

# Raymarine®



## AXIOM™

Basic operation instructions

English (en-US)  
Date: 03-2017  
Document number: 81369-1  
© 2017 Raymarine UK Limited

## Important information about this document

This document provides an introduction to using your Raymarine multifunction display, covering only basic operations.

To obtain the complete “*LightHouse 3 Advanced operations*” document, visit the Raymarine website. The document is available in 2 different formats:

1. Free download (PDF format)
2. Purchase a printed manual (paperback book format)

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



Download complete manual (free)



Purchase complete printed manual

Tip: If you own a smartphone or tablet with a camera you can use the QR code shown above to visit the “LightHouse 3 Manuals and documents” area of the website directly. To use this code, download a free “QR barcode scanner” app from the Apple or Android appstore and then point the camera at the QR code on this page.

**English (en-US)**

Document number: 81369-1

AA:3015;2017-03-07T18:15:22

# Contents

<b>Chapter 1 Important information .....</b>	<b>8</b>
Disclaimers .....	8
<b>Chapter 2 Setup.....</b>	<b>9</b>
2.1 Getting started.....	9
Powering on the display.....	9
Powering off the display.....	9
First power up Data master selection .....	10
Startup wizard .....	10
First power up Limitation on Use acknowledgement.....	11
Data sources menu .....	11
Identifying engines.....	13
Configuring Transducer settings .....	13
2.2 Inserting and removing a MicroSD card .....	14
Memory card compatibility .....	14
2.3 Shortcuts .....	15
Adjusting brightness.....	16
Taking a screenshot .....	16
Activating touchlock .....	16
Radar standby .....	16
2.4 Software updates.....	17
Updating software using a memory card .....	17
Updating software via the internet .....	17
<b>Chapter 3 Homescreen.....</b>	<b>18</b>
3.1 Accepting the Limitations on Use .....	18
3.2 Homescreen overview .....	19
3.3 Creating / Customizing an App page .....	19
3.4 User profiles .....	20
3.5 My data .....	21
3.6 Settings .....	22
3.7 Man Overboard (MOB) .....	23
3.8 Alarms.....	25
3.9 Satellite navigation / positioning.....	26
GNSS Status .....	26
GNSS Settings.....	27
3.10 External devices .....	28

3.11 Sidebar .....	29
3.12 Data overlays.....	29
3.13 Editing the split ratio of a Splitscreen app page.....	30
<b>Chapter 4 Chart app.....</b>	<b>31</b>
4.1 Chart app overview.....	31
Chart app controls .....	32
Chart ranging and panning .....	33
Selecting a chart card .....	33
Chart modes.....	33
Vessel details.....	34
Layers .....	35
View and motion .....	36
Placing a Waypoint.....	36
Building a Route.....	36
Recording a Track.....	37
Following a Route .....	37
Performing a Goto .....	37
<b>Chapter 5 Sonar app .....</b>	<b>38</b>
5.1 Sonar app overview .....	38
Sonar app controls.....	38
RealVision 3D controls .....	39
Opening the Sonar app.....	40
Sonar channels.....	42
Selecting a Sonar channel .....	42
Placing a Waypoint in the Sonar app.....	43
<b>Chapter 6 Radar app .....</b>	<b>44</b>
6.1 Radar app overview .....	44
Radar app controls.....	44
Opening the Radar app.....	45
Radar modes .....	47
Selecting a Radar scanner .....	48
<b>Chapter 7 Dashboard app.....</b>	<b>50</b>
7.1 Dashboard app overview.....	50
Dashboard app controls.....	50
Switching data page .....	51
Selecting Data pages to display .....	51

Customizing existing Data pages .....	51
<b>Chapter 8 Camera app .....</b>	<b>52</b>
8.1 Camera app overview .....	52
Camera app controls .....	52
Opening the Camera app .....	53
Selecting an IP video feed .....	55
<b>Chapter 9 Audio app .....</b>	<b>56</b>
9.1 Audio app overview .....	56
Compatible entertainment systems .....	56
Audio app controls .....	57
Opening the Audio app .....	58
Selecting an audio source .....	60

## Chapter 1: Important information



### **Warning: Ensure safe navigation**

This product is intended only as an aid to navigation and must never be used in preference to sound navigational judgment. Only official government charts and notices to mariners contain all the current information needed for safe navigation, and the captain is responsible for their prudent use. It is the user's responsibility to use official government charts, notices to mariners, caution and proper navigational skill when operating this or any other Raymarine product.

## Disclaimers

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.

This product uses digital chart data, and electronic information from Global Navigation Satellite Systems (GNSS) which may contain errors. Raymarine does not warrant the accuracy of such information and you are advised that errors in such information may cause the product to malfunction. 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 chart data or information utilized by the product and supplied by third parties.

This product supports electronic charts provided by third party suppliers which may be embedded or stored on memory card. Use of such charts is subject to the supplier's End-User Licence Agreement.

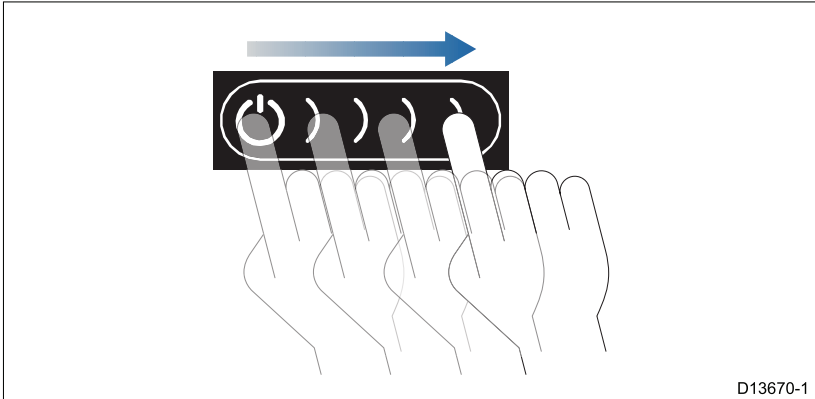
## Chapter 2: Setup

### 2.1 Getting started

#### Powering on the display

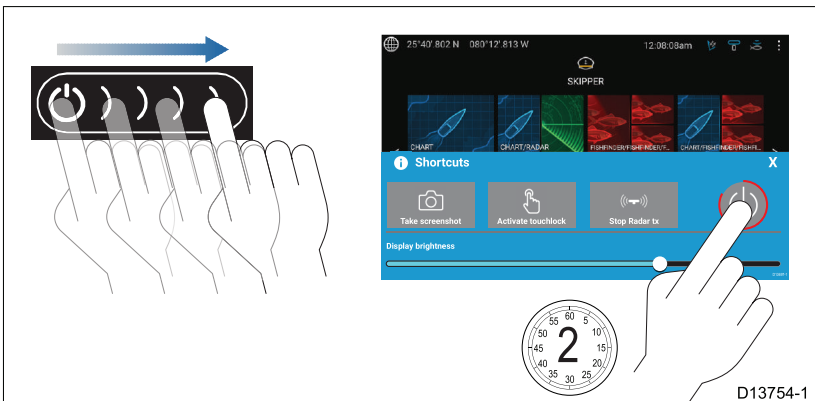
When power is available to the MFD but the MFD is switched off, the Power symbol will be illuminated.

To power on the display:



1. Swipe your finger from left to right across the **Power** button swipe area.  
The MFD will power up.

#### Powering off the display



1. Swipe your finger from left to right across the **Power** button swipe area.  
The Shortcuts menu is displayed.

2. Press and hold the **Power symbol** until the screen switches off.

**Note:** When powered off, the unit may still draw a small amount of power from the battery, if this is a concern unplug the power supply or switch off at the breaker.

### Switching on and off at the breaker

If you wish to ensure that the MFD is not consuming any power then it must be switched off at the breaker or have the power cable unplugged.

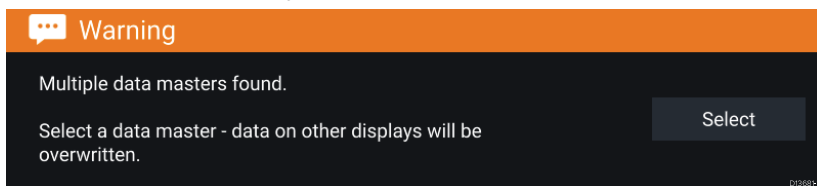
When the breaker is switched back on, or the cable is reconnected, the MFD will resume in the same power state that it was in when it was switched off.

## First power up Data master selection

Networks containing more than 1 MFD must have a designated Data master. The Data master in the primary MFD in the network and should be the MFD that is connected to the SeaTalkng<sup>®</sup> / NMEA 2000 CAN bus network and any other devices and sources of data in your system. The Data master bridges the data over the SeaTalkhs<sup>™</sup> network to any compatible networked 'repeater' MFDs.

By default your MFD will be set as a Data master. If you are connecting to a network that already includes MFDs then on first power up you will be requested to confirm your Data master.

The Multiple Data masters found warning will be displayed whenever a new MFD is added to your network.



You can change your Data master at anytime by selecting **Assign as Data master** against a MFD listed in the Network tab of the Settings menu: **Homescreen > Settings > Network**.

## Startup wizard

If the MFD is being installed as a stand alone installation or as part of a new system, then the first time the MFD is powered up the Startup wizard will be displayed. The Startup wizard will help you configure important settings on your MFD.

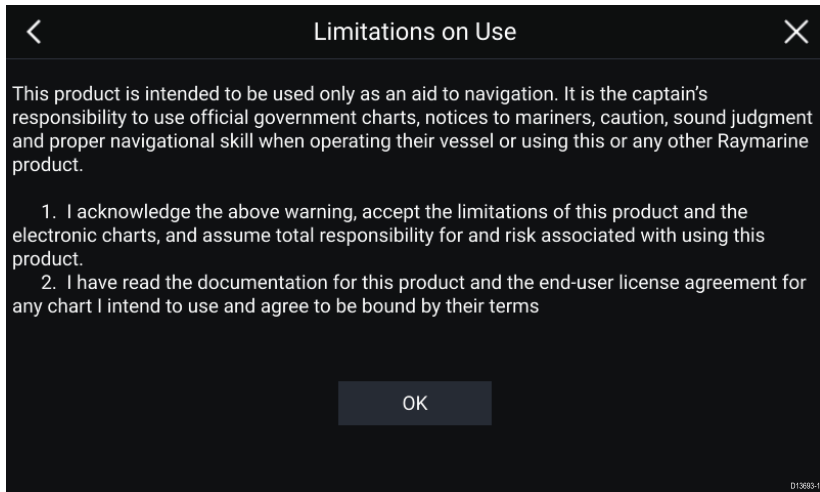
Follow the onscreen instructions and configure the relevant settings.

The Startup wizard will also be displayed after a **Factory reset** is performed.



## First power up Limitation on Use acknowledgement

After you have completed the Startup wizard the Limitation on Use (LoU) disclaimer is displayed.

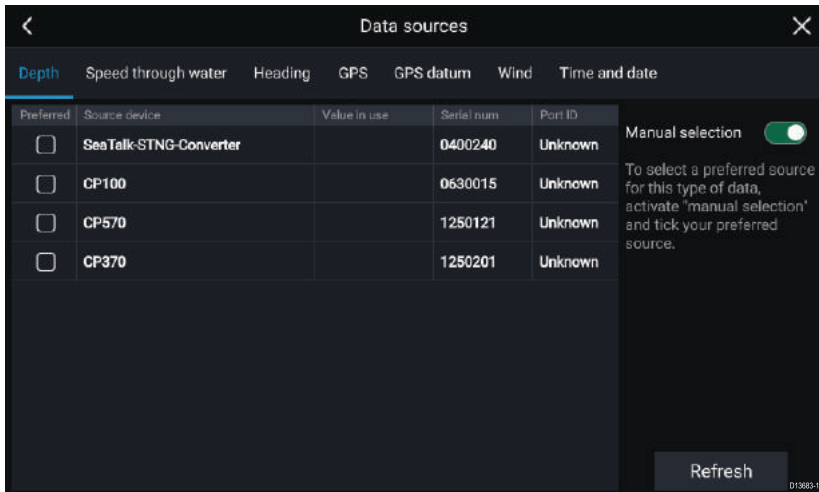


You must read and agree to the terms in order to use your MFD. Selecting **OK** means you have accepted the terms of use.

## Data sources menu

When a system includes multiple sources of a data type, such as depth data, the system will choose the most appropriate source for the data. If you prefer, you can manually select your own data source.

The **Data sources** menu can be accessed on your Data master MFD, from the **Settings** menu: **Homescreen > Settings > Network > Data sources**.



Each tab enables you to view and select your preferred data source. The currently active data source will display its current value in use. Data source selection can be manual or set to automatic:

- **Auto** — your MFD will automatically select a device.
- **Manual** — you can manually select your preferred device.

Networked MFDs will automatically be updated to use the Data sources selected on your Data master MFD.

### Data source types

Settings tab	Description
<b>Depth</b>	Enables you to choose a source of data for Depth readings.
<b>Speed through water</b>	Enables you to choose a source of data for Speed readings.
<b>Heading</b>	Enables you to choose a source of data for Heading data.
<b>GPS</b>	Enables you to choose a source of data for GPS data.
<b>GPS Datum</b>	In order for your GNSS receiver and MFD to correlate accurately with your paper charts, they must be using the same datum. This option enables you to choose a source for this datum.

Settings tab	Description
<b>Wind</b>	Enables you to choose a source of data for Wind readings.
<b>Time and Date</b>	Enables you to select the device you want to use for the time and date information used by your MFD.

## Identifying engines

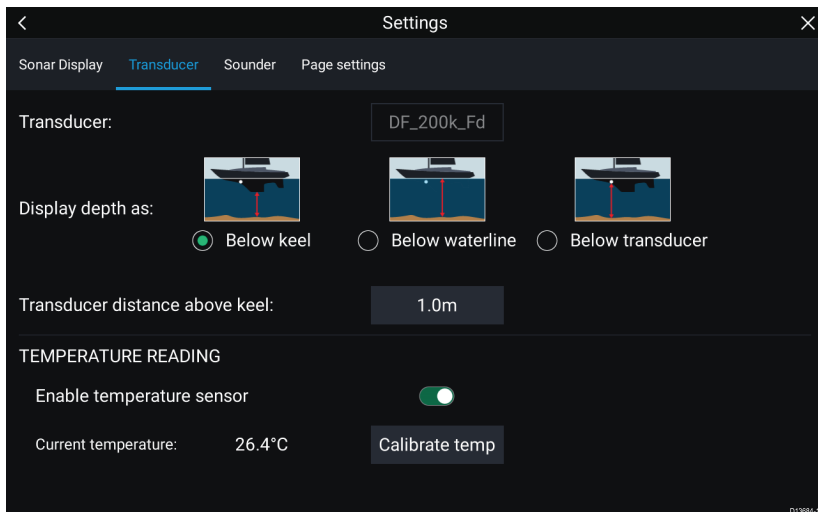
Engine data can be displayed on your MFD if your engines are transmitting the relevant supported data on to the MFD network. If your system has mislabelled your engines then you can correct this using the Engine identification wizard.

The Engine identification wizard can be accessed from the Boat details tab: **Homescreen > Settings > Boat details > Identify engines.**

1. Ensure the correct number of engines is selected in the **Num of Engines:** box.
2. Select **Identify engines.**
3. Follow the onscreen prompts to complete the engine identification wizard.

## Configuring Transducer settings

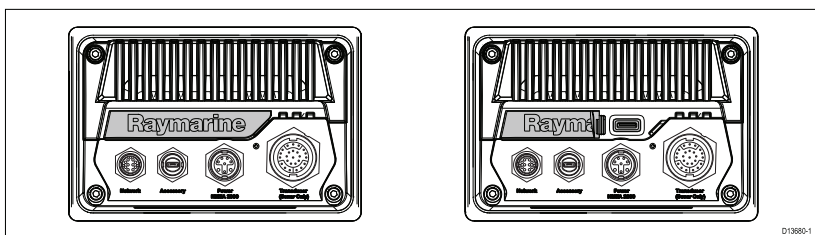
For systems set up with Sonar, you should configure your transducer settings.



1. Select **Transducer** from the Sonar app's **Settings** menu: **Menu > Settings > Transducer**

2. Select how you want your depth to appear:
  - i. Below transducer (default) — No offset required
  - ii. Below keel — Enter the distance between the transducer face and the bottom of the Keel.
  - iii. Below waterline — Enter the distance between the bottom of your Keel and the waterline.
3. If your transducer includes a temperature sensor then you can also configure temperature settings as follows:
  - i. Enable or disable temperature readings as required.
  - ii. If enabled, check the temperature reading against the actual water temperature.
  - iii. If the current reading requires adjustment, select **Calibrate temp** and enter the difference between your 2 readings.

## 2.2 Inserting and removing a MicroSD card



1. Pull back the microSD card reader cover as shown above.
2. Insert your microSD card with the contacts facing down.
3. Close the cover and ensure it is seated correctly.

### Memory card compatibility

MicroSD memory cards can be used to back up / archive data (e.g. Waypoints, Routes and Tracks). Once data is backed up to a memory card, old data can be deleted from the system. The archived data can be retrieved at any time. It is recommended that your data is backed up to a memory card on a regular basis.

### Compatible cards

The following types of MicroSD cards are compatible with your MFD:

Type	Size	Native card format	Supported Format
MicroSDSC (Micro Secure Digital Standard Capacity)	Up to 4 GB	FAT12, FAT16 or FAT16B	NTFS, FAT32
MicroSDHC (Micro Secure Digital High Capacity)	4 GB to 32 GB	FAT32	NTFS, FAT32
MicroSDXC (Micro Secure Digital eXtended Capacity)	32 GB to 2TB	exFAT	NTFS, FAT32

### Speed class rating

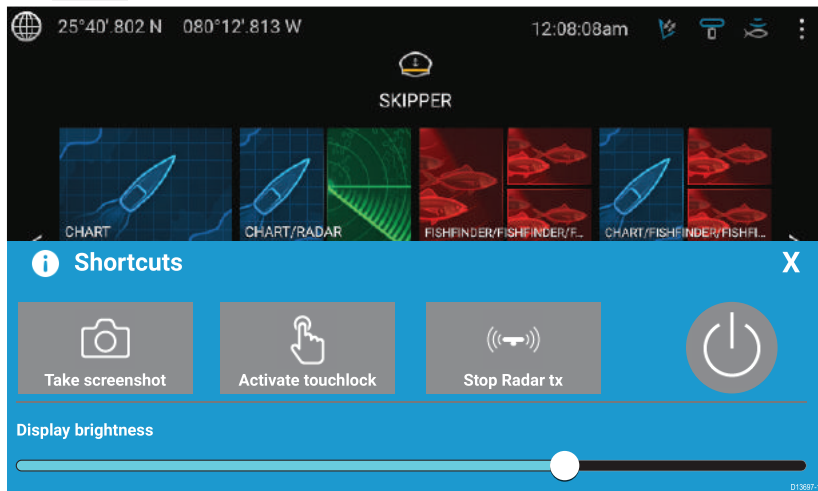
For best performance it is recommended that you use Class 10 or UHS (Ultra High Speed) class memory cards.

### Use branded memory cards

When archiving data it is recommended that you use good quality branded memory cards.

## 2.3 Shortcuts

The Shortcuts menu can be accessed by swiping left to right across the **Power** button swipe area.



The following shortcuts are available:

- Take Screenshot

- Activate Touchlock
- Stop Radar transmitting
- Power off
- Adjust Brightness

## Adjusting brightness

LCD brightness can be adjusted from the Shortcuts menu.

1. Swipe your finger from left to right across the **Power** button swipe area.  
The Shortcuts menu is displayed
2. Move the **Display brightness** control along the slider bar to adjust the brightness.

*With the Shortcuts menu displayed you can also use the **Power** button swipe area to increase the brightness level in increments, by repeating the left to right swipe.*

## Taking a screenshot

You can take a screenshot and save the image to external memory.

1. Swipe your finger from left to right across the **Power** button swipe area.  
The Shortcuts menu is displayed.
2. Select **Take screenshot**.

The screenshot will be saved in .png format to the **Screenshot file** location. The Screenshot file location can be selected from the **This Display** tab located in the **Settings** menu: **Homescreen > Settings > This Display > Screenshot file**.

## Activating touchlock

In rough weather conditions precipitation may lead to erroneous touches being detected by the touchscreen. In these conditions you can use touchlock to prevent this.

1. Select **Activate touchlock** from the **Shortcuts** menu.

*With touchlock activated the touchscreen will be disabled. To re-enable the touchscreen, swipe from left to right across the **Power** button swipe area.*

## Radar standby

You can place a transmitting Radar in Standby from the Shortcuts menu.

1. Select **Stop Radar tx** from the **Shortcuts** menu.

## 2.4 Software updates

### Updating software using a memory card

Raymarine® regularly issues software updates for its products that provides new and enhanced features and improved performance and usability. You should ensure that you have the latest software for your products by regularly checking the Raymarine® website for new software releases.

It is recommended that you back up your user data and settings before commencing the software update process.

1. Check the software version of your product.

*The software version can be found on the Getting started tab: (**Homescreen** > **Settings** > **Getting started**).*

2. Check the latest available software on the Raymarine website: (**www.raymarine.com** > **Support** > **Software Updates**).
3. Download the software package.
4. Copy the files to MicroSD card.
5. Insert the MicroSD card into the card reader slot on your MFD.
6. Select **Update software** from the Getting started tab: (**Homescreen** > **Settings** > **Getting started** ).
7. Select **Check SD card** from the popover menu.
8. Follow the onscreen instructions to update your MFD software.

### Updating software via the internet

Raymarine® regularly issues software updates for its products that provides new and enhanced features and improved performance and usability. You should ensure that you have the latest software for your products by regularly checking the Raymarine® website for new software releases.

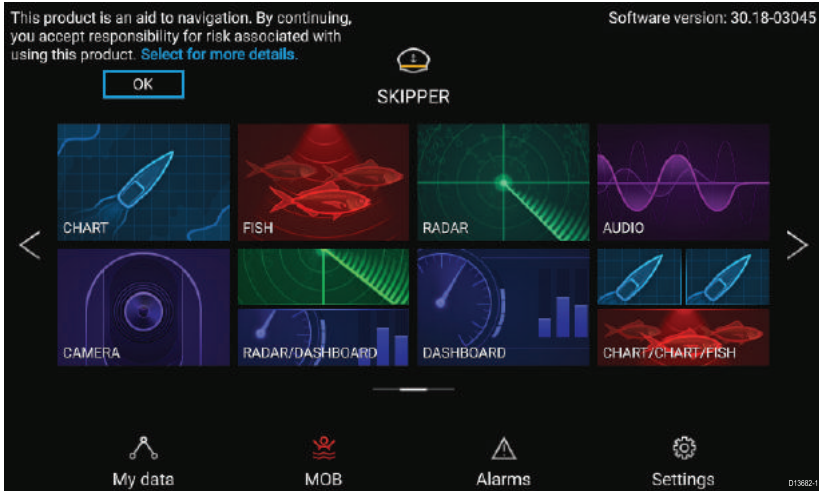
It is recommended that you back up your user data and settings before commencing the software update process.

1. Select **Update software** from the Getting started tab: (**Homescreen** > **Settings** > **Getting started**).
2. Select **Check online** from the popover menu.
3. To set up a Wi-Fi connection select **Wi-Fi settings** and connect to the required Wi-Fi access point/hotspot.
4. Select **Start**.
5. Your MFD will now check the internet for software updates, follow any onscreen instructions to complete the update.

# Chapter 3: Homescreen

## 3.1 Accepting the Limitations on Use

After your MFD has powered up the Homescreen is displayed.



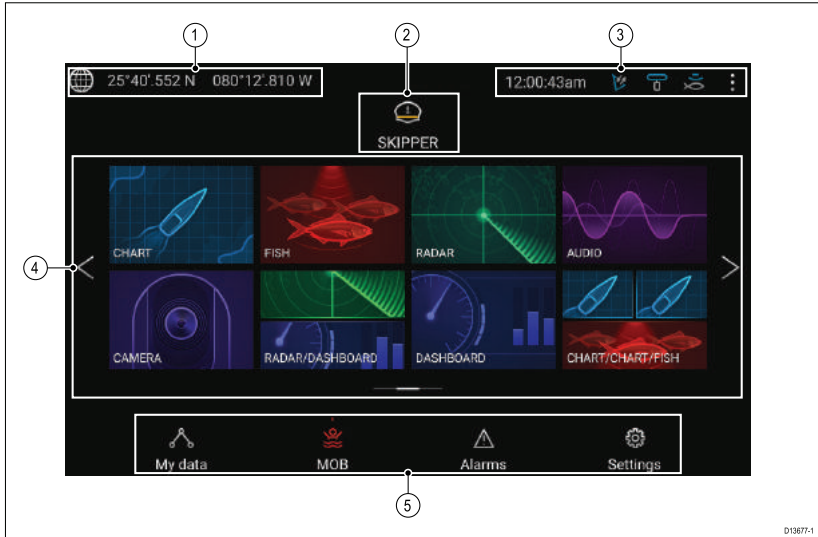
1. Before using the MFD you must accept the Limitations on Use (LoU) disclaimer. To view the full LoU Disclaimer, select 'more details'.

*The LoU acknowledgment is displayed each time the display is powered on and for each new user profile. The full LoU text can be accessed at any time from the **Getting started** tab: **Homescreen > Settings > Getting started > View terms of use.***



## 3.2 Homescreen overview

All settings and apps can be accessed from the LightHouse™ 3 Homescreen.



1. This area provides GNSS position/fix details. Select the area to view fix accuracy and access GNSS settings.
2. This area identifies the current profile in use. Select the area to Create, Edit or Delete profiles.
3. External device status and system time. Select this area to adjust the UTC time offset.
4. App page icons. Select an icon to open the relevant application page. Use the **Left** and **Right** arrows, or swipe your finger left or right across the area to cycle through the available Homescreen pages.
5. This area provides access to the **Settings**, **Alarms** and **My data** menus. You can also activate the **Man Over Board (MOB)** alarm.

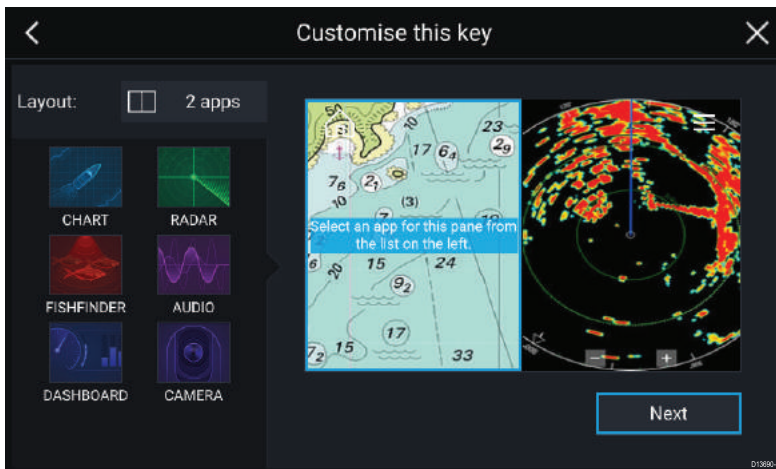
**Note:** When more than 1 display is connected to the same network, then the Homescreen of the MFD designated as Data Master will be mirrored on all MFDs.

## 3.3 Creating / Customizing an App page

1. Press and hold on an existing App page icon to display Popover options.

*You can Customize, Rename or Delete app pages from the Popover options.*

2. Select **Customize** from the Popover options to change which apps are used and the page layout. To Create a new page press and hold on a blank space on the Homescreen.



3. Select the **Layout:** option to change the page layout.
4. Select the icons for the Apps that you want to be displayed on the page.
5. Select **Next** and give the page a memorable name.
6. Select **Save**.

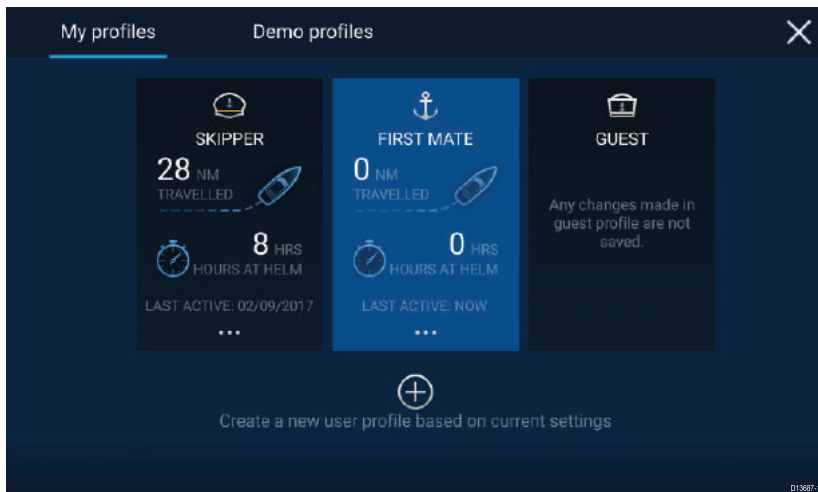
The page is saved and the new App page icon will be shown on the Homescreen.

### 3.4 User profiles

You can share your MFD with other users by creating user profiles on your MFD. Profiles enable you to retain your own personal settings whilst letting other users personalize the MFD's settings to their preference.

**Note:** User data such as Waypoints, Routes, Tracks, images and video recordings etc. will be available to all users.

You can access the Profiles page by selecting the Profile Icon on the Homescreen.



Selecting the **Plus (+)** icon will create a new profile based on the profile that is currently in use.

MFD settings changes are unique to the profile in use and are retained the next time the profile is used.

The distance and time that a profile has been active is displayed for each profile.

Profile names and icons can be customized. You can also reset the distance and time for each profile.

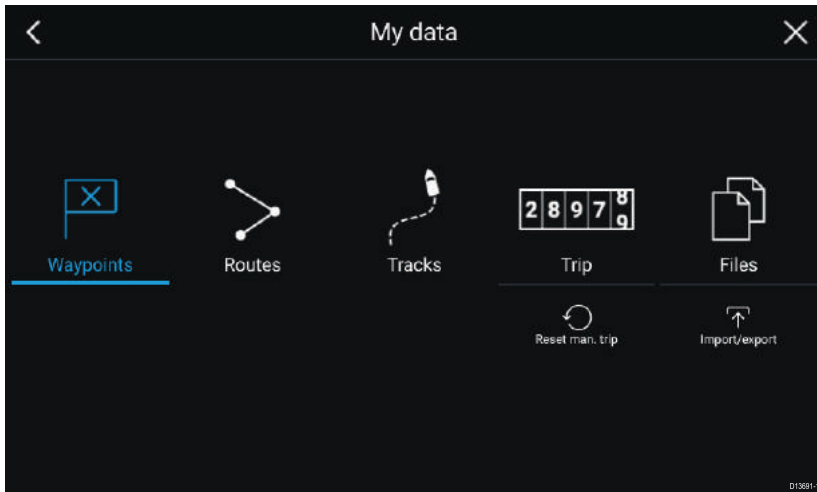
A Guest profile is available for temporary users. Setting changes to the Guest profile are not retained. Each time the Guest profile is activated the settings are based on the last used profile.

When the MFD is rebooted the last used profile will be active.

Demo profiles are also available to help you practice operating your MFD with simulated data.

### 3.5 My data

Selecting the **My data** icon from the Homescreen provides access to user data such as **Waypoints, Routes, Tracks, Trip** data and media **Files**. You can also **Import/export** User data from the **My data** menu.



Selecting **Waypoints**, **Routes** or **Tracks** will take you to the relevant list where you can manage and customize your data.

Selecting **Trip** will display the trip counters.

Selecting **Files** opens a file browser.

Selecting **Import/export** allows you to back up or restore User data using external storage.

## 3.6 Settings

The Settings menu contains important information and settings for your MFD.

The **Settings** menu is split up into different tabs, the settings available are:

Tab	Options
<b>Getting started</b>	<ul style="list-style-type: none"> <li>View hardware and software information about your MFD.</li> <li>View cartography detail for inserted chart cards.</li> <li>View the LoU disclaimer (<b>Getting started</b> tab).</li> <li>Change the user interface language</li> <li>Update MFD software</li> </ul>
<b>Boat details</b>	<ul style="list-style-type: none"> <li>Set boat icon and name.</li> <li>Configure Minimum safe depth, height and width.</li> <li>Configure engines.</li> </ul>

Tab	Options
	<ul style="list-style-type: none"> <li>• Configure batteries.</li> <li>• Configure fuel tanks.</li> </ul>
<b>Units</b>	<ul style="list-style-type: none"> <li>• Configure preferred units of measurement.</li> <li>• Configure Bearing mode, Variation and System datum.</li> </ul>
<b>This display</b>	<ul style="list-style-type: none"> <li>• Assign a Homescreen page or app to start on power up.</li> <li>• Select save location for screenshots.</li> <li>• Pair with a RMK external keypad.</li> <li>• Pair with a wireless Quantum Radar scanner.</li> <li>• Perform a Settings or Factory reset.</li> </ul>
<b>Network</b>	<ul style="list-style-type: none"> <li>• View list of networked MFDs.</li> <li>• Assign a MFD Data master.</li> <li>• View software and network details for the MFD you are using.</li> <li>• Save or Erase diagnostics logs to MicroSD card.</li> <li>• Assign your preferred data sources.</li> </ul>

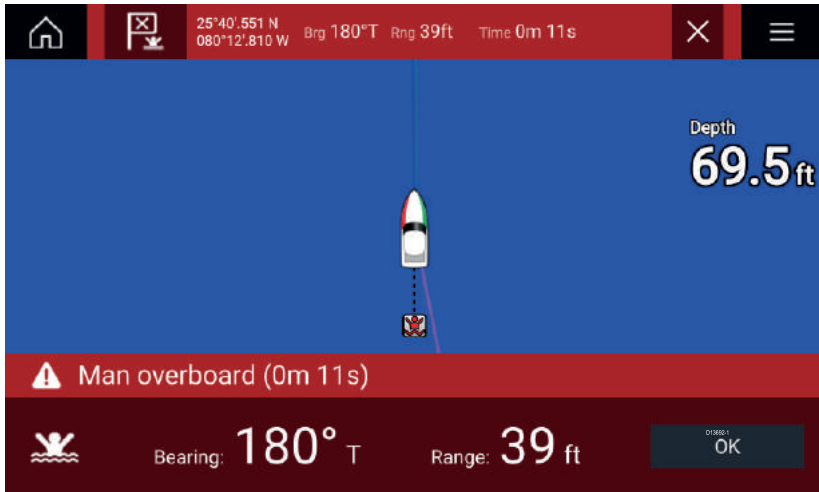
### 3.7 Man Overboard (MOB)

If a person or object falls overboard, you can use the Man Overboard (MOB) feature to mark the position that your vessel was at when the MOB alarm was activated.

The MOB feature can be activated by pressing and holding on the



MOB icon: **MOB** on the Homescreen or the waypoint/MOB icon: found at the top of all apps.



The MOB feature requires your vessel to have a valid position fix from a GNSS receiver. Dead reckoning mode also requires Heading and Speed data.

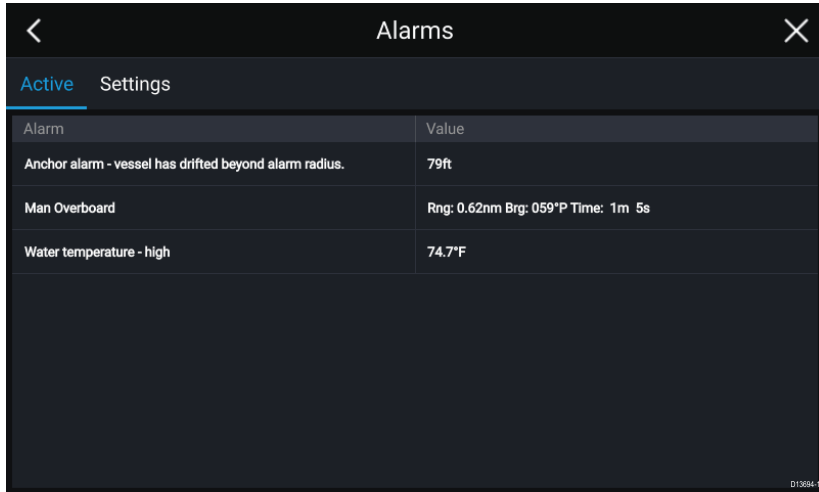
When you activate the MOB alarm:

- an audible alarm is sounded which is repeated every 30 seconds until the alarm is cancelled.
- a MOB Databar providing Bearing and range from MOB and elapsed time since MOB was initiated is placed along the top of the screen which persists across apps and the Homescreen, the Databar remains until the MOB alarm is cancelled.
- a MOB warning is displayed in the bottom of the screen which requires acknowledgement.
- the Chart app is placed in a special MOB mode to help you navigate back to the point your vessel was at when the MOB was initiated.

## 3.8 Alarms

The Alarm manager can be accessed from the Homescreen.

### Example: Active alarms list



The screenshot shows the 'Alarms' application interface. At the top, there is a back arrow on the left and a close 'X' icon on the right. Below the title bar, there are two tabs: 'Active' (selected) and 'Settings'. The main content area displays a table of active alarms.

Alarm	Value
Anchor alarm - vessel has drifted beyond alarm radius.	79ft
Man Overboard	Rng: 0.62nm Brg: 059°P Time: 1m 5s
Water temperature - high	74.7°F

D13684-1

Alarms are raised by system functions, and also external equipment connected to your display.

When an Alarm is triggered all networked MFDs will display audible and visual warnings. The onscreen warning provides details of why the alarm has been triggered.

### Example: Waypoint arrival alarm



The Alarm manager can be used to:

- list current, active alarms
- enable and disable alarms
- adjust alarm thresholds

The Active alarms list can be accessed from the **Active** alarms tab: (**Homescreen > Alarms > Active**)

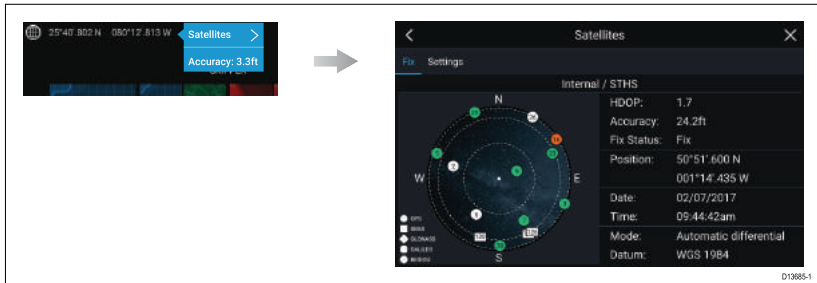
Alarm settings can be accessed from the **Settings** tab: (**Homescreen > Alarms > Settings**)

## 3.9 Satellite navigation / positioning

### GNSS Status

Your vessel's GNSS position is provided in the top left corner of the Homescreen. You can access fix accuracy and settings by selecting the area.

If latitude and longitude is displayed on the Homescreen then you have a valid position fix. If the text turns red then your fix accuracy is low.



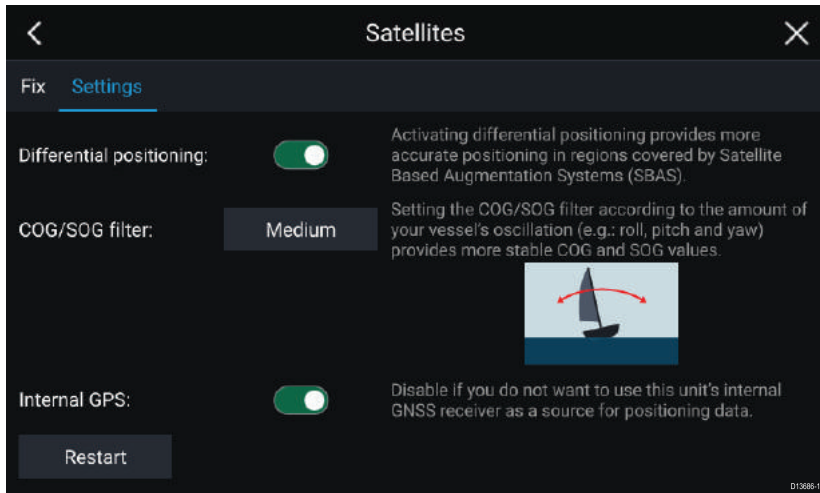
The sky view on the left side of the page shows the position of navigation satellites and the constellation they belong to. The color of the satellite identifies its status:

- Grey = searching for satellite
- Green = satellite in use
- Orange = tracking satellite



## GNSS Settings

The settings for your GNSS receiver (internal or external) can be accessed from the **Satellites** menu: **Homescreen > GNSS popover > Satellites > Settings**.

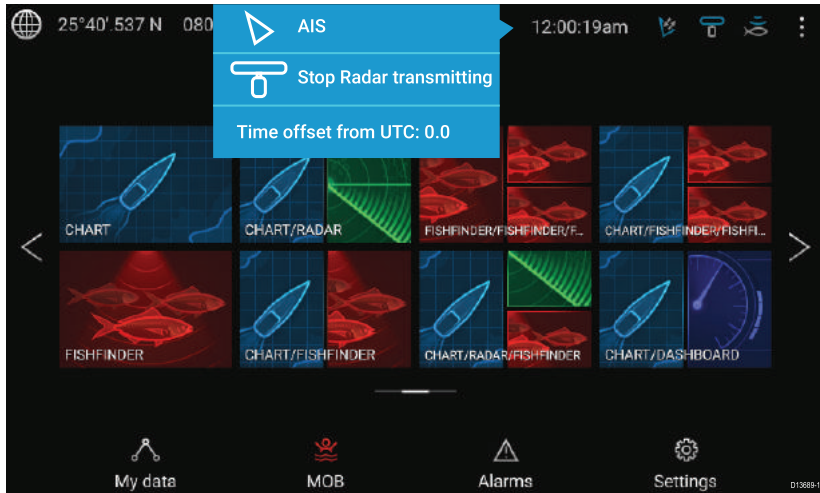


From the GNSS Settings tab you can:

- activate and deactivate use of Differential positioning (SBAS)
- set the COG/SOG filter according to your vessel's oscillation, which provides more stable COG and SOG readings
- enable and disable your MFD's internal GNSS receiver. Disable if you do not want to use this unit's internal GNSS receiver as a source for positioning data.
- restart the GNSS receiver that is being used as the source for your positioning data.

## 3.10 External devices

You can view the status of peripheral devices connected to your MFD using the Status area, located at the top right of the Homescreen. You can also connect and disconnect from some devices using the Status area popover menu.



### Status area icons

The following devices' status can be reported in the Status area:

- AIS
- Radar
- Sonar module/Transducer

### Popover menu options

From the **Options** popover you can:

- Switch your AIS transceiver between transmitting and silent mode.
- Disable Radar transmission
- Adjust the Time offset from UTC.

The status area also provides the **Time** and identifies when the MFD is in **Touchlock** mode.

## 3.11 Sidebar

The Sidebar is available in all apps and provides quick access to system data. By default the Sidebar is set up to display navigation data.



The Sidebar is displayed automatically in the Chart app when a Goto or follow is initiated. It can also be displayed at anytime by sliding your finger from left to right from the left edge of the screen. Swiping right to left will hide the Sidebar.

To customize the displayed data, press and hold on the Data item you want to change and select **Edit** from the Popover options.

## 3.12 Data overlays

System data can be overlaid onto the Chart app, Radar app, Sonar app and Camera app. Some apps have Data overlays enabled by default.



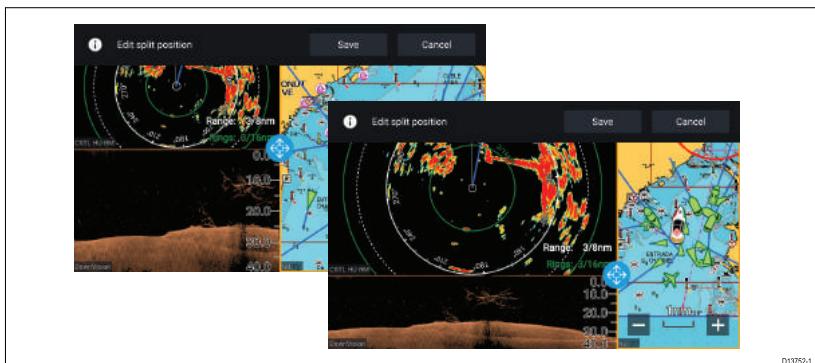
Data overlays can be placed anywhere on the app page and can be placed over any app in a Splitscreen app page.

Data overlays can be customized from: **Menu > Page Settings > Edit data overlays.**

In edit mode, drag the data overlay to the desired location, then pressing and holding on a Data overlay displays the Popover menu where you can **Edit**, **Move**, **Resize** or **Delete** the Data overlay

Select **Add** to add another overlay or **Done** to exit edit mode.

### 3.13 Editing the split ratio of a Splitscreen app page



With a Splitscreen app page displayed:

1. Select **Edit split ratio** from the **Page settings** tab: **Menu > Settings > Page settings > Edit split ratio.**
2. Drag the Resize icon to create the desired split ratio.
3. Select **Save.**

# Chapter 4: Chart app

## 4.1 Chart app overview

The Chart app displays a representation of your vessel in relation to land masses and other charted objects, which enables you to plan and navigate to your desired destination. The Chart app requires a GNSS position fix in order to display your vessel at the correct location on a world map.

For each instance of the Chart app you can select which electronic cartography that you want to use, the selection will persist over a power cycle.







The Chart app can be displayed in both Fullscreen and splitscreen app pages. App pages may consist of up to 4 instances of the Chart app.



1	<b>Waypoint</b> Use waypoints to mark specific location or points of interest.	2	<b>Track</b> You can record the passage your vessel takes using Tracks.
3	<b>Vessel icon</b> Represents your vessel, only displayed when GNSS position fix is available (icon will be a black dot if no Heading is available).	4	<b>Wind indicator</b> Provides indication of wind direction and speed (Wind transducer required).

5	<b>Route</b> You can plan your route in advance by creating a Route using Waypoints to mark each route leg.	6	<b>Destination waypoint</b> During a goto, this is the current destination waypoint.
7	<b>Heading line</b> If Heading data is available then a Heading vector for your vessel can be displayed.	8	<b>COG line</b> If COG data is available then you can display a COG vector for your vessel.
9	<b>Tide indicator</b> Provides Set and drift indicators. Requires the following data; COG, Heading, SOG, and STW (Speed Through Water)..	10	<b>Chart range</b> Identifies the scale for the chart range displayed.
11	<b>Range rings</b> Provides a distance indication around your vessel at set intervals.	12	<b>Sidebar</b> The Sidebar contains system data that can be viewed in all apps.

## Chart app controls

Icon	Description	Action
	Home icon	Takes you to the Homescreen
	Menu icon	Opens the app menu
	Waypoint / MOB	Place waypoint / hold down to activate Man overboard (MOB) alarm
	Find vessel	Centers your vessel onscreen.
	Range In	Decreases the range/distance displayed onscreen.
	Range Out	Increases the range/distance displayed onscreen.

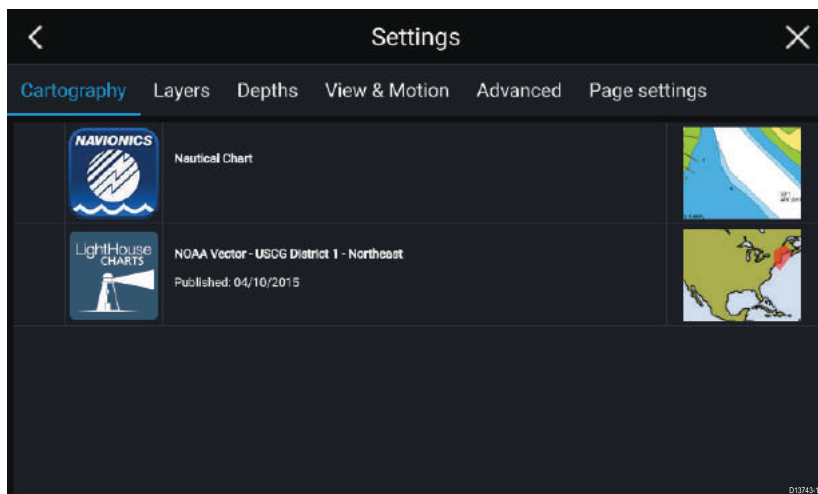
## Chart ranging and panning

You can change the range displayed in the Chart app using the onscreen Range controls or by using the pinch-to-zoom multi-touch gesture.

You can pan the chart area by swiping your finger across the chart.

## Selecting a chart card

You can use electronic charts from supported vendors to enhance the level of detail provided by the Chart app. The electronic chart card must be inserted into the MFDs MicroSD card reader (or the card reader of an MFD on the same network).



From the Chart app menu:

1. Select the Settings icon.
2. Select the cartography that you want to use.

## Chart modes

The Chart app provides preset modes that can be used to quickly set up the Chart app for your intended use.



### DETAILED

This is the default chart mode. Full menu options are available and any changes made are saved to the user profile in use.



### FISHING

Fishing mode optimizes the Chart app for Fishing and displays more detailed contour lines, if supported by your selected cartography. Full menu options are available and any changes made are saved to the user profile in use.

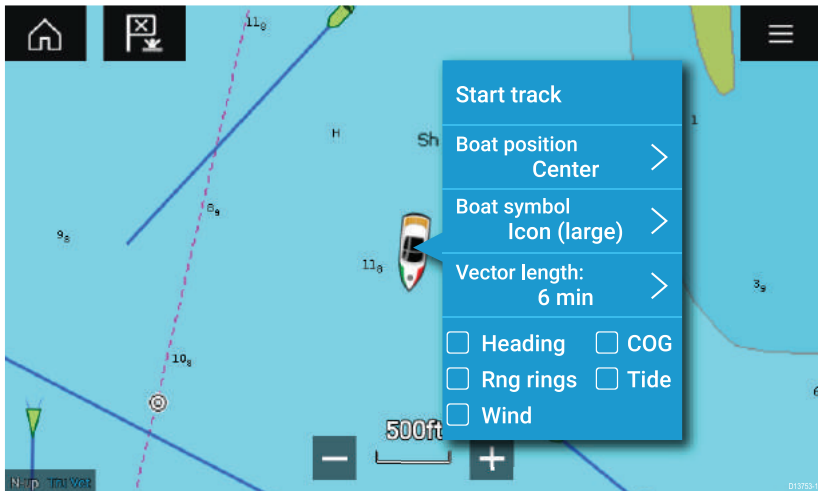


### SIMPLE

In Simple mode chart detail is suppressed to provide a clearer, simpler view for navigation. Only navigation menu options are available. Changes to settings are not saved.

## Vessel details

The Vessel details popover provides access to vessel related settings.



From the Vessel details popover you can:

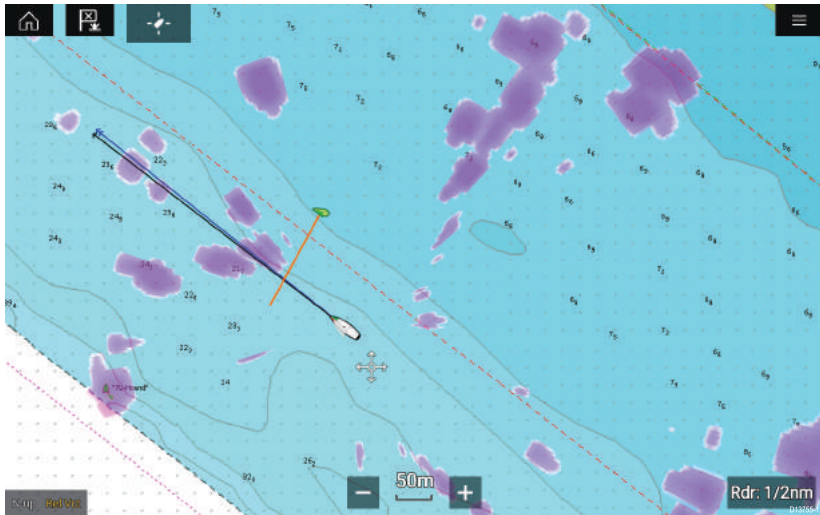
- start a track.
- offset the position the vessel symbol.
- change the symbol used to represent your vessel.
- set the length of vessel vectors.
- show/hide Heading and COG vectors



- show/hide range rings
- show/hide Tide and Wind graphics

## Layers

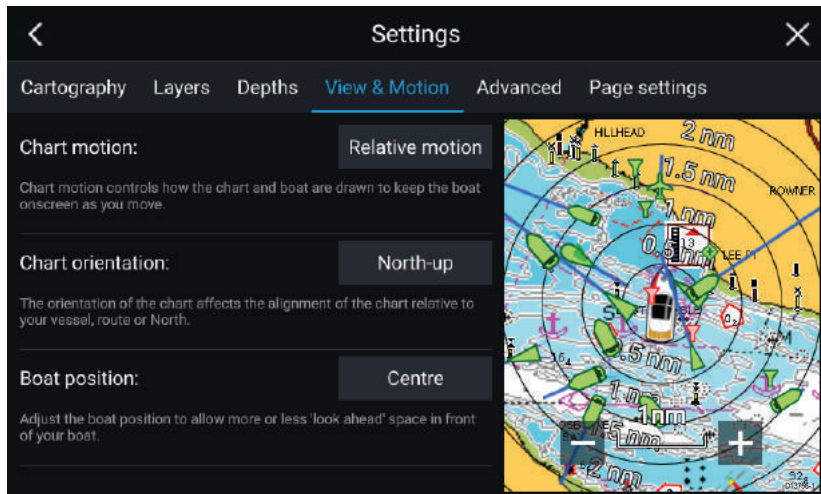
Aerial, AIS, Radar and Range rings can be overlaid on the Chart app.



The Layers tab from the Chart app Settings menu: **Menu > Settings > Layers** provides controls for Chart layers.

## View and motion

The view and motion tab allows you to control how the chart is displayed in relation to your vessel.



### Chart motion

Chart motion controls how the chart and boat are drawn to keep the boat onscreen as you move.

### Chart orientation

The orientation of the chart affects the alignment of the chart relative to your vessel, route or North.

### Boat position

Adjust the boat position to allow more or less 'look ahead' space in front of your boat.

## Placing a Waypoint

You can mark specific locations using waypoints.

1. Select and hold on the location in the Chart app.
2. Select **Place Waypoint** from the context menu.
3. If required you can customize the symbol used for the waypoint, the waypoint name and waypoint group.

## Building a Route

You can plan your journey in advance by creating a Route.

1. Select and hold on the location in the Chart app.
2. Select **Build Route** from the context menu.

*The location you select will become the first waypoint for your route.*

3. Select further locations to create Route legs.
4. When your Route is complete, select **Finish route build**
5. Select **Exit** return to normal operation.

## Recording a Track

You can record your vessel's journey using Tracks.

1. Select and hold on your boat icon.
2. Select **Start track** from the popover menu.

*Your vessel's journey will now be recorded.*

3. You can stop the recording at anytime by selection **Stop Track** from the boat icon's popover menu.
4. Select **Save**.

Once a Track is saved it can be converted to a Route so that the same passage may be followed again at a later date.

## Following a Route

You can follow a saved route.

With the Route displayed in the Chart app:

1. Select and hold on a Route leg within the Route you want to follow.
2. Select **Follow Route** from the Route context menu.

## Performing a Goto

You can perform a Goto to navigate to a Waypoint or specific location.

1. Select and hold on the Waypoint or point of interest on the Chart.
2. Select **Goto** from the context menu.

*You can stop the **Goto** at anytime by selecting and hold anywhere in the Chart app and choosing **Stop**.*

## Chapter 5: Sonar app

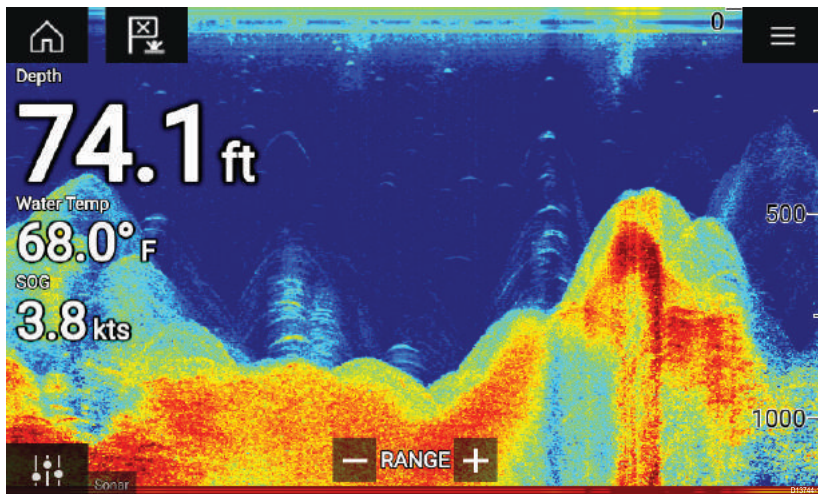
### 5.1 Sonar app overview

The Sonar app displays a visualization of the echoes received from a Sonar module and transducer. The Sonar app is compatible with Traditional, CHIRP, DownVision™, SideVision™ and RealVision™ 3D sonar modules and transducers. The Sonar app builds an underwater view of bottom structure and targets in the water column.



Multiple Sonar modules can be connected at the same time. Sonar modules can be internal (built-in to your MFD) or external (a separate box on your network).






For each instance of the Sonar app you can select which Sonar module and channel that you want to use, the Sonar module and channel selection will persist over a power cycle.

The Sonar app can be displayed in both Fullscreen and splitscreen app pages. App pages may consist of up to 4 instances of the Sonar app.



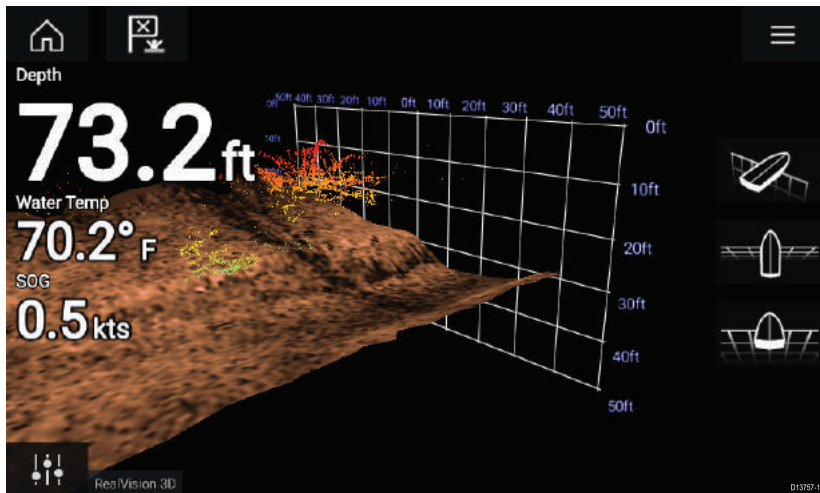
### Sonar app controls

Icon	Description	Action
	Home icon	Takes you to the Homescreen
	Menu icon	Opens the app menu

Icon	Description	Action
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm
	Image adjustment	Displays onscreen sensitivity / image adjustment controls
	Resume scrolling	When the Sonar app is paused, for Waypoint placement, you can recommence scrolling by selecting the Resume scrolling button.
	Range/Zoom In	When Range is set to Auto, pressing the plus icon activates Zoom mode, subsequent presses will increase the Zoom factor. When Range is set to Manual pressing the Plus icon decreases the distance displayed onscreen.
	Range/Zoom Out	When in Zoom mode, pressing the minus icon will decrease the Zoom factor and finally revert to normal mode. When Range is set to Manual pressing the Minus icon increases the distance displayed onscreen.

## RealVision 3D controls

When using RealVision 3D sonar you can manipulate the view using touch gestures.



- One finger swipe rotates the image.
- Two finger swipe moves the image around the screen.
- Pinch-to-zoom zooms the image in and out.

## Opening the Sonar app

The Sonar app is opened by selecting a page icon from the Homescreen that includes a Sonar app.

### Pre-requisites:

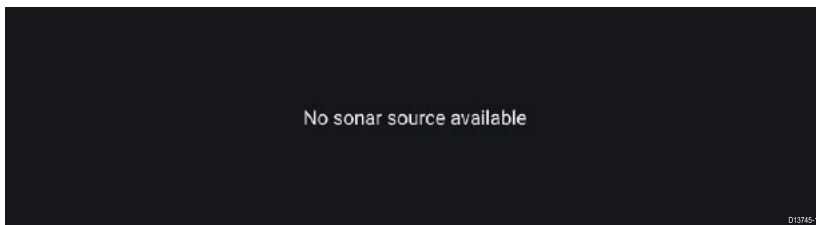
1. Ensure your Sonar module is compatible, check the latest details available on the Raymarine website, if in doubt please contact an authorized Raymarine dealer for advice.
2. Ensure you have installed your Sonar module in accordance with the documentation that was supplied with the module.

The Sonar app will open in 1 of 4 states:

### No sonar source available

If the '**No sonar source available**' warning is displayed then:

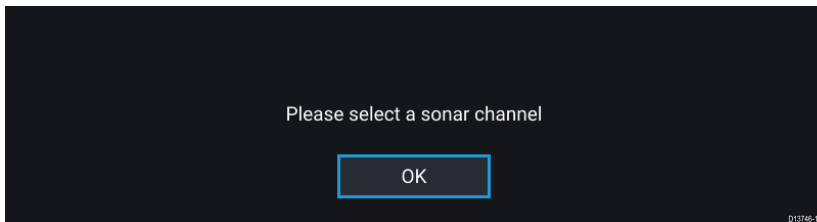
- the Sonar app page was opened before your external sonar module has finished booting.
- your MFD cannot establish a connection with your external Sonar module
- your Internal Sonar module has no transducer connected.



Check your external sonar module's network and power connection, check your MFD's network or transducer connection ensuring the connections and cabling is correct and free from damage, then power cycle your system. If the Sonar module is still not found then refer to your equipment's installation documentation for further troubleshooting information.

### Please select a sonar channel

The first time you open a new app page that includes the Sonar app you will need to select a Sonar channel to use in the app instance.

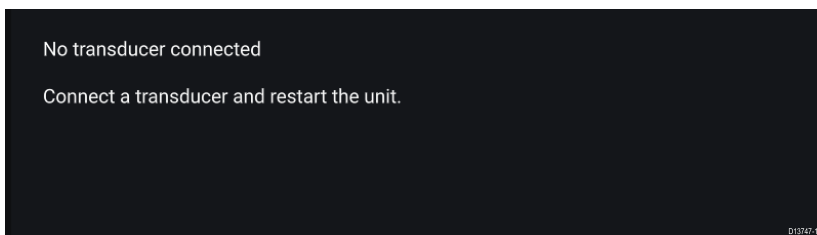


Select **OK** and then choose the Sonar channel you want to use from the list:



### **No transducer connected**

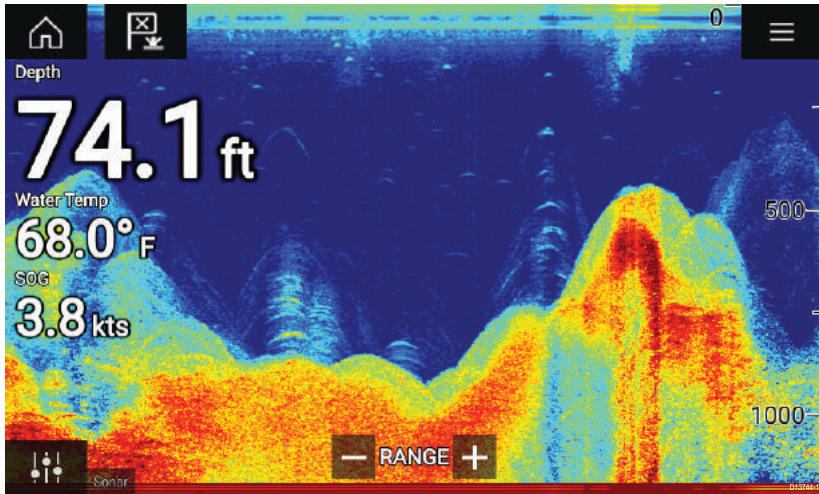
If the '**No transducer connected**' warning is displayed then your Sonar module cannot connect to your transducer.



Check your transducer connection(s) are correct and free from damage, then power cycle your system. If the transducer is still not found then refer to your equipment's installation documentation for further troubleshooting information.

### **Sonar on and pinging**

If your Sonar app has already been set up then when the Sonar app is opened the Sonar image will be displayed and start scrolling.

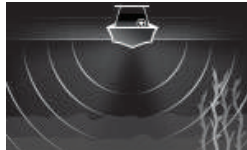


## Sonar channels

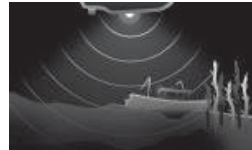
The Sonar channels that are available depend on the Sonar module and transducer you have connected.



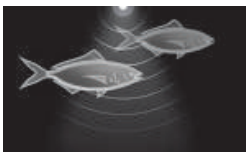
RealVision™ 3D



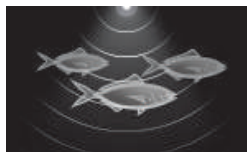
SideVision™



DownVision™



High CHIRP / High  
Frequency



Medium CHIRP /  
Medium Frequency



Low CHIRP / Low  
Frequency

## Selecting a Sonar channel

The first time you open a new Sonar app page you will be requested to select a channel, subsequently you can change the sonar channel by selecting a channel icon from the Sonar app menu.

1. Select a relevant channel icon from the Menu.
2. Alternatively select **All channels** from the Menu and then choose your desired sonar module and channel.



## Placing a Waypoint in the Sonar app

When you observe something of interest in the Sonar app you can place a waypoint at its location so that you can find the area again.

With a scrolling image displayed in the Sonar app:

1. Select and hold on the point of interest onscreen.  
The Context menu is displayed and scrolling is paused, temporarily.
2. Select **Add Waypoint** from the context menu.

*The Sonar image will remain paused for approximately 10 seconds after the Waypoint has been placed.*

**Note:** Waypoints cannot be placed when viewing a RealVision™ 3D channel.

# Chapter 6: Radar app

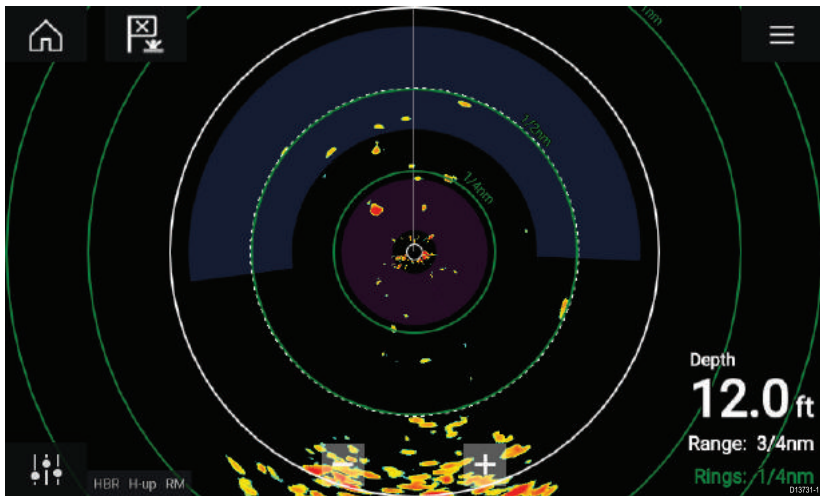
## 6.1 Radar app overview

The Radar app displays a visualization of the echoes received from a connected Radar scanner. The Radar app is an aid used to help enhance collision and situational awareness by enabling target's distance and speed to be tracked in relation to your vessel.




Up to 2 Radar scanners can be connected at the same time. However, only 1 Radar in a system can be a Quantum™ Radar.



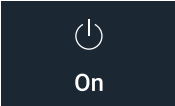
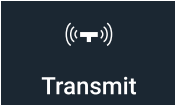


For each instance of the Radar app you can select which Radar scanner you want to use, the Radar scanner selection will persist over a power cycle.

The Radar app can be displayed in both Fullscreen and splitscreen app pages. App pages may consist of up to 4 instances of the Radar app.



### Radar app controls

Icon	Description	Action
	Home icon	Takes you to the Homescreen
	Menu icon	Opens the app menu
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm

Icon	Description	Action
	Image adjustment	Displays onscreen sensitivity / image adjustment controls
	Power Off	Powers down the current Radar scanner
	Power On	Powers up the selected Radar scanner
	Transmit	Start Radar transmission
	Range In	Decreases the distance displayed onscreen (minimum range: 1/16nm).
	Range Out	Increases the distance displayed onscreen (up to your Radar scanners maximum range).

## Opening the Radar app

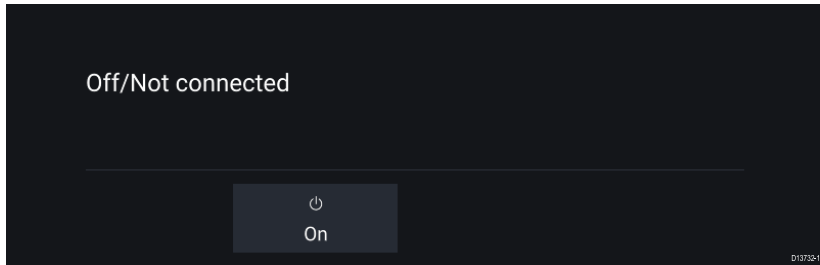
The Radar app is opened by selecting a page icon from the Homescreen that includes the Radar app.

### Pre-requisites:

1. Ensure your Radar scanner is compatible, check the latest details available on the Raymarine website, if in doubt please contact an authorized Raymarine dealer for advice.
2. Ensure you have installed your Radar scanner in accordance with the documentation that was supplied with your Radar.

The Radar app will open in 1 of 3 states:

## Off/Not Connected

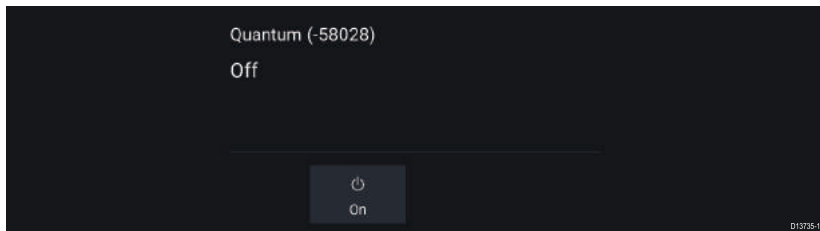


If the '**Off/Not Connected**' message is displayed then:

- your Radar scanner may be powered down, or
- your MFD cannot establish a connection with your Radar scanner

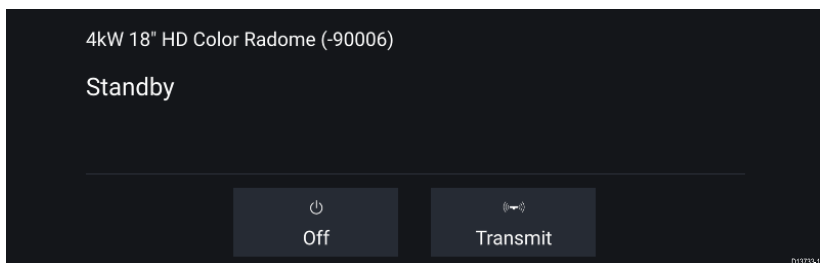
Select **On** to power up your Radar. If the '**Radar not found**' message is displayed then a connection could not be established, ensure that network and power connections to your Radar and MFD are correct and free from damage and then power cycle your system. If the Radar scanner can still not be found refer to your Radar's installation documentation for further troubleshooting information.

## Off



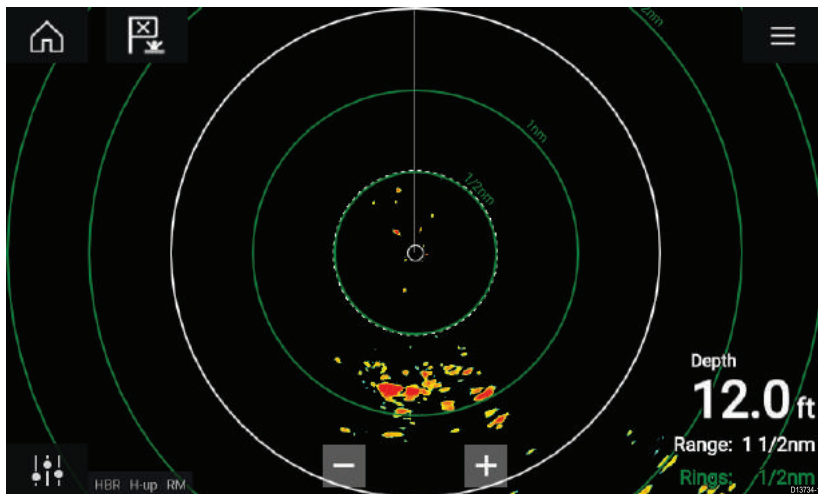
If the '**Off**' message is displayed then your Wi-Fi connected Radar scanner is paired but —powered off, select **On** to power up your Radar

## Standby (Not transmitting)



If the '**Standby**' message is displayed then select **Transmit** to begin transmitting.

## Transmitting



If your Radar scanner is connected, powered up and transmitting then the Radar image is displayed and echoes/targets are displayed onscreen.

## Radar modes

The Radar app provides preset modes that can be used to quickly achieve the best picture depending on your current situation. Only Radar modes supported by your Radar scanner are shown.

To change Radar mode select the required mode from the Radar app menu.



### HARBOR

Harbor mode takes into account land clutter that is encountered in Harbor, so that smaller targets are still visible, useful when navigating a Harbor.

**Radar scanners:** All.



### BUOY

Buoy mode enhances the detection of smaller targets such as mooring buoys, useful at ranges up to 3/4nm.

**Radar scanners:** SuperHD™ Open Array, HD Open Array and HD Radome.



### **COASTAL**

Coastal mode takes into account slightly higher levels of Sea clutter that is encountered out of Harbor, useful when in open water but keeping to the coast.

**Radar scanners:** All.



### **OFFSHORE**

Offshore mode takes into account high levels of Sea clutter so that targets are still visible, useful when navigating in open water away from the coast.

**Radar scanners:** All.



### **BIRD**

Bird mode optimizes the display to help identify flocks of birds, useful when trying to locate a fishing area.

**Radar scanners:** SuperHD™ Open Array, HD Open Array and HD Radome.



### **WEATHER**

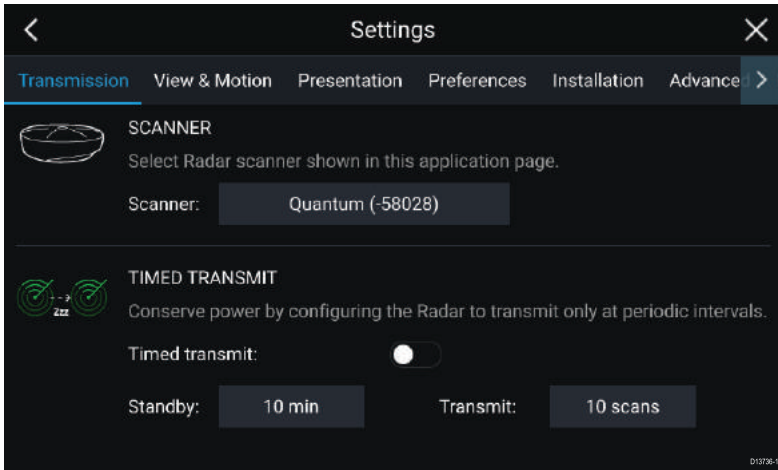
Weather mode optimizes the display to help identify precipitation, useful for helping determine weather fronts.

**Radar scanners:** Quantum™.

## **Selecting a Radar scanner**

On systems with 2 Radar scanners, you can select which Radar scanner is used in each instance of the Radar app.

1. Select the  **Settings** icon from the Radar app menu.



2. Select the **Scanner:** box on the **Transmission** tab.  
A list of available Radar scanners is displayed.
3. Select the Radar scanner that you want to associate with the current instance of the Radar app.
4. Close the **Settings** page.

The current instance of the Radar app will change to display the selected Radar scanner. Radar scanner selection shall persist over a power cycle.

Alternatively, with the Radar powered off or in Standby, you can select switch Radar scanner by selecting **Change scanner**.



# Chapter 7: Dashboard app

## 7.1 Dashboard app overview

The Dashboard app enables you to view system data. System data may be generated by your MFD or by devices connected to your MFD via SeaTalkng<sup>®</sup> / NMEA 2000 and SeaTalkhs<sup>™</sup>. The Dashboard app can also be configured to provide control of your compatible Digital Switching devices.






The Dashboard app can be displayed in Fullscreen and half screen portrait app pages.

For each instance of the Dashboard app you can select which Data pages you want to use, the Data page selection will persist over a power cycle.



The Dashboard app is pre-configured with a number of customizable data pages.

## Dashboard app controls

Icon	Description	Function
	Home icon	Takes you to the Homescreen.
	Menu icon	Opens the app menu.
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm.
	Left arrow	Displays the previous data page.
	Right arrow	Displays the next data page.



## Switching data page

1. Use the **Left arrow** and **Right arrow** buttons to cycle through the available data pages.
2. Alternatively, you can select a specific data page from the Dashboard app menu.

## Selecting Data pages to display

For each instance of the Dashboard app you can select which Data pages you want to be able to view.

1. Select **Settings** from the Dashboard app menu.
2. Select and hold on the relevant page from the list.
3. Select **Hide page**.

The selected page will no longer be available in the current instance of the Dashboard app.

## Customizing existing Data pages

The data items displayed on each page can be changed.

1. Select and hold on the relevant Data item.
2. Select **Edit** from the Data item popover menu.
3. Select the new Data item that you want to display.

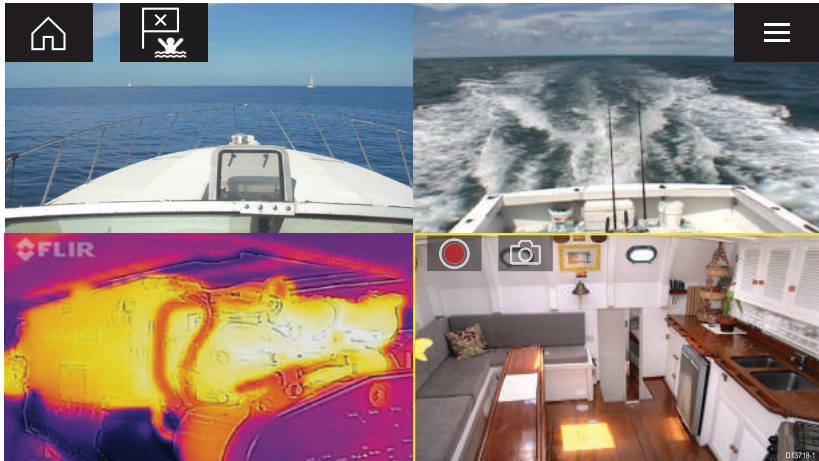
# Chapter 8: Camera app

## 8.1 Camera app overview





IP (Internet protocol) video feeds can be viewed, recorded and played back using the Camera app. Examples of IP video feeds include: IP CCTV camera and IP Thermal imaging camera. It may be possible to view analog video feeds when using a suitable Analog to IP video converter.



Up to 4 IP video feeds can be displayed simultaneously when using a splitscreen app page.

For each instance of the Camera app you can select which IP video feed you want to use, the selection will persist over a power cycle.



### Camera app controls

Icon	Description	Function
	Home icon	Takes you to the Homescreen
	Menu icon	Opens the app menu
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm
	Record	Start recording (Replaced by Stop icon whilst recording.)

Icon	Description	Function
	Stop	Stop recording (Replaced Record icon when not recording.)
	Take photo	Take a photo of what is currently displayed in the active feed.

## Opening the Camera app

The Camera app is opened by selecting an app page from the Homescreen that includes the Camera app.

### Pre-requisites:

1. Ensure your camera is compatible, check the latest details available on the Raymarine website against your IP camera's specification, if in doubt please contact an authorized Raymarine dealer for advice.
2. Ensure you have installed your camera in accordance with the documentation that was supplied with your camera.

The Camera app will open in 1 of 3 states:

**Note:** If the Camera app is opened soon after powering on your system, you may have to wait for your camera's to finish booting before its video feed is displayed.

### Camera feed displayed

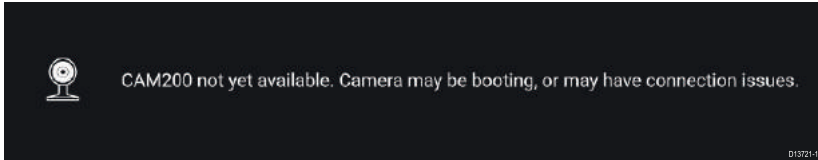
If your camera is powered up and operational then the Camera's video feed is displayed.



## Camera not yet available

The camera '**xxx not yet available.....**' message is displayed if:

- a Camera app page is opened before the camera has finished booting up.
- connection to the camera is lost.

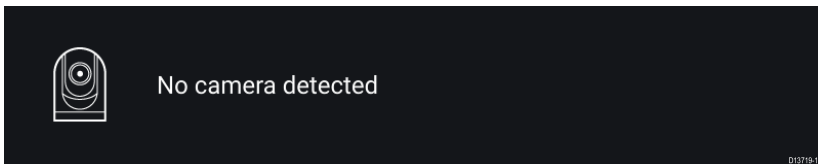


If the camera '**xxx not yet available.....**' message is displayed for more than 2 minutes, then your MFD cannot connect to your camera. Ensure network and power connections to your camera and MFD are correct and free from damage and then power cycle your system. If the camera feed is still not displayed then refer to your equipment's installation documentation for further troubleshooting information.

## No camera detected

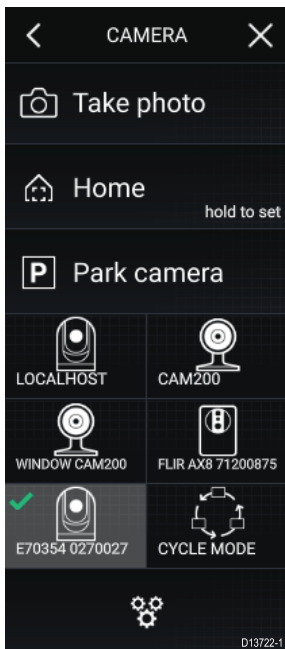
The '**No camera detected**' message is displayed if:

- a Camera app page is opened for the first time and no compatible camera is connected.
- a Camera app page is opened for the first time before the camera has finished booting up.



If the '**No camera detected**' message is displayed for more than 2 minutes, then your MFD cannot connect to your camera. Ensure network and power connections to your camera and MFD are correct and free from damage and then power cycle your system. If the camera feed is still not displayed then refer to your equipment's installation documentation for further troubleshooting information.

## Selecting an IP video feed



You can change the IP video feed that is displayed in the Camera app from the menu.

From the Camera app menu, select the camera icon for the camera that you want to display.

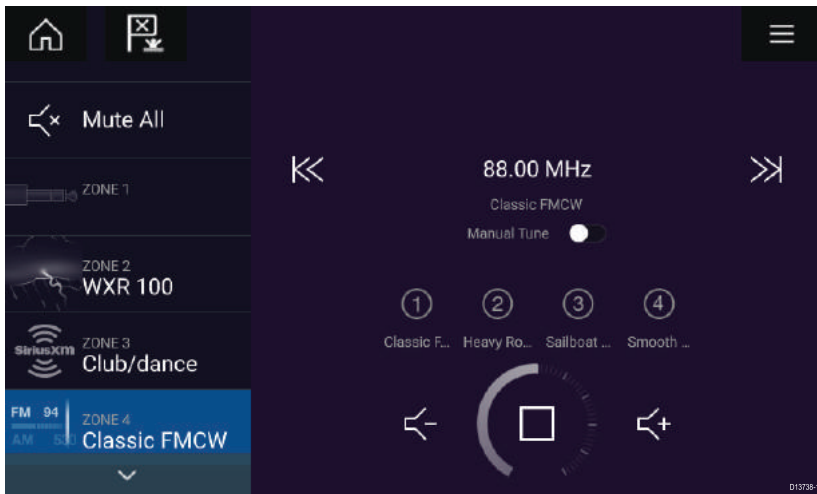
Alternatively, you can select **CYCLE MODE** to automatically cycle through available feeds.

## Chapter 9: Audio app

### 9.1 Audio app overview

The Audio app can be used to control a compatible NMEA 2000 entertainment system that is connected to the same SeaTalkng<sup>®</sup> network.

The Audio app can be displayed in Fullscreen and half screen portrait app pages.















If more than 1 compatible Entertainment system is present on the network then the first system to obtain a network connection will be controlled by the Audio app. Only the Entertainment system that you want to control should be connected to the network.









### Compatible entertainment systems

The table below shows compatible NMEA 2000 entertainment systems, that have been approved for use with the Audio app.

Device	Manufacturer
PMX-5 / PMX-8	Rockford Fosgate

## Audio app controls

Icon	Description	Function
	Home icon	Takes you to the Homescreen.
	Menu icon	Opens the app menu.
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm.
	Power Off	Powers off the Entertainment system.
	Mute All	Mutes all audio zones.
	Volume Down	Decreases volume for current zone.
	Volume Up	Increases volume for current zone.
	Forwards	<ul style="list-style-type: none"> <li>• Skip to the next track (USB and Bluetooth)</li> <li>• Seek/Search Forward (Radio)</li> </ul>
	Backwards	<ul style="list-style-type: none"> <li>• Skip back to beginning of current track (USB and Bluetooth)</li> <li>• Seek/Search Backward (Radio)</li> </ul>
	Manual Tune	<ul style="list-style-type: none"> <li>• On (switches Forwards and Backwards icons with Manual Tune icons)</li> <li>• Off</li> </ul>
	Tune Up	Manually searches up for radio stations/channels.
	Tune Down	Manually searches down for radio stations/channels.

Icon	Description	Function
	Repeat	<ul style="list-style-type: none"> <li>• Off</li> <li>• Repeat Track (1)</li> <li>• Repeat All (A)</li> </ul>
	Shuffle	<ul style="list-style-type: none"> <li>• On</li> <li>• Off</li> </ul>
	Play	Select to commence playback.
	Pause	Select to Pause playback.
	Stop	Select to Stop (Mute) Radio devices.
	Like	Like a track (Pandora only).
	Dislike	Dislike a track (Pandora only).
	Radio presets	Save your favorite radio stations/channels to 4 preset buttons. Press and hold to save, press once to change to saved station/channel.

## Opening the Audio app

The Audio app is opened by selecting an app page from the Homescreen that includes the Audio app.

### Pre-requisites:

1. Ensure your Entertainment system is compatible, check the latest details available on the Raymarine website, if in doubt please contact an authorized Raymarine dealer for advice.
2. Ensure you have installed your Entertainment system in accordance with the documentation that was supplied with the system.

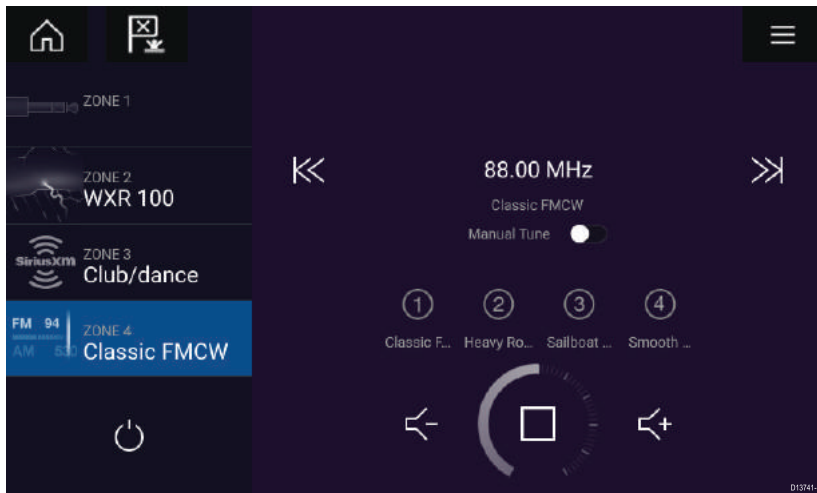
The Audio app will open in 1 of 3 states:

**Note:** If the Audio app is opened soon after powering on your MFD, then the **'No audio device found'** message may be displayed whilst the network is being established.



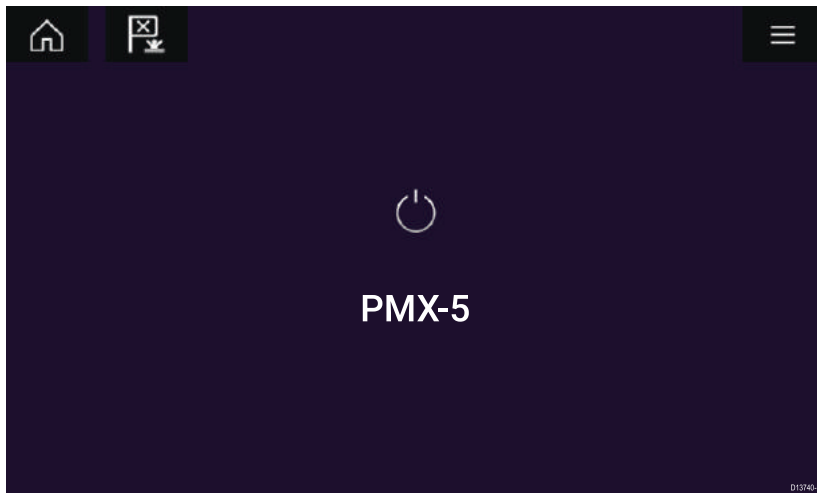
## Audio app displayed

If your Entertainment system is powered up and operational then the Audio app is displayed and can be used to control your system.



## Entertainment system powered off

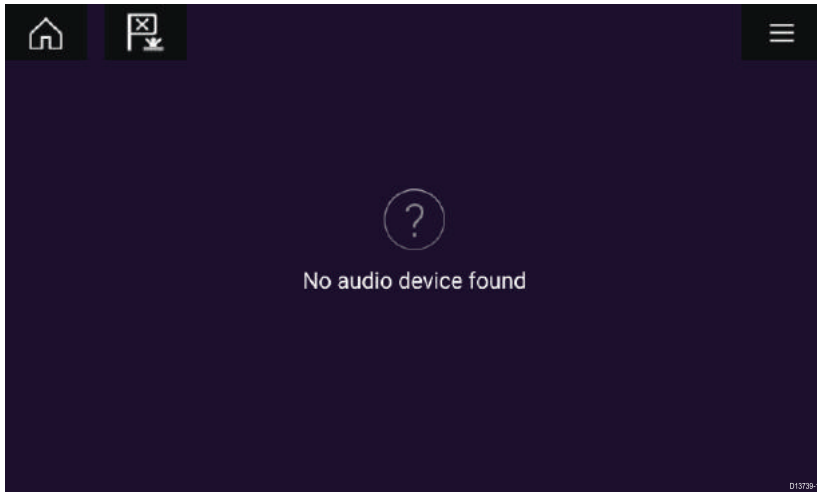
If the Entertainment system is powered off then the Power icon is displayed, selecting the **Power icon** will switch your Entertainment system on.



## No audio devices found

If the '**No audio device found**' message is displayed for more than 10 seconds, then your MFD cannot connect to your Entertainment system. Ensure network and power connections to your Entertainment

system and MFD are correct and free from damage then power cycle your system. If the Entertainment system is still not displayed then refer to your equipment's installation documentation for further troubleshooting information.



## Selecting an audio source

You can switch between the current audio sources connected to your Entertainment system.

**Note:** The audio source must be available to your Entertainment system's head unit for you to be able to select the source from your MFD.

From the Audio app:

1. Select the **Menu icon**.

The displayed menu provides audio source options; AM Radio, FM Radio, Weather, Auxiliary, USB and Bluetooth.

2. Select the audio source you want to listen to.





CE 0168 ⓘ

**Raymarine**

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

Tel: +44 (0)1329 246 700

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

**Raymarine®**

a brand by  **FLIR®**