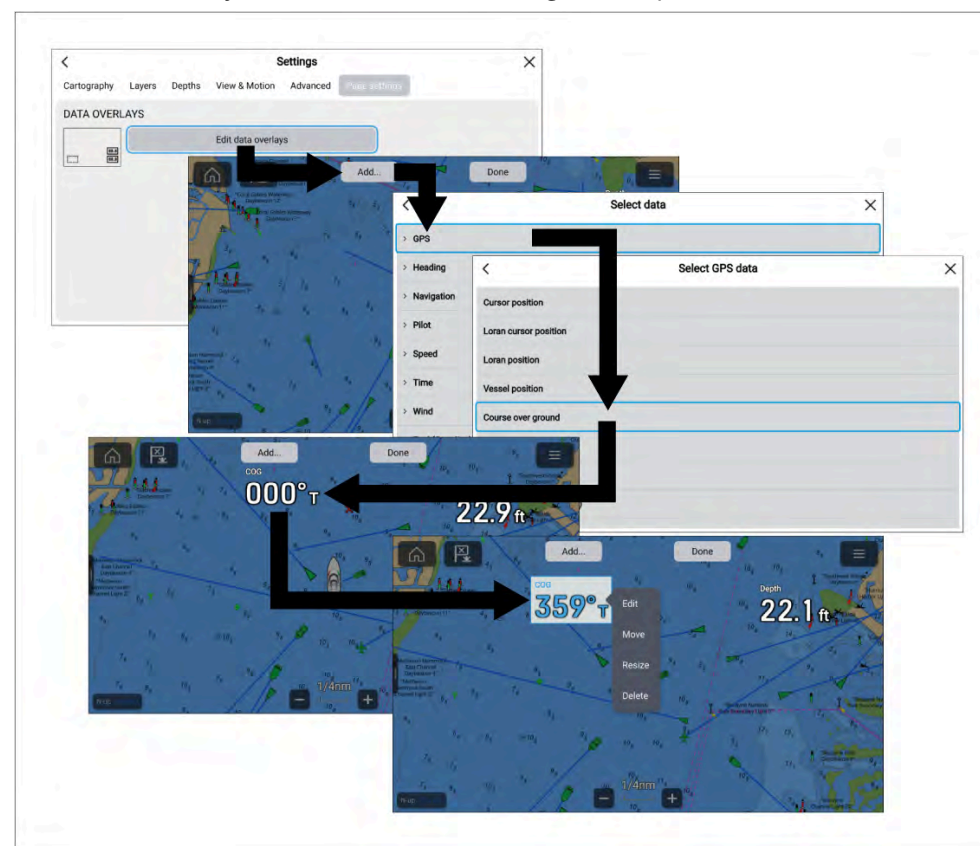
In edit mode you can customize existing data overlays by selecting it to display the pop-over menu.

From the pop-over menu the following options are available:

- Change the data item in a data overlay by selecting *[Edit]* and choosing a new data item from the list.
- Change the location of a data overlay by selecting *[Move]* and then moving it to a new location.
- Change the size of a data overlay by selecting *[Resize]* and choosing either *[Small]*, *[Medium]*, *[Large]* or *[Extra large]*.
- Remove a data overlay by selecting *[Delete]*

### Adding a data overlay

New data overlays can be added following the steps below.



1. Select *[Edit data overlays]* from the *[Page settings]* menu: *[Menu > Settings > Page settings]*.
2. Select *[Add]* or select and hold on a location and select *[Add new]*.

3. Select a data category from the list.
4. Select a data item from the list.
5. If required select and hold on the new data overlay and drag it to a new location.
6. Select *[Done]* to confirm the new data overlay(s).

# CHAPTER 7: TROUBLESHOOTING

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- 7.1 Troubleshooting — page 29
- 7.2 LED diagnostic guidance — page 29
- 7.3 LED diagnostics — CCU — page 30
- 7.4 LED diagnostics — ORU — page 31
- 7.5 Camera troubleshooting — page 31
- 7.6 Power up troubleshooting — page 32
- 7.7 System data troubleshooting — page 33
- 7.8 Miscellaneous troubleshooting — page 34
- 7.9 Alarms list — page 35

## 7.1 Troubleshooting

The troubleshooting section provides possible causes and the corrective action required for common problems that are associated with the installation and operation of your product.

Before packing and shipping, all Raymarine products are subjected to comprehensive testing and quality assurance programs. If you do experience problems with your product, this section will help you to diagnose and correct problems to restore normal operation.

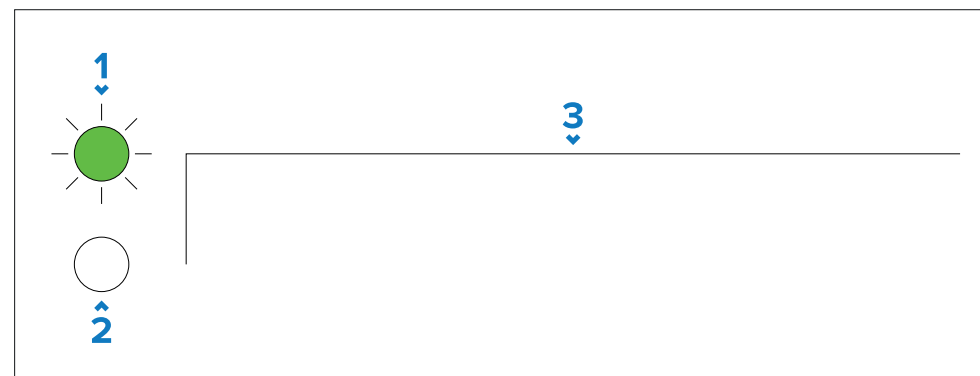
If after referring to this section you are still having problems with your product, please refer to the *Technical support* section of this manual for useful links and Raymarine technical support contact details.

## 7.2 LED diagnostic guidance

Your product has diagnostic LEDs which can be used to identify the unit's status and to help troubleshoot any potential issues that may occur.

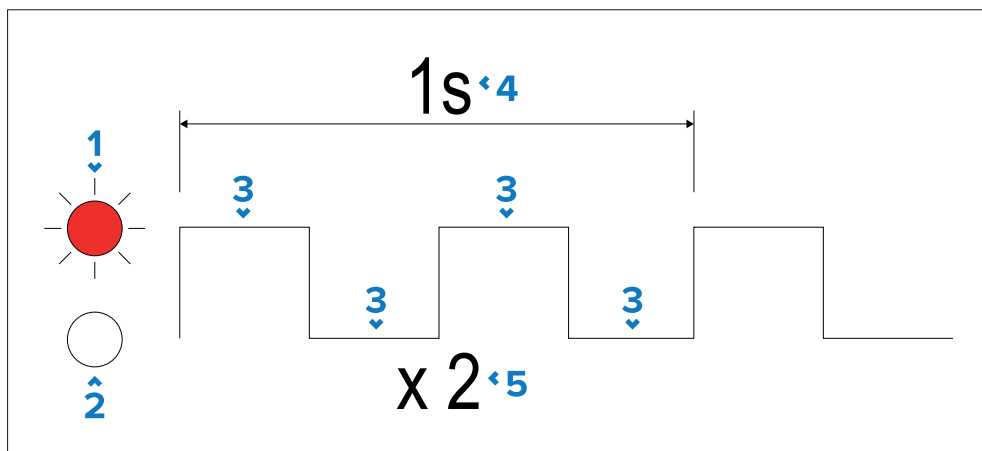
The following section provides two basic examples of how to interpret the LED diagnostic patterns included in this publication.

### Example solid LED diagnostic pattern:



1. **LED ON** — Indicates the color assigned to the unit's diagnostic LED, and confirms that the diagnostic LED is active (switched **on**).
2. **LED OFF** — Indicates that the unit's diagnostic LED is inactive (switched **off**).
3. **Diagnostic pattern** — Indicates a diagnostic pattern based on the number and duration of *peaks* (indicating LED is switched **on**) and *troughs* (indicating LED is switched **off**) generated within the duration of the diagnostic pattern. In the example shown, a continuous peak occurs, indicating that the LED is permanently **on**.

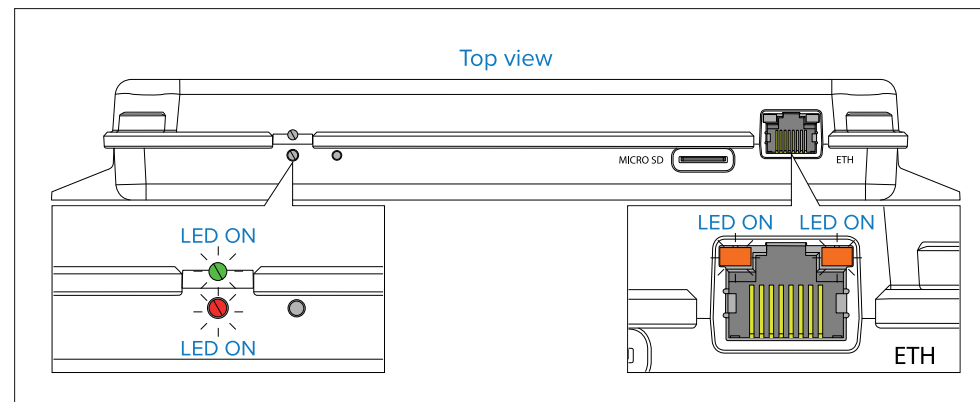
### Example flashing LED diagnostic pattern:



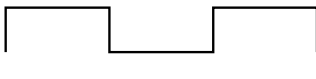


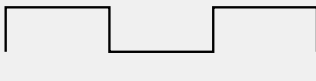
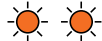

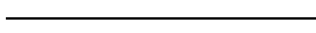





1. **LED ON** — Indicates the color assigned to the unit's diagnostic LED, and confirms that the diagnostic LED is active (switched **on**).
2. **LED OFF** — Indicates that the unit's diagnostic LED is inactive (switched **off**).
3. **Diagnostic pattern** — Indicates a diagnostic pattern based on the number and duration of *peaks* (indicating LED is switched **on**) and *troughs* (indicating LED is switched **off**) generated within the duration of the diagnostic pattern. In the example shown, a peak followed by a trough occurs and then repeats again, indicating that the LED flashes twice within a period of one second.
4. **Diagnostic pattern duration** — Indicates the total duration of the diagnostic pattern.
5. **Diagnostic pattern flash total** — Indicates the total number of flashes that occur within the diagnostic pattern.

## 7.3 LED diagnostics — CCU

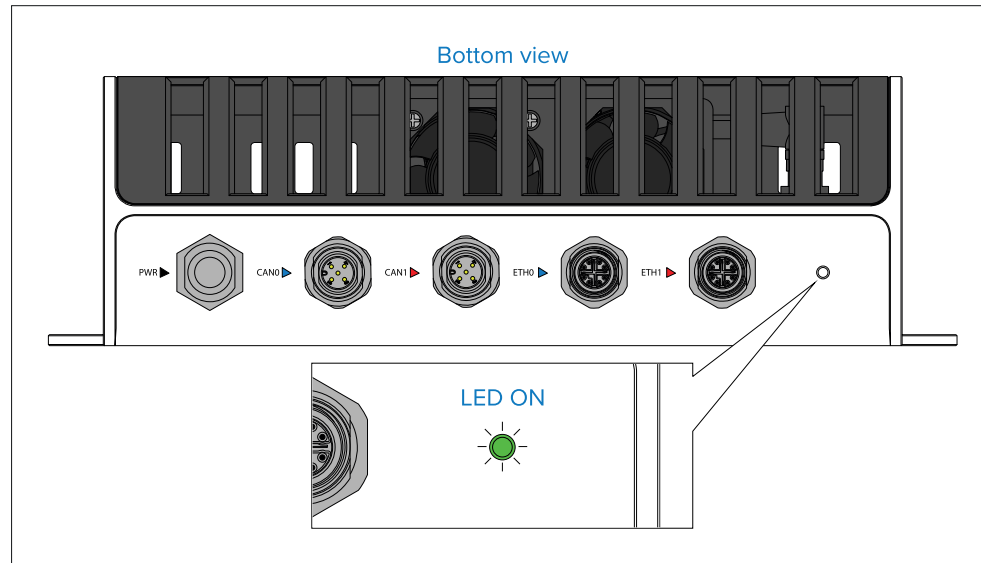
The Camera Conversion Unit (CCU) has 4 diagnostic LEDs located at the top of the unit. These LEDs are used to identify the unit's status.



LED indication	LED Status and applicable solutions
  	<u>(1x Red flashing LED) Powered up / Ok</u> Normal operation — no user action is required.
  	<u>(1x Green flashing LED) Updating</u> Normal operation — no user action is required.
  	<u>(2x Amber solid LEDs) 1000 Mb/s Ethernet Active (transferring)</u> <ul style="list-style-type: none"> <li>• Normal operation — no user action is required.</li> </ul>
  	<u>(No color) No power</u> Refer to the advice found within the following section: <a href="#">p.32 — Power up troubleshooting</a>

## 7.4 LED diagnostics — ORU

The Object Recognition Unit (ORU) has a single diagnostic LED located at the bottom of the unit. This LED is used to identify the unit's power status.

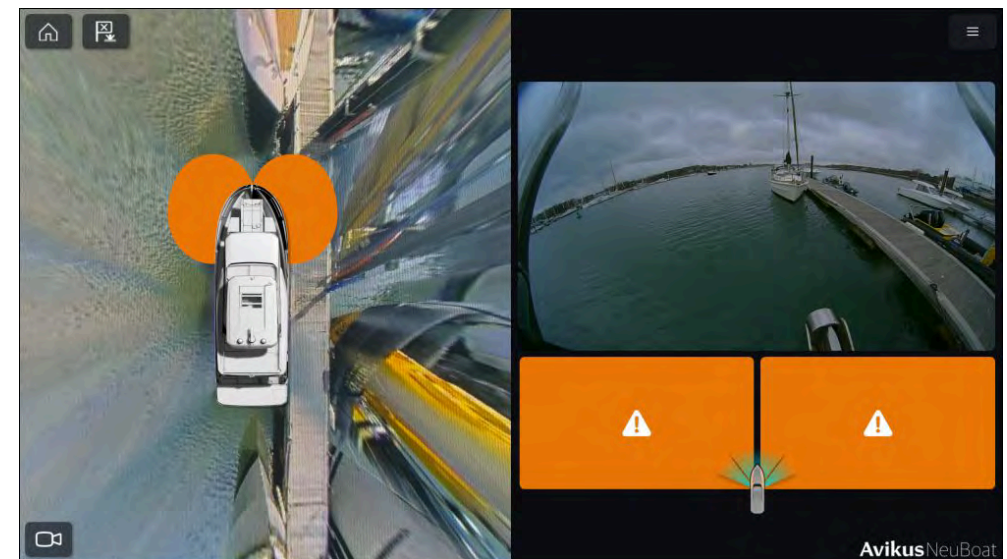


LED indication	LED Status and applicable solutions
	<p><b>(Green) Powered up / Ok</b></p> <p>Normal operation — no user action is required.</p>
	<p><b>(Green ) Updating</b></p> <p>(Green) Normal operation — no user action is required.</p>
	<p><b>(Red) Update failed</b></p> <p>(Red) Update failed — Attempt to power cycle the unit and retry the update. If the issue persists, consider contacting your local dealer or Raymarine® Product Support. For Raymarine® Product Support contact details, refer to the following section: <a href="#">p.37 — Raymarine product support and servicing</a></p>

LED indication	LED Status and applicable solutions
	<p><b>(Green) Rebooting</b></p> <p>Normal operation — no user action is required.</p>
	<p><b>(No color) No power</b></p> <p>Refer to the advice found within the following section: <a href="#">p.32 — Power up troubleshooting</a></p>

## 7.5 Camera troubleshooting

When a camera fault is present, the relevant camera streams will be flagged via the multifunction display's NeuBoat Dock app, with warning icons indicating where the fault has been detected.



## Camera fault detected in NeuBoat Dock app

Possible causes	Possible solutions
<b>Camera lost connection.</b>	1. Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary.
<b>Camera internal fault.</b>	1. Ensure the affected camera(s) have been installed and connected in accordance with Raymarine's recommendations in the <b>NeuBoat Dock Installation instructions (87480)</b> document, as appropriate. If this error is persistent, your installation will need to be reviewed by your dealer / installer.

## Camera feed views do not appear in the correct position

Possible causes	Possible solutions
<b>Camera connected to the wrong input channel.</b>	1. For information on which input channel your cameras must be connected to, refer to the ' <i>SVM camera input channels</i> ' section within the <b>NeuBoat Dock Installation Instructions (87480)</b> document.

## 7.6 Power up troubleshooting

Before troubleshooting problems with your power connection, ensure that you have followed the power connection guidance provided in the product's installation instructions and performed a power cycle/reboot of the device. The troubleshooting information below can be used if you are experiencing problems with powering up your product.

## Product does not turn on or keeps turning off

Possible causes	Possible solutions
<b>Blown fuse / tripped breaker</b>	<ol style="list-style-type: none"><li>1. Check the fuse, located inline with the power cable. Ensure that it has the correct rating (refer to the <i>Inline fuse and thermal breaker ratings</i> section), as an under-rated fuse can affect the power supplied to the product. If the fuse has blown, replace with a new fuse.</li><li>2. Check the condition of relevant / additional fuses and breakers and connections; replace if necessary.</li><li>3. If the fuse keeps blowing check for cable damage, broken connector pins or incorrect wiring.</li></ol>
<b>Poor / damaged / insecure power supply cable / connections</b>	<ol style="list-style-type: none"><li>1. Check the vessel's battery voltage, the condition of the battery terminals and power supply cables, ensuring connections are secure, clean and free from corrosion; replace if necessary.</li><li>2. Check the power supply cable and connectors for signs of damage or corrosion; replace if necessary.</li><li>3. Check that the power cable connector is fully inserted into the unit and locked in position.</li><li>4. With the unit turned on, try flexing the power cable near to the connector to see if this causes the unit to re-boot/lose power; replace if necessary.</li><li>5. With the product under load, using a multi-meter, check for high voltage drop across all connectors / fuses etc, and replace if necessary.</li></ol>

Possible causes	Possible solutions
<b>Incorrect power connection</b>	1. The power supply may be wired incorrectly; ensure that the installation instructions have been correctly followed.
<b>Power source insufficient</b>	1. Check that your power supply (battery or distribution panel) is providing a minimum of 10.8 V to each component in the system.

### Product will not start up (restart loop)

Possible causes	Possible solutions
<b>Power supply and connection</b>	1. See possible solutions from the table above, entitled 'Product does not turn on or keeps turning off'.
<b>Software corruption</b>	1. In the unlikely event that the product's software has become corrupted, try downloading and installing the latest software from the Raymarine® website. Refer to your multifunction display / chartplotter's operation instructions for details on updating software for connected devices.

## 7.7 System data troubleshooting

### Unit system data is unavailable at all multifunction displays

Possible causes	Possible solutions
<b>Data is not being received at the multifunction display.</b>	1. Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary.
<b>Data source is not operating.</b>	1. Check the source of the missing data (e.g. SVM camera) for signs of damage or corrosion, and replace if necessary. 2. If possible, check that the data source is correctly powered and operational. 3. Refer to the instructions provided with the equipment to ensure it has been correctly installed.
<b>Software mismatch between equipment may prevent communication.</b>	1. Ensure all products have the latest software installed.

### Unit system data is missing from some but not all multifunction displays

Possible causes	Possible solutions
<b>Connection problem.</b>	1. Check the product's attached cable(s) and connections for signs of damage or corrosion, and replace if necessary.
<b>Software corruption.</b>	1. In the unlikely event that the product's software has become corrupted, try downloading and installing the latest software from the Raymarine® website. Refer to your multifunction display / chartplotter's operation instructions for details on updating software for connected devices.
<b>Software mismatch between equipment may prevent communication.</b>	1. Ensure that all products have the latest software installed.

## Incorrect data reported

Possible causes	Possible solutions
<b>Camera calibration error.</b>	<ol style="list-style-type: none"><li>1. Switch off power supply to system and switch back on again.</li><li>2. Re-calibrate or re-configure data source, following the instructions provided with the relevant devices.</li></ol>

## 7.8 Miscellaneous troubleshooting

Miscellaneous problems and their possible causes and solutions are described here.

### Display behaves erratically (frequent unexpected resets, system crashes and other erratic behavior)

Possible causes	Possible solutions
<b>Intermittent problem with power to a unit.</b>	<ol style="list-style-type: none"><li>1. Check relevant fuses and breakers.</li><li>2. Check that the power supply cable is sound and that all connections are tight and free from corrosion.</li><li>3. Check that the power source is of the correct voltage and sufficient current.</li></ol>
<b>Software mismatch between equipment may prevent communication.</b>	<ol style="list-style-type: none"><li>1. Ensure that all products have the latest software installed.</li></ol>
<b>Corrupt data / other unknown issue.</b>	<ol style="list-style-type: none"><li>1. In the unlikely event that the product's software has become corrupted, try downloading and installing the latest software from the Raymarine® website. Refer to your multifunction display / chartplotter's operation instructions for details on updating software for connected devices.</li><li>2. Check the data source for correct operation.</li></ol>

### System not detected:

Possible causes	Possible solutions
<b>Intermittent problem with power to a unit.</b>	<ol style="list-style-type: none"><li>1. Check relevant fuses and breakers.</li><li>2. Check that the power supply cable is sound and that all connections are tight and free from corrosion.</li><li>3. Check that the power source is of the correct voltage and sufficient current.</li></ol>
<b>Data is not being received at the multifunction display.</b>	<ol style="list-style-type: none"><li>1. Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary.</li></ol>
<b>Software mismatch between equipment may prevent communication.</b>	<ol style="list-style-type: none"><li>1. Ensure all products have the latest software installed.</li></ol>
<b>Corrupt data / other unknown issue.</b>	<ol style="list-style-type: none"><li>1. In the unlikely event that the product's software has become corrupted, try downloading and installing the latest software from the Raymarine® website. Refer to your multifunction display / chartplotter's operation instructions for details on updating software for connected devices.</li><li>2. Check the data source for correct operation.</li></ol>

### Communication error:

Possible causes	Possible solutions
<b>Data is not being received at the multifunction display.</b>	1. Check the relevant product, network cabling and connections for signs of damage or corrosion, and replace if necessary.
<b>Software mismatch between equipment may prevent communication.</b>	1. Ensure that all products have the latest software installed.
<b>Corrupt data / other unknown issue.</b>	1. In the unlikely event that the product's software has become corrupted, try downloading and installing the latest software from the Raymarine® website. Refer to your multifunction display / chartplotter's operation instructions for details on updating software for connected devices.  2. Check the data source for correct operation.

## 7.9 Alarms list

ID	Alert	Scope <sup>(1)</sup>	Severity <sup>(2)</sup>
AS001	CCUs — Not detected	Global	Warning
AS002	CCU — Not detected	Global	Warning
AS003	Camera — Lost connection	Global	Warning
AS004	Camera — Internal fault	Global	Warning
AS005	ORU — Internal fault	Global	Warning
AS006	ORU — Internal fault	Global	Warning

### Note:

- **(1)** Determines if the Alarm can be triggered only when using the NeuBoat Dock App (**App**), or anywhere on the MFD system (**Global**)
- **(2)** The severity of the Alarm in the NeuBoat Dock system:
  - **Warning:** Requires your attention.

## Acknowledging alarms

Follow the steps below to acknowledge an active alarm.

With an alarm notification displayed onscreen:

1. Select *[Dismiss]* or *[Turn off alerts]*.

The notification is dismissed and the audible tone is stopped.

An acknowledged alarm remains active until the conditions that triggered the alarm are no longer present.

### Note:

If an alarm notification includes an *[Edit]* button, selecting it will display the relevant setting in the Alarms menu so that, if required, you can change the alarm threshold.

# CHAPTER 8: TECHNICAL SUPPORT

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- 8.1 Raymarine technical support and servicing — page 37
- 8.2 Diagnostic product information — page 38
- 8.3 Learning resources — page 38

## 8.1 Raymarine technical support and servicing

Raymarine provides a comprehensive technical support service, as well as warranty, service, and repairs. You can access these services through the Raymarine website, telephone, and e-mail.

### Product information

If you need to request service or support, please have the following information to hand:

- Product name.
- Product identity.
- Serial number.
- Software application version.
- System diagrams.

You can obtain this product information using diagnostic pages of the connected display.

### Servicing and warranty

Raymarine offers dedicated service departments for warranty, service, and repairs.

Don't forget to visit the Raymarine website to register your product for extended warranty benefits: <https://bit.ly/rym-warranty>

#### **United Kingdom (UK), EMEA, and Asia Pacific:**

- E-Mail: [emea.service@raymarine.com](mailto:emea.service@raymarine.com)
- Tel: +44 (0)1329 246 932

#### **United States (US):**

- E-Mail: [rm-usrepair@flir.com](mailto:rm-usrepair@flir.com)
- Tel: +1 (603) 324 7900

### Web support

Please visit the "Support" area of the Raymarine website for:

- **Manuals and Documents** — <https://bit.ly/rym-docs>
- **Technical support forum** — <https://bit.ly/rym-FAQ>
- **Software updates** — <https://bit.ly/rym-software>

### Worldwide support

#### **United Kingdom (UK), EMEA, and Asia Pacific:**

[Technical support](#)

- Help desk: <https://bit.ly/rym-FAQ>
- Tel: +44 (0)1329 246 777

#### **United States (US):**

- Help desk: <https://bit.ly/rym-FAQ>
- Tel: +1 (603) 324 7900 (Toll-free: +800 539 5539)

#### **Australia and New Zealand (Raymarine subsidiary):**

- E-Mail: [aus.support@raymarine.com](mailto:aus.support@raymarine.com)
- Tel: +61 2 8977 0300

#### **France (Raymarine subsidiary):**

- E-Mail: [support.fr@raymarine.com](mailto:support.fr@raymarine.com)
- Tel: +33 (0)1 46 49 72 30

#### **Germany (Raymarine subsidiary):**

- E-Mail: [support.de@raymarine.com](mailto:support.de@raymarine.com)
- Tel: +49 40 237 808 0

#### **Italy (Raymarine subsidiary):**

- E-Mail: [support.it@raymarine.com](mailto:support.it@raymarine.com)
- Tel: +39 02 9945 1001

#### **Spain (Authorized Raymarine distributor):**

- E-Mail: [sat@azimut.es](mailto:sat@azimut.es)
- Tel: +34 96 2965 102

#### **Netherlands (Raymarine subsidiary):**

- E-Mail: [support.nl@raymarine.com](mailto:support.nl@raymarine.com)
- Tel: +31 (0)26 3614 905

#### **Sweden (Raymarine subsidiary):**

- E-Mail: [support.se@raymarine.com](mailto:support.se@raymarine.com)
- Tel: +46 (0)317 633 670

#### **Finland (Raymarine subsidiary):**

- E-Mail: [support.fi@raymarine.com](mailto:support.fi@raymarine.com)
- Tel: +358 (0)207 619 937

#### **Norway (Raymarine subsidiary):**

- E-Mail: [support.no@raymarine.com](mailto:support.no@raymarine.com)

- Tel: +47 692 64 600

**Denmark (Raymarine subsidiary):**

- E-Mail: [support.dk@raymarine.com](mailto:support.dk@raymarine.com)
- Tel: +45 437 164 64

**Russia (Authorized Raymarine distributor):**

- E-Mail: [info@mikstmarine.ru](mailto:info@mikstmarine.ru)
- Tel: +7 495 788 0508

## 8.2 Diagnostic product information

Diagnostic product information can be viewed and exported from a Raymarine LightHouse multifunction display, for supported products networked using RayNet (Ethernet), RJ45, RJ45 (SeaTalk HS) or SeaTalk NG / NMEA 2000 cables.

Diagnostic product information includes technical data related to the connected product, such as serial numbers, network addresses, firmware version numbers, and so on. It is useful for 2 main purposes:

1. Sending detailed product information to the Raymarine product support team, in the event of a problem or fault with your product. The information can be exported to a MicroSD card, and you can then copy the file for the purposes of emailing it to the product support team. For contact details, refer to: [p.36 – Technical support](#)
2. Maintaining detailed off-boat records. This is particularly useful for vessels that have multiple Raymarine products installed.

**To view or export diagnostic product information**, access the *[Diagnostics]* menu. For instructions on how to access this menu, refer to the relevant operation instructions for your multifunction display.

## 8.3 Learning resources

Raymarine has produced a range of learning resources to help you get the most out of your products.

### Video tutorials

*Raymarine official channel on YouTube*

- <https://bit.ly/rym-tube>

### Training courses

Raymarine regularly runs a range of in-depth training courses to help you make the most of your products. Visit the Training section of the Raymarine website for more information:

- <https://bit.ly/rym-training>

### Technical support forum

You can use the Technical support forum to ask a technical question about a Raymarine product or to find out how other customers are using their Raymarine equipment. The resource is regularly updated with contributions from Raymarine customers and staff:

- <https://bit.ly/rym-FAQ>





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**Raymarine (UK / EU)**

Marine House, Cartwright Drive,  
Fareham, Hampshire.  
PO15 5RJ.  
United Kingdom.

Tel: (+44) (0)1329 246 700

[www.raymarine.co.uk](http://www.raymarine.co.uk)

**Raymarine (US)**

110 Lowell Road,  
Hudson, NH 03051.  
United States of America.

Tel: (+1) 603-324-7900

[www.raymarine.com](http://www.raymarine.com)

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