Raymarine®

LIGHTHOUSE 3

VERSION 3.4xx

Basic operation instructions

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

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.

Contents

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: Set up

2.1 Getting started

Compatible MFDs

The LightHouse™ 3 operating system is compatible with the MFDs listed below.

Software version	Compatible MFDs
LH3.4 LH3.3	• Axiom 7, 9 and 12 • Axiom Pro 9, 12 and 16 • eS Series • gS Series
LH3.2	• Axiom 7, 9 and 12 • Axiom Pro 9, 12 and 16
LH3.1	• Axiom 7, 9 and 12
LH3.0	• Axiom 7, 9 and 12

MFD physical buttons

The table below shows the physical buttons that are available on LightHouse™ 3 compatible MFDs and remote keypads along with their function.

> **Note:**
> • Where 2 button symbols are shown then the symbols on the left represent Axiom™ Pro variant MFDs or RMK-10 keypad and the symbols on the right represent an eS Series MFD or RMK-9 keypad.
> • Axiom MFDs and gS Series MFDs only have a single power button.

Physical MFD buttons

Control	Button	Function
⌂ ⌂	**Home**	Press to display the Homescreen.
☰ ☰	**Menu**	Press to open or close menus.
●	(1)**User Pro-grammable Button**	You can select which function this button controls.
⚑ (⚑)	**Waypoint / MOB**	Press momentarily to place a waypoint at your vessel's location. A long press activates the Man overboard alarm.
⏻ (⏻)	**Power**	Press to power on the MFD. When powered on press to open the Shortcuts page
(⏻))))	(2)**Power swipe**	Swipe to power on the MFD. When powered on swipe again to open the Shortcuts page.
STBY (Auto) **Standby** (Auto)	**Pilot**	Press momentarily to display or hide the Pilot sidebar. A long press engages the autopilot in locked heading mode, or disengages an active autopilot.
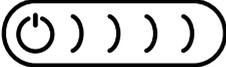
Control	Button	Function
	Switch	Press momentarily to switch the active pane in a splitscreen page. A long press expands the selected pane.
	Back	Press to return to the previous menu or dialog.
	Range In	Press to Range or Zoom In.
	Range Out	Press to Range or Zoom Out.
	Uni-controller	The Uni-controller consists of a center **OK** button, **Directional** controls and a **Rotary** knob.
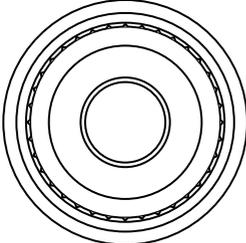
MFD Uni-controller

Control	Control	Function
	Ok	Push the button to confirm a selection.
	Directional	Use the 8 way directional controls to reposition the cursor onscreen.
	Rotary	Turn clockwise to Range or Zoom In and counterclockwise to Range or Zoom out.
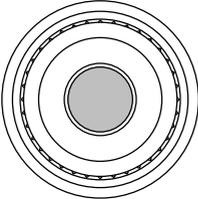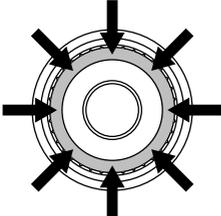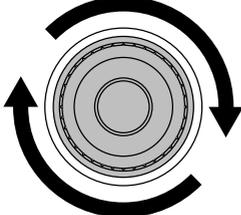
Note:

- [1] The UPB is only available on Axiom™ Pro MFDs.

- [2] The Power swipe is only available on Axiom™ MFDs.

Axiom

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:
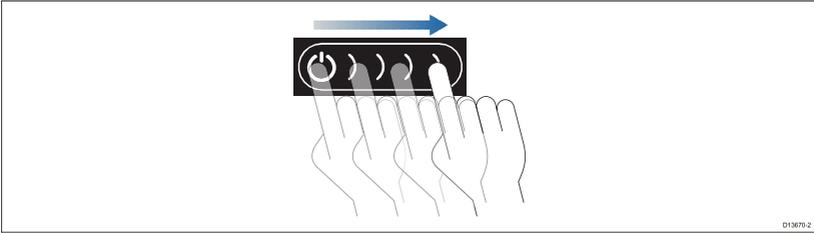
1. Swipe your finger from left to right across the **Power** button swipe area.

   The MFD will power up.

Powering off the display
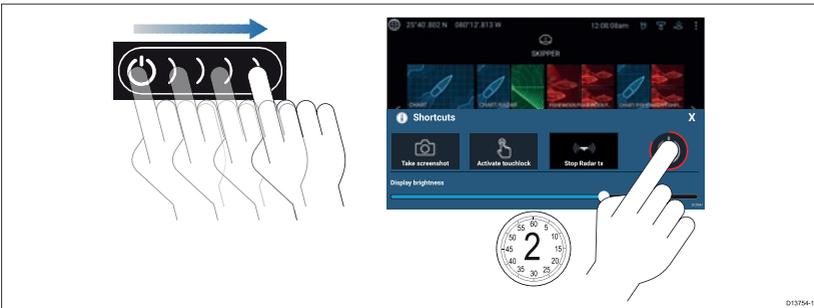
1. Swipe your finger from left to right across the **Power** button swipe area.

   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.

Axiom Pro, eS Series and gS Series

Powering on the display

1. Press the power button to power on the display.

Powering off the display
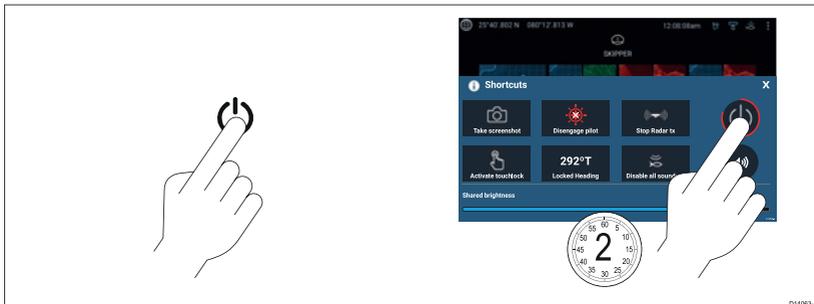
1. Press the **Power** button.
2. From the Shortcuts page press and hold the power icon for approximately 2 seconds.

Alternatively you can press and hold the **Power** butotn for approximately 6 seconds to power off your display.

> **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 is the primary MFD in the network and should be the MFD that is connected to the SeaTalkng ® / 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 ™ 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.
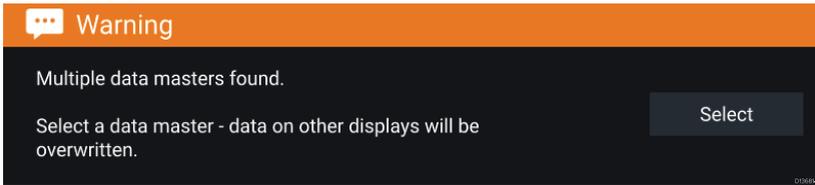
You can change your Data master at anytime by selecting **Assign as Data master** against a MFD listed in the Network tab of the Settings menu: **Homescreen > Settings > Network**.

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.
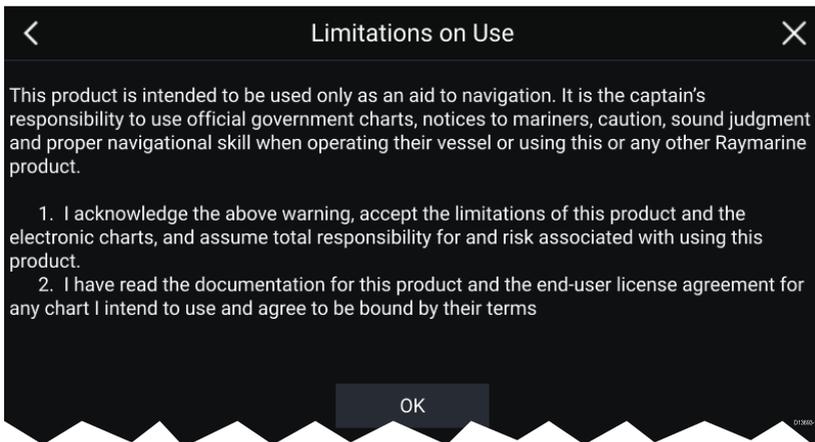
You must read and agree to the terms in order to use your MFD.

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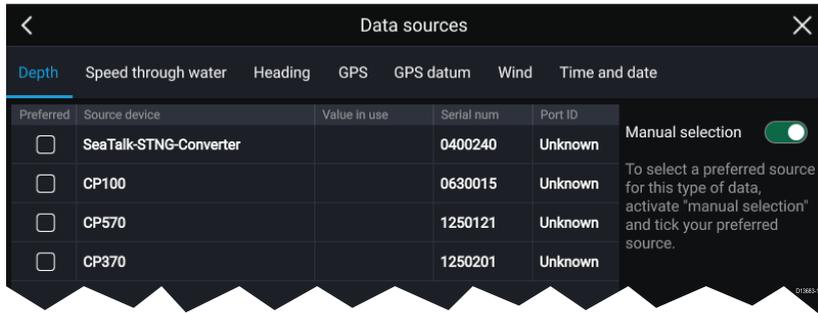
Each tab enables you to view and select your preferred data source. The currently active data source will display its current value in use. Data source selection can be manual or set to automatic:

* **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.

Configuring Transducer settings

For systems set up with Sonar, you should configure your transducer settings.
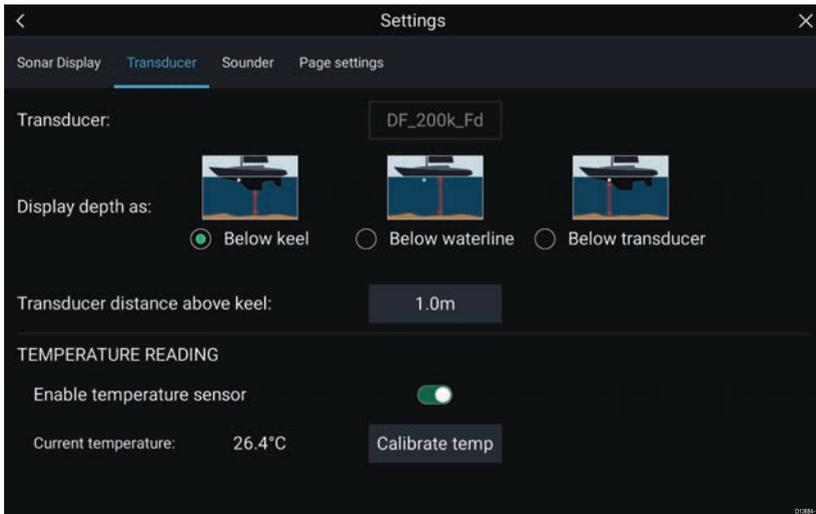
1. Select **Transducer** from the Sonar app's **Settings** menu: **Menu > Settings > Transducer**
2. Select how you want your depth to appear:
   i. Below transducer (default) — No offset required
   ii. Below keel — Enter the distance between the transducer face and the bottom of the Keel.
   iii. Below 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.

RealVision™ 3D AHRS calibration

RealVision™ 3D transducers include a built-in AHRS (Attitude and Heading Reference Sensor), which measures the motion of your vessel to assist in the rendering of sonar images. After installation all RealVision™ 3D transducers require calibration.

An uncalibrated transducer can produce an offset to the front edge of the render of the bottom in the sonar image, as illustrated below.

Uncalibrated	Calibrated
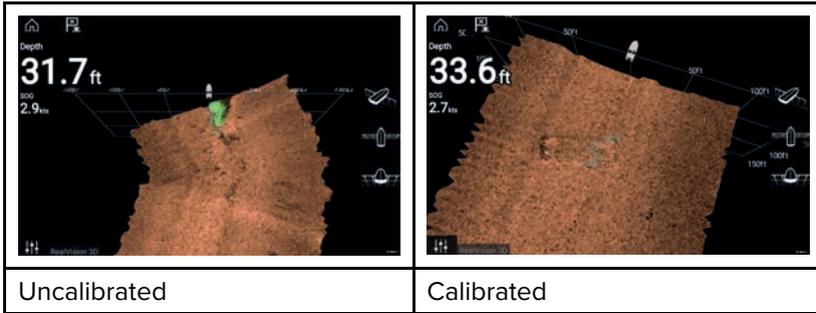
Calibration is an automatic process and starts after your vessel has turned approximately 100° at a speed of between 3 –15 knots. Calibration requires no user input, however at least a 270° turn is required before the calibration process can determine the local deviation and apply a relevant offset.

The time it takes to complete the calibration process will vary according to the characteristics of the vessel, the installation environment of the transducer, and the levels of magnetic interference at the time of conducting the process. Sources of significant magnetic interference may increase the time required to complete the calibration process. Certain areas with substantial magnetic deviation may require extra circles or "figure of 8" manoeuvres to be performed. Examples of such sources of magnetic interference include:

• Marine pontoons

• Metal-hulled vessels

• Underwater cables

Note:

The Calibration process will require repeating after a **Sonar reset** or MFD **Factory reset**.

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.

Performing a settings or factory reset

Performing a **Factory reset** will erase ALL user data and reset the MFD's settings to Factory default values. Performing a **Settings reset** will restore your MFD's settings to factory defaults, whilst retaining user data.

1. Select **Settings reset**, from the **This display** tab: **Homescreen > Settings > This display > Settings reset** to perform a settings reset.
2. Select **Factory reset**, from the **This display** tab: **Homescreen > Settings > This display > Factory reset** to perform a factory reset.

2.2 Shortcuts

The Shortcuts menu can be accessed by swiping left to right across the **Power** button swipe area on an Axiom™ MFD or by pressing the **Power** button on an Axiom™ Pro, eS Series or gS Series MFD.
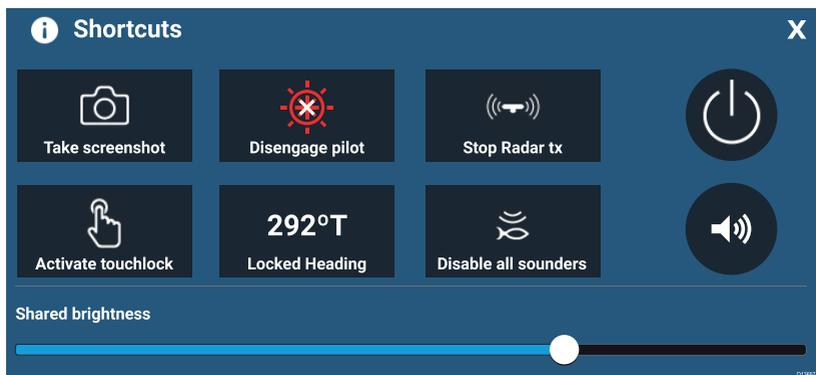
The following shortcuts are available:

- Take Screenshot
- Activate Touchlock
- Engage / Disengage autopilot
- Adjust Locked heading
- Stop Radar transmitting
- Disable all Sounders
- Power off
- Adjust Bluetooth speaker volume
- Adjust Brightness

2.3 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	MFD supported Format
MicroSDSC (Micro Secure Digital Standard Capacity)	Up to 4GB	FAT12, FAT16 or FAT16B	NTFS, FAT32
MicroSDHC (Micro Secure Digital High Capacity)	4GB to 32GB	FAT32	NTFS, FAT32
MicroSDXC (Micro Secure Digital eXtended Capacity)	32GB 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 or better.

• **Use branded memory cards** — When archiving data it is recommended that you use good quality branded memory cards.

Removing MicroSD card from its adaptor

MicroSD memory and cartography chart cards are usually supplied inserted into an SD card adaptor. The card will need to be removed from the adaptor before inserting into your display.

D13468-1
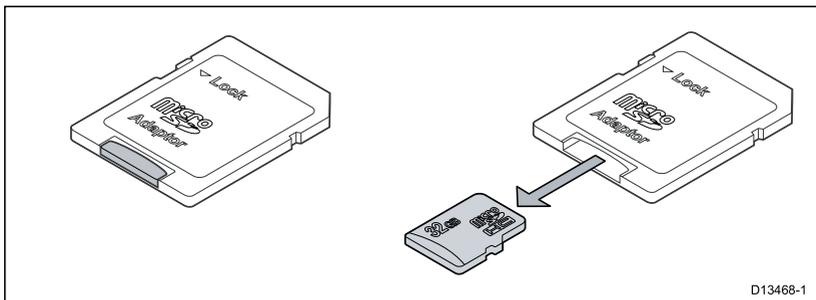
Inserting a MicroSD card — Axiom variants
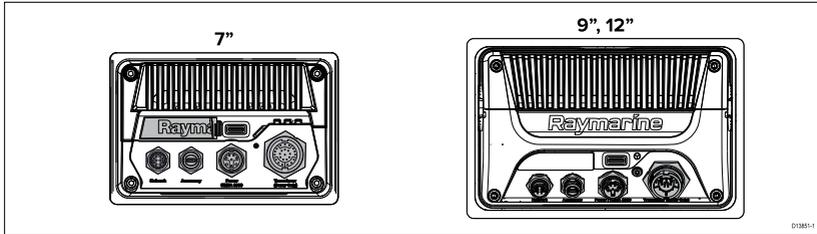
1. Pull back the microSD card reader cover as shown above.
2. Insert your microSD card with the contacts facing down.
3. Close the cover and ensure it is seated correctly.

Removing a MicroSD card

1. Select **Eject SD card** from the **Import/export** page: **Homescreen > My data > Import/export > Eject SD card.**
2. Remove the MicroSD card from the Rear of the MFD.
3. Ensure you close the card reader's cover.

Inserting a MicroSD card — Axiom Pro variants
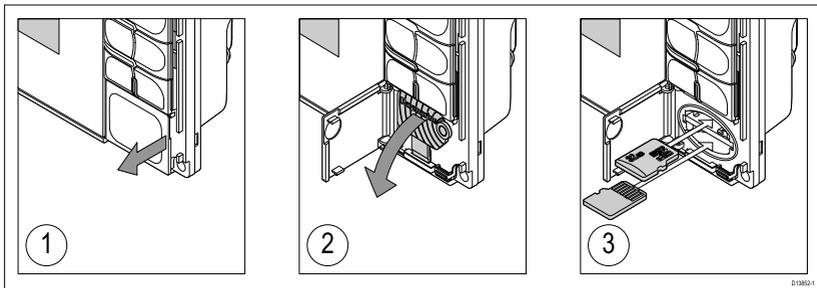
1. Open the card reader door.
2. Pull down the card reader cover.
3. Insert the card into a card slot and push until it clicks into place.

Note: When inserting a card into the lower card slot the memory card must be orientated with the contacts pointing upwards.

Removing a MicroSD card - Axiom Pro

With the card reader door open and cover pulled down:
1. Push the card in until it clicks.
2. Pull the card free from the card slot.

> ## Caution: Ensure card reader cover or door is securely closed
>
> To prevent water ingress and consequent damage to the product, ensure that the card reader door or cover is firmly closed.

2.4 Software updates

Raymarine® regularly issues software updates for its products which provide 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.

www.raymarine.com/software
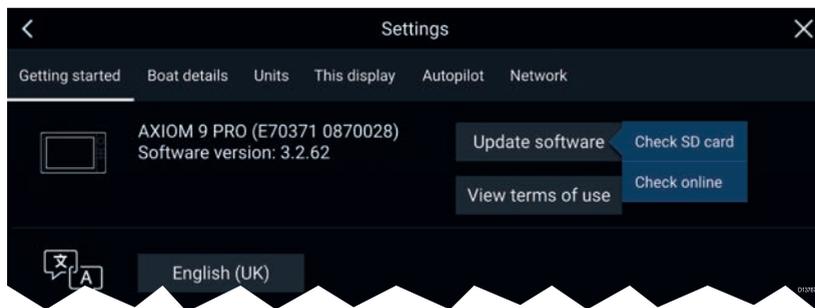
> **Note:**
>
> • It is recommended that you always back up your User data before performing a software update.
>
> • To update compatible SeaTalkng ® products you must use the designated Datamaster MFD that is physically connected to the SeaTalkng ® backbone.
>
> • In order to perform a software update any connected autopilot or Radar must be switched to Standby.
>
> • The MFD's "Check online" feature is only available when the MFD has an Internet connection.
>
> • To check which products are compatible with the MFD software update process please refer to the website: www.raymarine.com/software.

Updating software using a memory card

Compatible SeaTalkhs ® and SeaTalkng ® products can be updated by following the steps below.

1. Check the software version of your product.

   Refer to the documentation supplied with your product for information on checking software version.

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. With your MFD powered on, insert the MicroSD card into the card reader slot.
   Your MFD will automatically detect software files.
6. Follow the onscreen instructions to update your product software.
7. Alternatively you can select **Check SD card** from the **Update software** pop-over options on the Getting started tab: (**Homescreen** > **Settings** > **Getting started** > **Update Software**).

Updating software via the internet

Compatible SeaTalkhs ® and SeaTalkng ® products can be updated by following the steps below.

1. Select **Update software** from the Getting started tab: (**Homescreen** > **Settings** > **Getting started**).
2. Select **Check online** from the pop-over 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** and then follow any onscreen instructions.

2.5 Video tutorials

A range of tutorial videos is available on the Raymarine website to assist you in learning how to use your product.

http://www.raymarine.com/multifunction-displays/lighthouse3/tips-and-tricks

Chapter 3: Homescreen

3.1 Homescreen overview

All settings and apps can be accessed from the Homescreen.
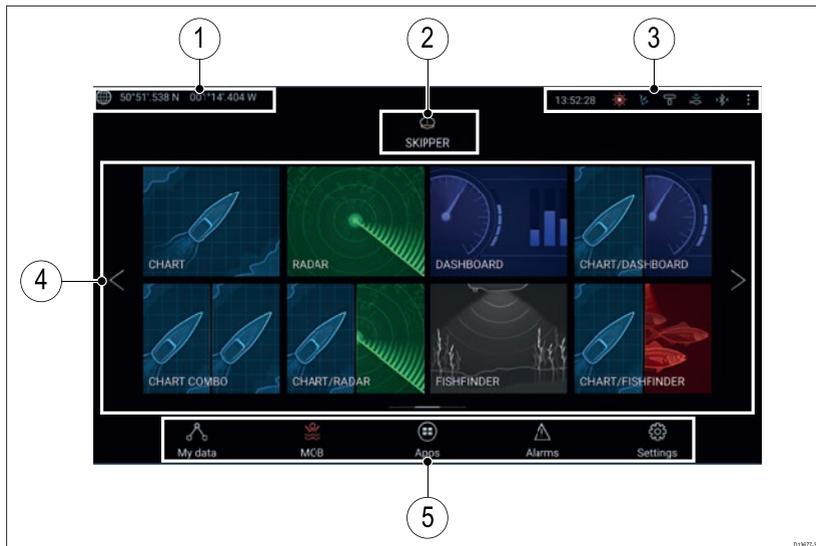
1. **GNSS position/fix details** — Select the area to view fix accuracy and access GNSS settings.

2. **Profile** — Select the area to change the profile in use or to create, edit or delete profiles.

3. **External devices and system time** — Select this area to access Bluetooth settings, Disengage your autopilot or adjust the UTC time offset.

4. **App page icons** — Select an icon to open the relevant MFD app 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. **Settings and data** — This area provides access to the **Settings**, **Alarms**, **Apps** and **My data** menus. You can also activate the **Man Over Board** (MOB) alarm and disengage your autopilot.

> **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.

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3.2 Creating / Customizing an App page

1. Press and hold on an existing App page icon to display pop-over options.

   You can Customize, Rename or Delete app pages from the pop-over options.

2. Select **Customize** from the pop-over options to change page layout and apps used. To Create a new page press and hold on a blank space on the Homescreen.
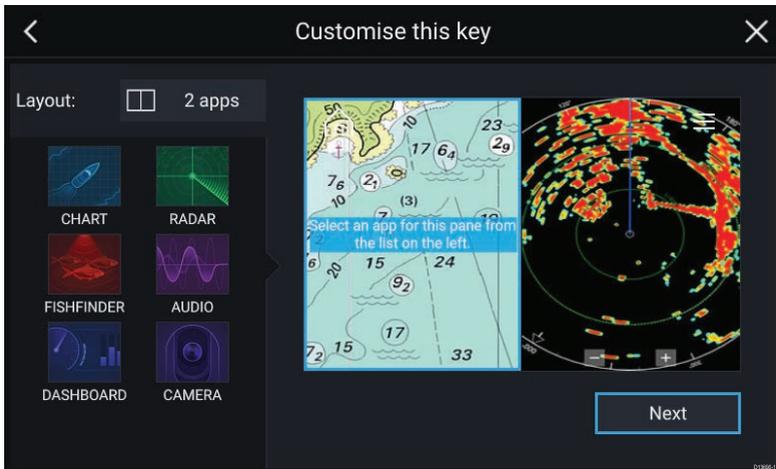
3. Select the **Layout:** option to change the page layout.
4. Select the icons for the Apps that you want to be displayed on the page.
5. Select **Next** and give the page a memorable name.
6. Select **Save**.

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

3.3 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.
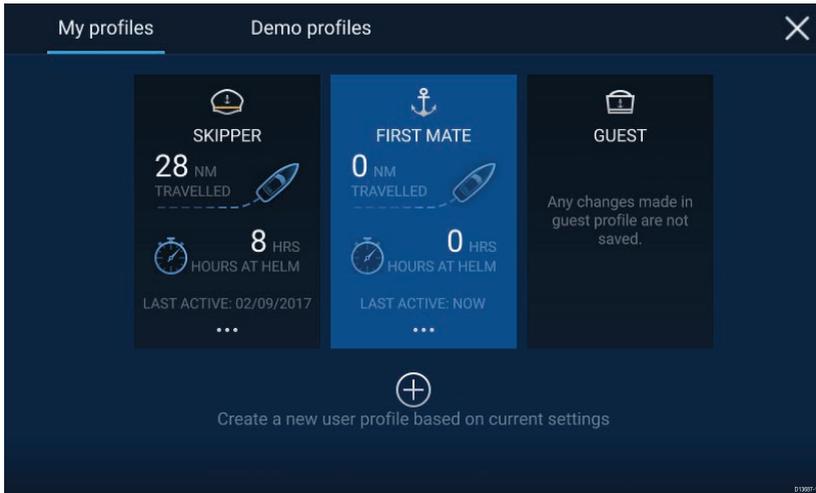
Selecting the **Plus (+)** icon will create a new profile based on the profile that is currently in use.

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.

3.4 My data

Selecting **My data** from the Homescreen provides access to user data such as **Waypoints**, **Routes**, **Tracks**, **Fuel** and **Trip** data and also media **Files**. You can also **Import/export** User data from the **My data** menu.
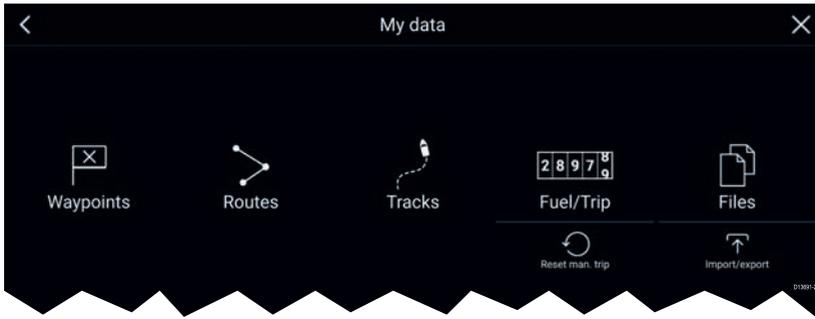
Selecting **Waypoints**, **Routes** or **Tracks** will take you to the relevant list where you can manage and customize your data.

Selecting **Fuel/Trip** will display the Fuel manager and Trip counters.

Selecting **Reset man. trip** will reset the **Trip (Manual)** counter to zero.

Selecting **Files** opens a file browser.

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

3.5 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
Getting started	• View hardware and software information about your MFD.
	• View cartography details for inserted chart cards.
	• Update MFD software
	• View the LoU disclaimer (**Getting started** tab).
	• Change the user interface language
Boat details	• Set boat icon and name.
	• Configure Minimum safe depth, height and width.
	• Configure engines.
	• Configure batteries.
	• Configure fuel tanks.

Tab	Options
Units	• Configure preferred units of measurement. • Configure Bearing mode. • Configure variation. • Configure GNSS system datum.
This display	• Assign a Homescreen page or app to start on power up. • Select save location for screenshots. • Configure Axiom Pro user programmable button. • Configure Shared brightness. • Change or reset Splashscreen graphic. • Pair/unpair with a RMK external keypads. • Connect to a wireless display. • Wi-Fi Sharing, pair with a wireless Quantum Radar scanner, configure Wi-Fi settings and set mobile app access. • Connect to a Bluetooth device. • Perform a Settings or Factory reset.
Autopilot	• Enable/Disable Autopilot control. • Set autopilot response. • Access advanced autopilot settings.
Network	• View list of networked MFDs. • Assign a MFD Data master. • View software and network details for the MFD you are using. • Save or Erase diagnostics logs to external storage. • View and Save Diagnostic information about products connected to your MFD. • Set up NMEA 0183 options on an Axiom Pro. • Assign your preferred data sources (Data master only).

3.6 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: on the Homescreen or the waypoint/MOB icon: found at the top of all apps.
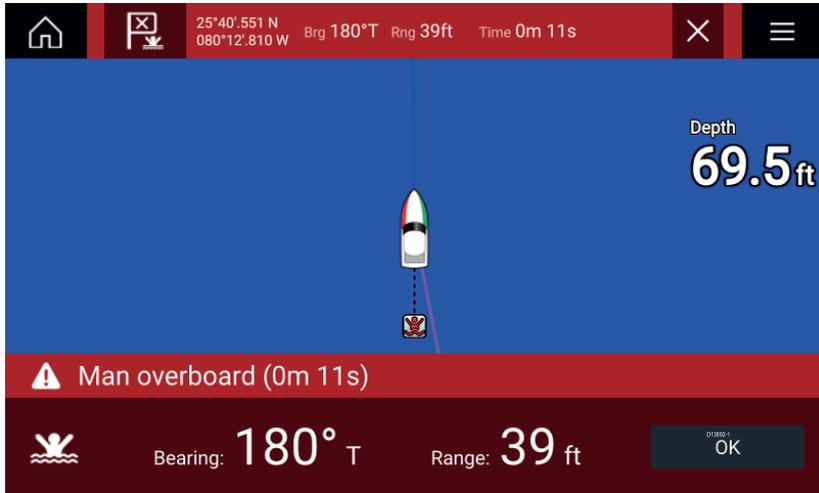
The MOB feature requires your vessel to have a valid position fix from a GNSS receiver. Dead reckoning mode also requires Heading and Speed data.

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. The Databar persists across apps and the Homescreen, and 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.

3.7 Alarms

Alarms are used to alert you to a situation or hazard requiring your attention. Alarms are triggered by system functions and external devices connected to the MFD (Multifunction Displays). Alarms are displayed on all networked MFDs.

Alarms are color coded to signify their severity:

Dangerous alarms

Red — A Red notification is used to signify a dangerous alarm condition, immediate action is required due to a potential or immediate danger to life or vessel. Dangerous alarms are accompanied by an audible tone. The Dangerous alarm notification and audible tone will continue to be displayed until acknowledged or the conditions that triggered the alarm are no longer present. Acknowledged alarms may remain active whilst the alarm condition persists but will not trigger further onscreen or audible notifications.

Warning alarms

Orange — An Orange notification is used to signify a warning alarm condition. Warnings alarms are used to signify that there has been a change in situation that you need to be aware of. Warnings alarms are accompanied by an audible tone. The warning alarm notification and audible tone will continue to be displayed until acknowledged or the conditions that triggered the alarm are no longer present. Acknowledged alarms may remain active whilst the alarm condition persists but will not trigger further onscreen or audible notifications.

Notifications
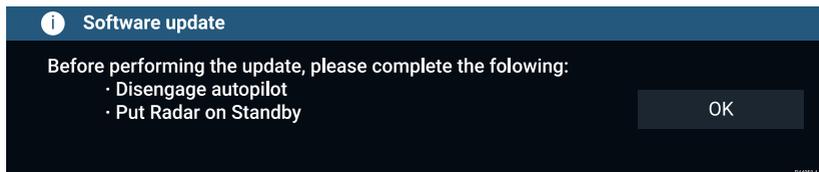
Blue — A Blue notification is used to signify information requiring user acknowledgement. Unless they require user interaction, information notifications may self dismiss after 3 seconds. Information notifications are not accompanied by an audible tone and are not displayed in the Active alarms or Alarm history lists.

Alarm manager

The Alarm manager is used to list current active alarms, enable and disable alarms, adjust alarm thresholds and view Alarm history.

Active alarms

The Alarm manager can be accessed by selecting **Alarms** from the Homescreen.

Example: Active alarms tab

The Active alarms tab lists all alarms that are currently active. Alarms will remain active until the conditions that triggered the alarm are no longer present, e.g.: a Shallow depth alarm will automatically dismiss when the depth becomes deeper.

Alarm history

Example: Alarm history tab
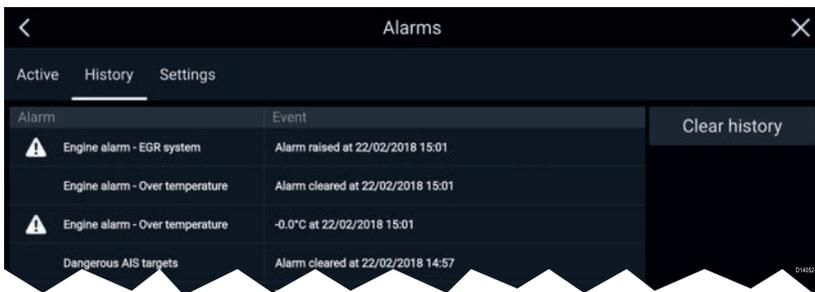
All Dangerous (Red) and Warning (Orange) alarms will appear in the Alarm history list. The history list will include an entry for the alarm being triggered (raised) and also for when the alarm is acknowledged (cleared). The Alarm field contains the name of the alarm and the events field contains details of the alarm condition and its time and date.

The Alarm history list can be cleared by selecting **Clear history**.

3.8 GNSS Settings

The settings for your GNSS receiver (internal or external) can be accessed from the **Satellites** menu: **Homescreen > GNSS pop-over > Satellites > Settings**.
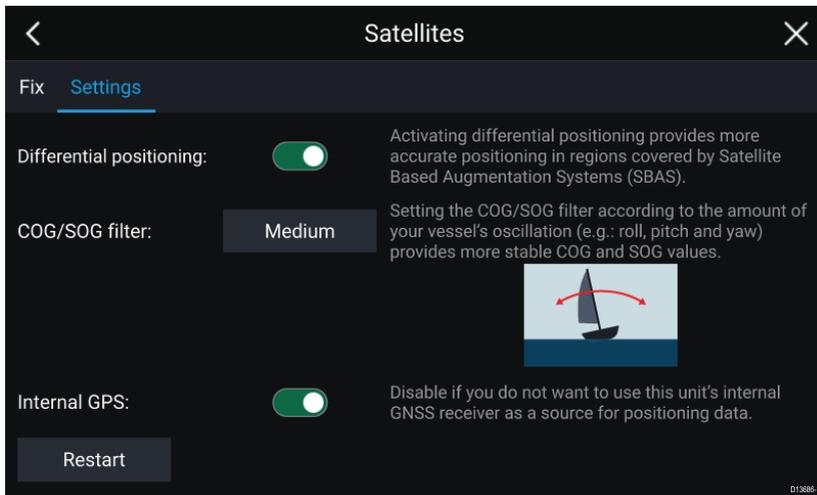
From the GNSS Settings tab you can:

- 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.

3.9 Status area

You can view the status of peripheral devices connected to your MFD using the Status area, located at the top right of the Homescreen. This area also provides the **Time** and identifies when the MFD is in **Touchlock** mode.

Status area symbols

The status area provides symbols which identified the status of connected Autopilot, AIS, Radar Sonar/Transducer and Bluetooth device connection.

pop-over menu options

From the **Options** pop-over you can:

- Disengage your autopilot.
- Access Bluetooth settings and volume controls.
- Adjust the Time offset from UTC.

3.10 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 pop-over options.

3.11 MFD and LightHouse apps

Depending on your MFD variant 2 types of app may be available on your display.

MFD apps

MFD apps are opened from app page icons available on the Homescreen, these apps include Chart, Radar, Fishfinder etc. MFD apps are available on all MFDs running the LightHouse™ 3 operating system. Multiple apps can be displayed simultaneously by creating splitscreen app pages.

LightHouse™ apps
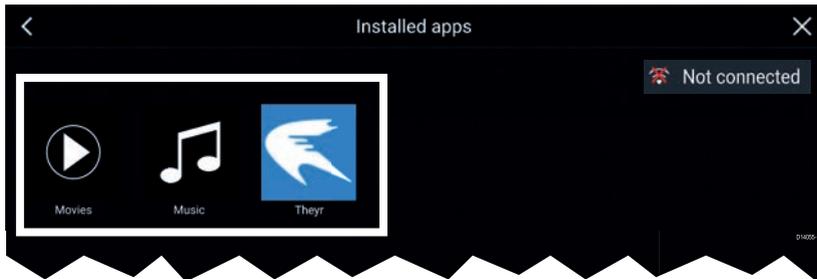
LightHouse™ apps are developed entirely by 3rd parties and are approved by Raymarine. These apps are available from the LightHouse app launcher found on the Homescreen. LightHouse™ apps are only available on the Axiom™ range of MFDs.

Chapter 4: LightHouse apps

4.1 LightHouse apps

LightHouse™ apps are apps that have been developed by third parties and approved for use on the LightHouse™ 3 operating system.

Your MFD must be running software LightHouse™ 3 V3.4 or greater for LightHouse™ apps to be available.

> **Note:**
>
> Raymarine does not warrant that LightHouse™ apps are error-free or offer support for in app problems or troubleshooting,
>
> Raymarine will not be held liable for damages or injuries caused by improper or inappropriate use of these apps.

4.2 LightHouse app launcher

Axiom™ and Axiom™ pro MFDs running LightHouse™ 3 V3.4 or greater includes the LightHouse™ app launcher that enables use of approved 3rd party apps on your MFD.

Select **Apps** from the Homescreen to open the app launcher page.
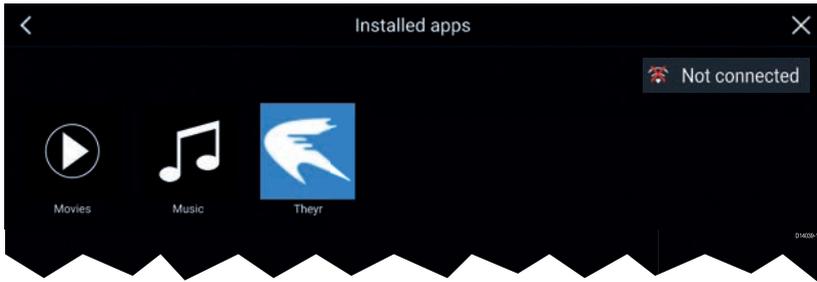
Selecting an app icon will launch the app. Selecting the Wi-Fi connection status button, located on the top right of the screen, will open the Wi-Fi connection settings to enable you to connect to the internet over Wi-Fi.

Apps may run in the background, enabling you to use your MFD as usual whilst, for instance, listening to music.

Bluetooth speaker volume can be controlled from the Shortcuts page or from the Status bar area on the Homescreen.

Note:

- Some app features or access to the apps may require your MFD to have an internet connection.

- If you use a wireless connection to a Quantum Radar then this should be put in Standby before connecting your MFD to the internet.

- Some apps may also require an audio output. You can pair a Bluetooth speaker with your MFD to enable audio output.

- Please refer to the app developer for in app assistance and troubleshooting.

4.3 Connecting to the internet

From the Homescreen:

1. Select **Apps**.

   The app launcher is displayed.

2. Select the Wi-Fi connection status button, located on the top right of the app launcher page.

   The Wi-Fi settings page is displayed and will scan for available networks.

3. Select the relevant connection.

4. Enter the password for the network and select **Connect**.

   Your MFD will now connect to the chosen network.

5. Select the **Back** triangle symbol or the **Home** Circle symbol at the bottom of the screen.

You can now use LightHouse™ apps that require an internet connection.

4.4 Pairing a Bluetooth speaker

Before attempting to pair with a Bluetooth speaker, ensure that the speaker is switched on and discoverable.

With your MFD's Bluetooth enabled:

1. From the Bluetooth settings page, select the relevant device from the **Available devices** list.

2. If requested, confirm the bluetooth pairing code.

If pairing is successful the speaker will appear in the **Paired devices** list and display the **Connected** message.

Enabling and disabling Bluetooth

1. Select the Status bar area located in the top right of the screen.
2. Select **Bluetooth Settings**.
3. Select the Toggle switch on the right of the Bluetooth settings page to enable Bluetooth.

Alternatively the Bluetooth settings page can be accessed from the This display settings tab: **Homescreen > Settings > This display > Bluetooth > Bluetooth settings**.

Chapter 5: Autopilot control

5.1 Autopilot control

Your MFD can be integrated with an Evolution autopilot system and act as the autopilot's controller. Please refer to the documentation supplied with your autopilot for details on installing and connecting your autopilot to your MFD.

Autopilot control from your MFD can be enabled and disabled from the **Autopilot** tab in the **Settings** menu: `Homescreen > Settings > Autopilot > Pilot control`.

1. **Pilot icon** — With **Autopilot control** enabled, the Pilot icon is displayed onscreen; selecting the icon displays the Pilot sidebar. When the Autopilot is engaged the Pilot icon is replaced with the Disengage pilot icon.

2. **Pilot sidebar** — The Pilot sidebar provides controls and information relating to your autopilot system. With the Autopilot engaged the Pilot sidebar's content is expanded to provide further controls and information. The Pilot sidebar can be hidden by swiping the sidebar to the left. The sidebar can be displayed again by swiping from the left of the screen towards the center of the screen.

Engaging the autopilot — Locked heading

With Autopilot control enabled:

1. For Wheel and Tiller pilots, engage the mechanical drive by either engaging the wheel drive's clutch or attaching the pushrod onto the tiller pin.
2. Select the **Autopilot icon**.
   The Pilot sidebar is displayed.
3. Select **Steer to Hdg**.

4. Select **Engage pilot**.

Engaging the autopilot — Navigation

With Autopilot control enabled:

1. For Wheel and Tiller pilots, engage the mechanical drive by either engaging the wheel drive's clutch or attaching the pushrod onto the tiller pin.
2. Initiate a Goto or Follow from the chart app.
3. Select the **Autopilot icon**.

   The Pilot sidebar is displayed.
4. Select **Steer to Nav**.
5. Select either **Engage pilot** or if a cross track error exists then select **ALONG route leg** or **DIRECT from here**.

   *Selecting **ALONG route leg** will steer along the original track.*

   *Selecting **DIRECT from here** will plot a new track from your current position to the destination.*

Disengaging the autopilot
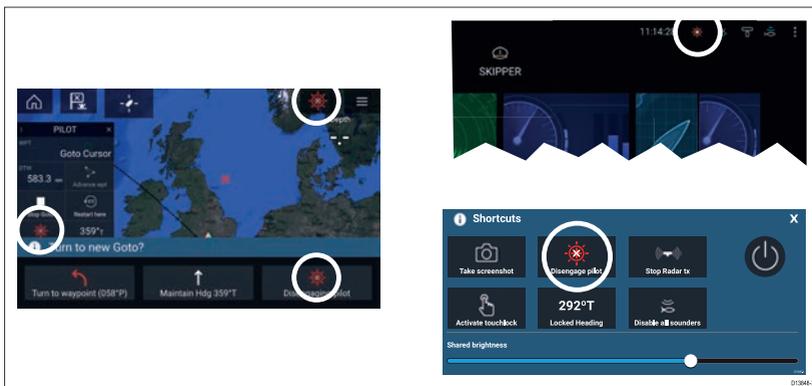
You can disengage your autopilot at any time by selecting the **Disengage pilot icon**.

The **Disengage pilot icon** is available in all apps. It is also available on the Pilot sidebar, in Pilot pop up messages, on the Homescreen and on the Shortcuts page.

Chapter 6: Chart app

6.1 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.
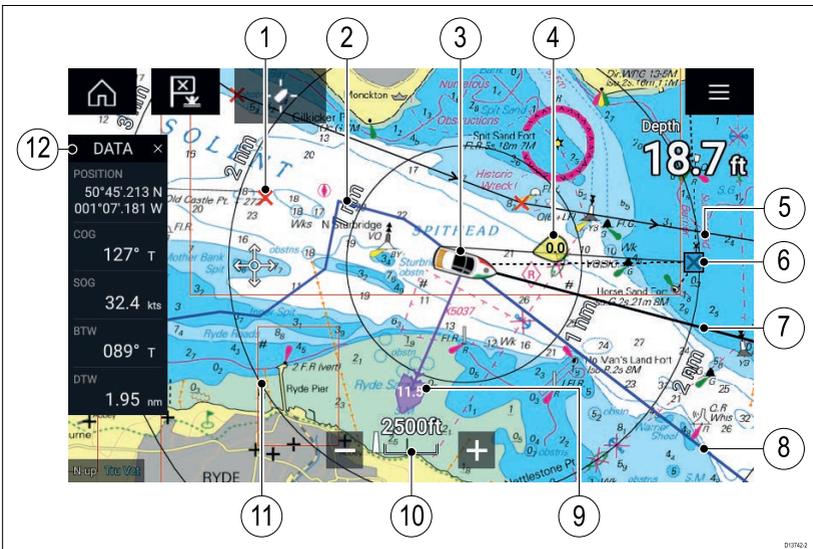
1	**Waypoint** Use waypoints to mark specific location or points of interest.	2	**Track** You can record the passage your vessel takes using Tracks.
3	**Vessel icon** Represents your vessel, only displayed when GNSS position fix is available (icon will be a black dot if no Heading is available).	4	**Wind indicator** Provides indication of wind direction and speed (Wind transducer required).

5	**Route** You can plan your route in advance by creating a Route using Waypoints to mark each route leg.	6	**Destination waypoint** During a goto, this is the current destination waypoint.
7	**Heading line** If Heading data is available then a Heading vector for your vessel can be displayed.	8	**COG line** If COG data is available then you can display a COG vector for your vessel.
9	**Tide indicator** Provides Set and drift indicators. Requires the following data; COG, Heading, SOG, and STW (Speed Through Water)..	10	**Chart range** Identifies the scale for the chart range displayed.
11	**Range rings** Provides a distance indication around your vessel at set intervals.	12	**Sidebar** 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
	Waypoint / MOB	Place waypoint / hold down to activate Man overboard (MOB) alarm
	Pilot icon	Opens and closes the Pilot Sidebar
	Menu icon	Opens the app menu
	Find vessel	Centers your vessel onscreen.

| Icon	Description	Action
	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 LightHouse™ charts and compatible Navionics and C-MAP electronic charts. The electronic chart cards must be inserted into the MFD's MicroSD card reader (or the card reader of an MFD on the same network).
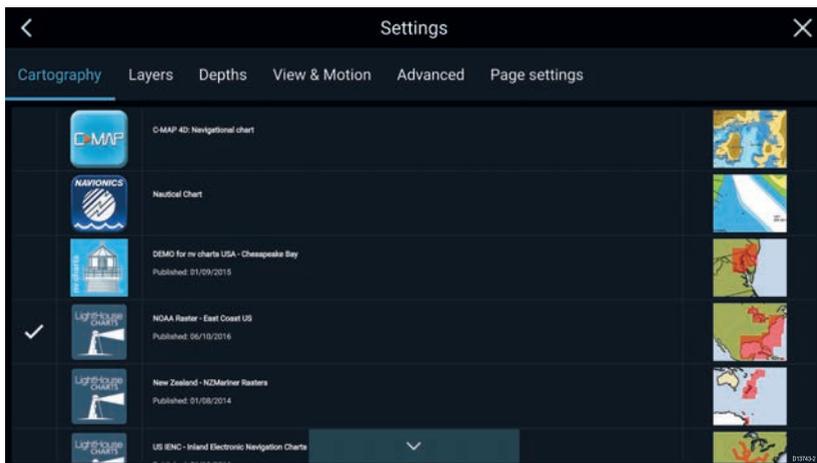
From the Chart app menu:

1. Select the **Settings** icon.
2. Select the cartography that you want to use from the Cartography tab.

You may choose a different chart for each instance of the Chart app, accessed from the Homescreen. Cartography selection will persist until changed.

Chart modes

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

To change Chart mode select the required mode from the app menu.
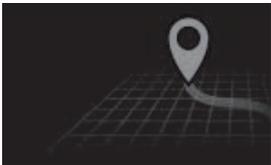
SIMPLE
In Simple mode, chart detail is suppressed to provide a clearer, simpler view for navigation and only navigation related menu options are available. Settings changes are not saved.

DETAILED
Detailed is the default mode. Full chart detail and menu options are available. Settings changes are saved to the user profile in use.

FISHING CHART
Fishing mode optimizes the Chart app for Fishing and if supported by your selected cartography, displays more detailed contour lines. Full menu options are available. Settings changes are saved to the user profile in use.
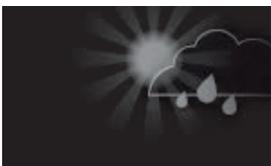
WEATHER
Weather mode is available when the MFD is connected to a compatible Weather receiver (SR150).
Weather mode allows you to overlay weather data directly on the chart and view animated weather graphics or read weather reports. Only Weather related menu options are available. Settings changes are saved to the user profile in use.

For further details on Weather mode refer to: Chapter 7 **Weather mode**

TIDES

In Tides mode, Tide Station and Current Station icons are replaced with graphics representing Tide and Current conditions. Animation controls are displayed that enable playback of Tide and Current predictions over a 24 hour period.
Tides mode also suppresses chart detail, to enhance the Tide and Current graphics and enables own vessel Tide vector graphics.

Vessel details

The Vessel details pop-over provides access to vessel-related settings.
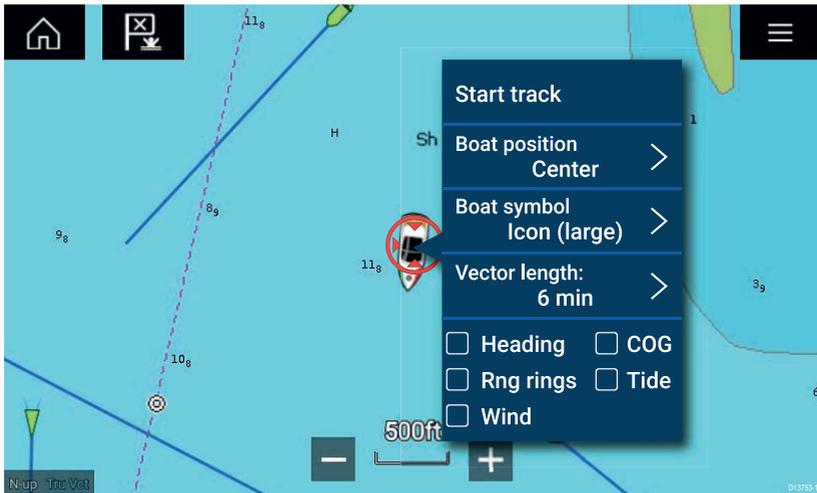
From the Vessel details pop-over you can:

- start/stop a track.

- offset the position of 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.

> **Note:**
>
> In **Simple mode**, the only option available is Start/stop track.

Object selection and information

Charted objects, available on your cartography can be selected and object information can be viewed.

When you select an object the cursor will change to the Object cursor.
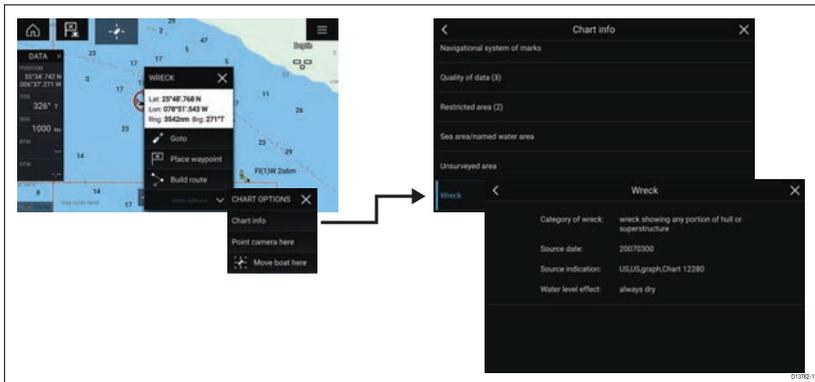
Selecting and holding on the object will display the object context menu.

From the context menu select: **More options > Chart info** and then select the object from the list to view its details.

In areas where there is a high concentration of charted objects, selecting **Nearby objects** from the context menu will display a list of objects located nearby for you to choose from.

View and motion

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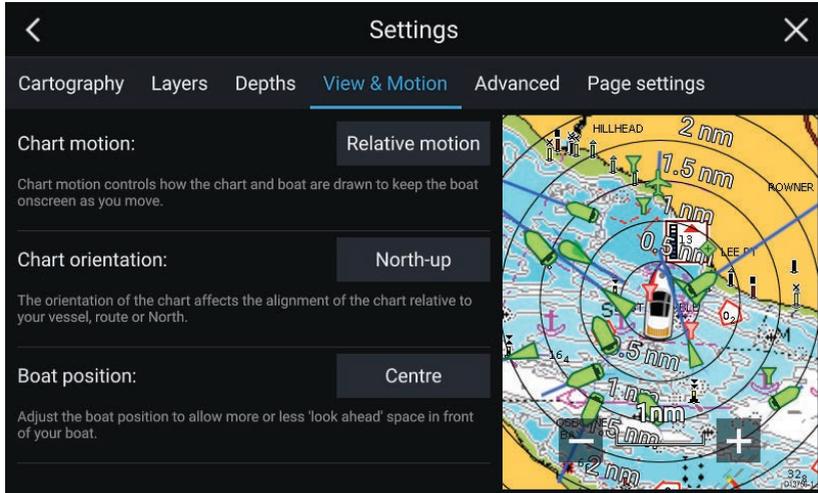
Chart motion

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
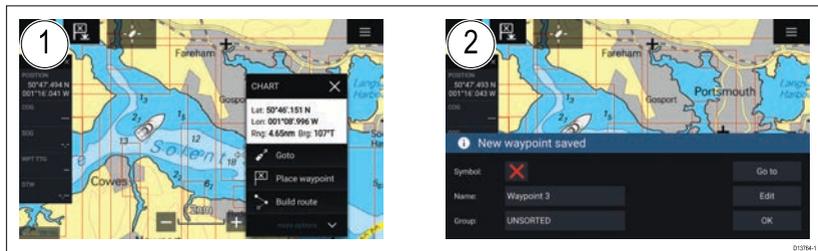
1. Select and hold on the desired location and select **Place waypoint** from the context menu..

2. Select **Edit** to edit the waypoint details, **Goto** to navigate to the Waypoint, or **OK** to return to normal operation.

> To place a waypoint at your vessel's current location press the Waypoint/MOB icon or physical button.

Navigating to a waypoint or point of interest

You can perform a "Goto" to a Waypoint or specific location.
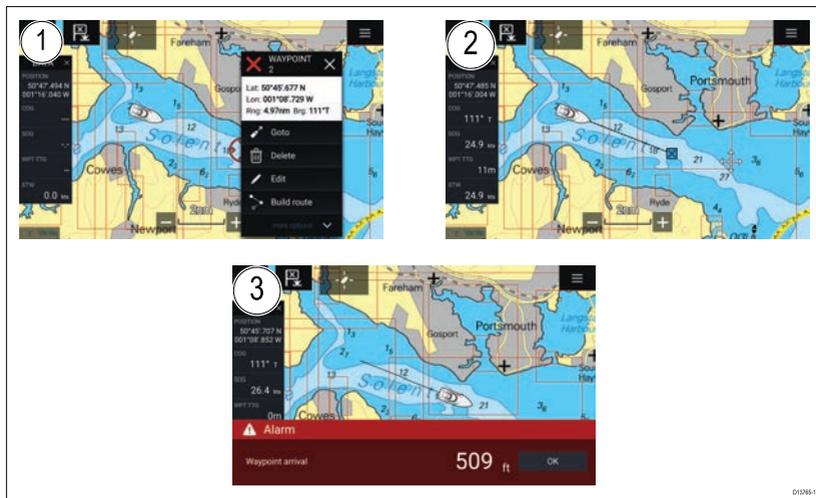
1. Select and hold on the waypoint or point of interest and select **Goto** from the context menu.

   *You can stop the **Goto** at any time by selecting and holding anywhere in the Chart app and choosing **Stop**, or selecting another **Goto**.*

2. The Chart app will begin navigation, if required physically engage your autopilot.

3. An alarm will sound when you reach the waypoint.

You can also perform a Goto from the **Go** menu: **Menu > Go > Waypoint** or **Menu > Go > Lat/long**.

Creating a Route
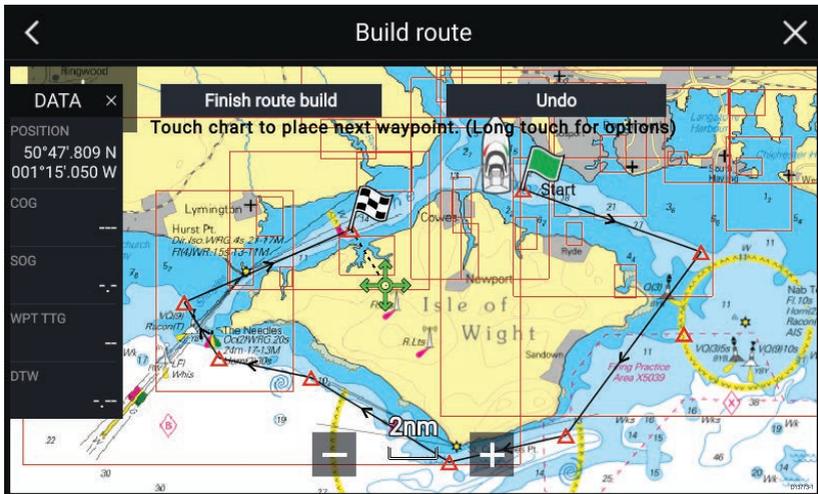
1. Select and hold on the location for the first waypoint.
2. Select **Build route** from the context menu.
3. Select the location for the second waypoint.

   The 2 waypoints will be joined by a line, creating the first leg of your route.
4. Select the location for subsequent waypoints.
5. Check your Route will be safe to follow, you can move the waypoints in your route by dragging them to a new location.
6. When your Route is complete select **Finish route build**.

Autorouting

Autorouting is available when using compatible cartography. Autorouting allows you to build a route automatically between a point on the chart and your vessel.

You can select any point on the Chart and from the Chart context menu select **Autoroute to here** or you can select **Autoroute to** from an existing waypoint's context menu to create a route automatically between your vessel and the chosen point.

The created route is generated by comparing data available on your cartography against the minimum safe distances specified in the **Boat details** menu: (**Homescreen > Settings > Boat details**).

Waypoints will not be placed in areas that conflict with your specified minimum safe distances. Caution symbols are used for waypoints that are near objects or restricted areas.

Never follow a route before checking each route leg is safe for your vessel.

Reviewing an automatically generated route

Before following any route you must ensure that it is safe to do so.

Upon Route completion:

1. Range in on each route leg and waypoint that make up the Route.
2. Check either side of the route leg and around the waypoint for any possible obstructions.

    Obstructions can be charted objects or restricted areas. Routes generated automatically should use the caution waypoint symbol in areas where there are possible obstructions.

3. Where obstructions exist move the necessary waypoints so that the waypoint and route leg is no longer obstructed.

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.

Creating a track

You can record your vessel's journey using Tracks.

1. Select and hold on your vessel icon to display the vessel pop-over options.
2. Select **Start track**.

   Your vessel's journey will now be recorded.

3. Select **Stop track** from the pop-over options when you have completed your track.
4. Select **Save** to save the track or **Delete** to remove the track.

You can also start a new track recording at anytime from the Chart menu: **Menu > New > Start a new track**. When using the Chart menu to start a track, if a track is already recording then it will be saved before the new track is started. 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.

Chapter 7: Weather mode

7.1 Weather mode

Weather mode is available in the Chart app if you have a weather receiver and valid subscription. Switching the Chart app to weather mode allows you to overlay weather data and information from your weather receiver.

To enter Weather mode, open the Chart app menu and select **WEATHER**.

Weather mode allows you to track weather systems in relation to your vessel by overlaying live, historical and forecasted weather data directly on the chart. In Weather mode you can also view animated weather graphics and read weather reports. Weather mode sets the **Chart detail** setting to Low and hides other data which increases the visibility of Weather data.

> **Important:**
>
> • Compatible hardware and a valid subscription is required to enable Weather mode.
>
> • By enabling Weather mode you agree to its terms of use.
>
> • Do not use Weather mode for navigation.
>
> • Weather data is only available in North America and its coastal waters.
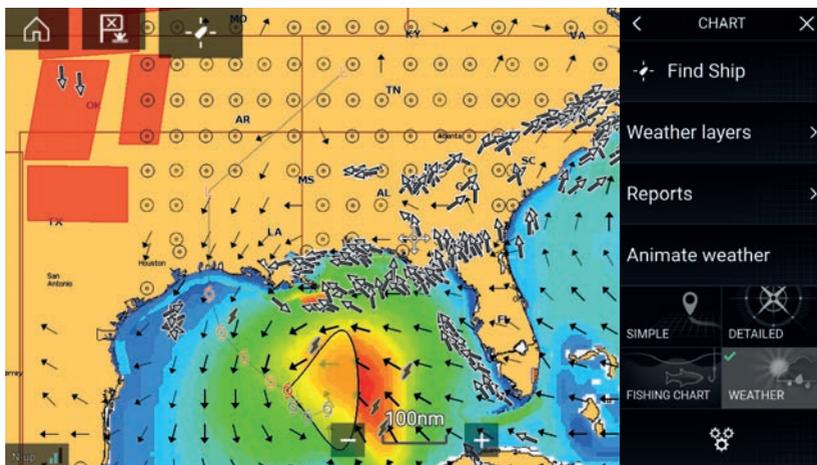
Weather symbols are organized into layers, accessible from the Chart menu: **Menu > Weather layers**. Each layer can be enabled and disabled independently.

The following Layers are available:

Weather radar	Surface pressure
Cities	Surface observation stations
Cloud top	Wind
Lightning	Watchbox
Sea surface temperature	Wave height
Storm cast	Wave period
Storm tracks	Wave direction (from)

In Weather mode the **Chart orientation** is fixed in **North-Up**.

7.2 Animated weather

In Weather mode you can play weather animations of historical **Weather radar** data and forecasted wind, wave and surface pressure data.

Weather animations can be accessed in Weather mode by selecting **Animate weather** from the menu.

When Animate weather is selected the animation player controls and symbols representing the type of animated data available are displayed onscreen.

Player controls

Player controls include a progress bar, Play/Pause, Fast forward and rewind options.

Animated weather data

Duration of forecasts are dependent on subscription type.

	Weather Radar Historical precipitation data for the previous 2 hours can be played.
	Wind Offshore wind forecast for up to 48 hours. High resolution coastal and inland wind forecast for up to 24 hours.
	Wave height Offshore wave height forecast for up to 48 hours. High resolution coastal wave height forecast for up to 24 hours. Great Lakes wave height forecast for up to 24 hours.
	Wave period Offshore wave period forecast for up to 48 hours. Great Lakes wave period forecast for up to 24 hours.
	Wave direction Offshore wave direction forecast for up to 48 hours. Great Lakes wave direction forecast for up to 24 hours.
	Surface pressure Surface pressure forecast for up to 48 hours.

To exit Animate weather open the main **Menu**.

Chapter 8: Sonar app

8.1 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
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm

Icon	Description	Action
	Pilot icon	Opens and closes the Pilot Sidebar
	Menu icon	Opens the app menu
	Image adjustment	Displays onscreen sensitivity / image adjustment controls
	Pause	Pause RealVision™ 3D sonar image.
	Unpause	When the Sonar app is paused, you can recommence scrolling by selecting the Unpause icon.
	Range/Zoom In	When **Auto range** is enabled, 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. Auto range can be enabled and disabled from the Menu: **Menu > Auto range**.
	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.
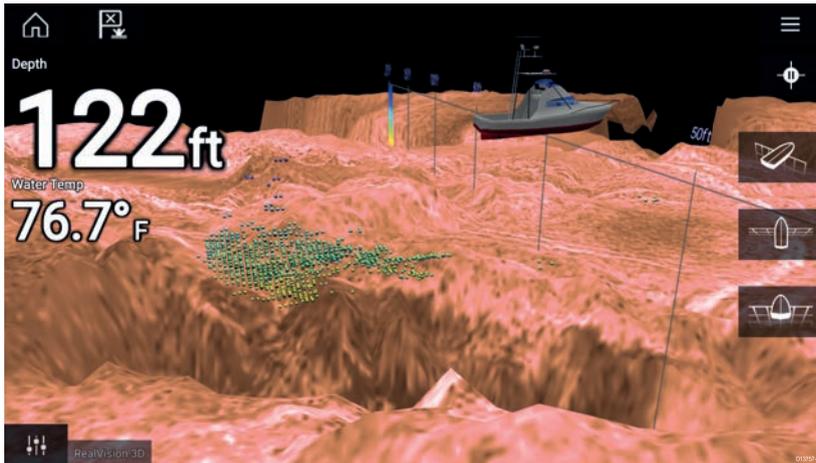
Touchscreen controls

- One finger swipe rotates the image.
- Two finger swipe pans the image around the screen.
- Pinch-to-zoom changes the magnification of the image.
- The Range control determines how far the sonar will ping.
- Press and hold onscreen to display the context menu

Physical buttons

- **Ok** button pauses Sonar scrolling.
- **Back** button resumes Sonar scrolling.
- **Ok** button when paused opens the context menu.
- Use the Uni-controller's **Directional** (Up, Down, Left, Right) controls to rotate the image.
- Use the Uni-controller's **Rotary** control or a RMK's **Range In** and **Range Out** buttons to Range 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:

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.
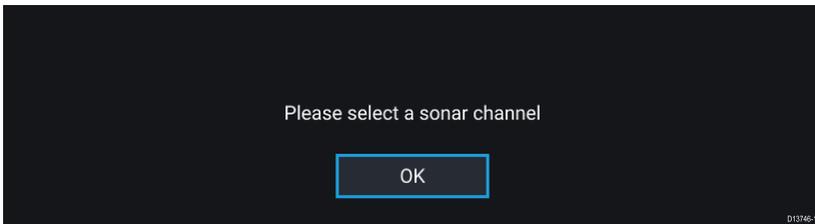

Select **OK** and then choose the Sonar channel you want to use from the list:
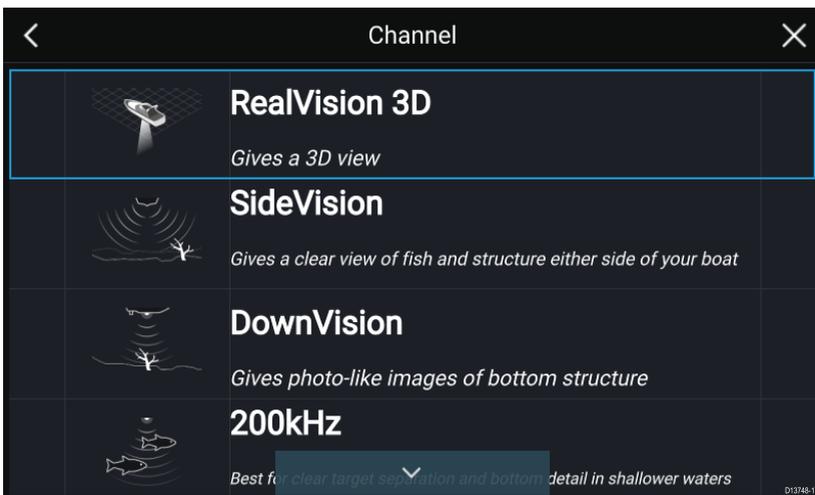

Sonar on and pinging

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.
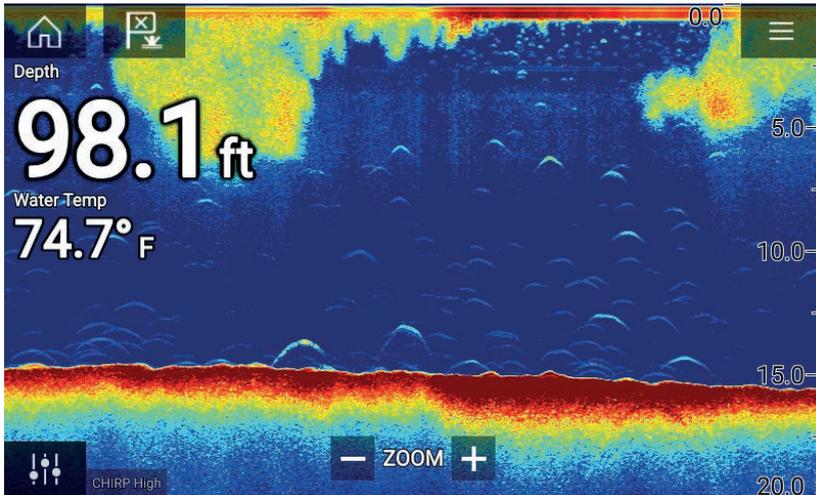
No sonar source available

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

- your sonar module is still powering up.
- your MFD cannot establish a connection with your external Sonar module
- your Internal Sonar module has no transducer connected.

No sonar source available

D13745-1
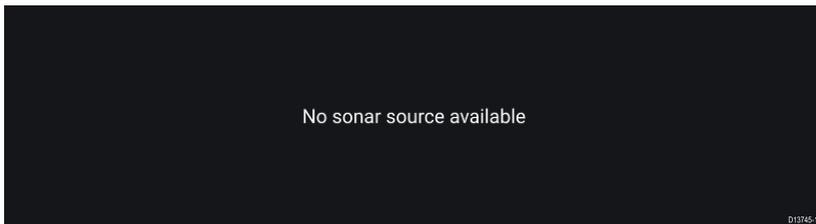
Check your external sonar module's network and power connection, check your MFD's network or transducer connection ensuring the connections and cabling is correct and free from damage, then power cycle your system. If the Sonar module is still not found then refer to your equipment's installation documentation for further troubleshooting information.

No transducer connected

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

No transducer connected

Connect a transducer and restart the unit.

D13747-1

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.

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.

Sonar channels

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

RealVision™ 3D

SideVision™
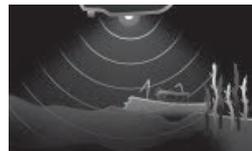
DownVision™
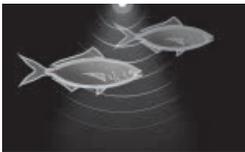
High CHIRP / High Frequency
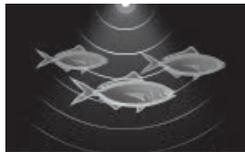
Medium CHIRP / Medium Frequency

Low CHIRP / Low Frequency

Placing a Waypoint (Sonar, DownVision and SideVision)

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.

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.

Placing a waypoint RealVision 3D

To place a waypoint whilst viewing a RealVision 3D channel follow the steps below.

1. Select and hold a location onscreen.

   The Waypoint context menu and Red waypoint marker is displayed:

2. Select **Place waypoint** to create a waypoint at the marker's location, or

3. Select **Move position** to adjust the marker's position before creating the waypoint.

You can move the waypoint along its current axis by sliding 1 finger across the screen. You can also adjust the view onscreen using the usual 2 finger touch gestures.

4. When the marker is over the desired location select **Place waypoint** to save a waypoint at the marker's location.

## Sonar scroll back

You can "scroll back" in the Sonar app to view sonar history.

To activate sonar "scroll back", perform the following:

- **Sonar and DownVision** — Swipe your finger left to right across the sonar screen.

- **SideVision** — Swipe your finger from the bottom to the top of the sonar screen.

- **RealVision 3D** — Select the onscreen **Pause** icon.

When sonar scroll back is active the sonar **Scroll back bar** and **Unpause** icons are displayed.
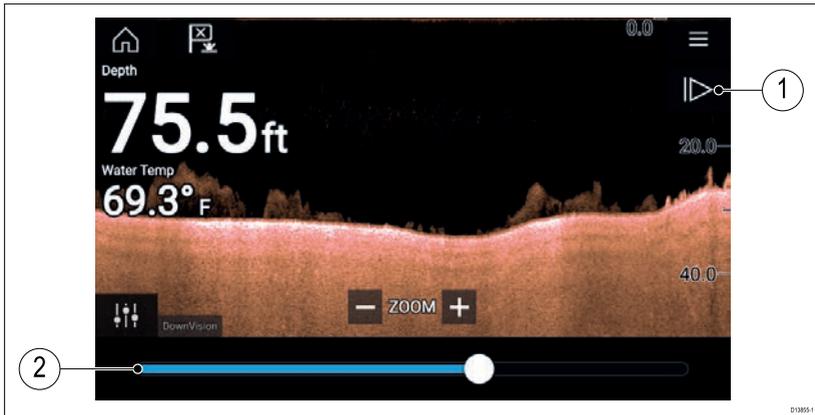
1. **Unpause** — Selecting this option resumes live sonar scrolling.

2. **Scroll back bar** — Use this to move back and forward through the available sonar history. You can either drag the position indicator right or left or select a specific location on the bar to jump to that position.

In Sonar, DownVision and SideVision channels, subsequent swipes will rewind the sonar history and swiping in the opposite direction will fast forward the sonar history.

Chapter 9: Radar app

9.1 Radar app overview

The Radar app displays a visualization of the echoes received from a connected Radar scanner. The Radar app is a navigation 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 2 instances of the Radar app.
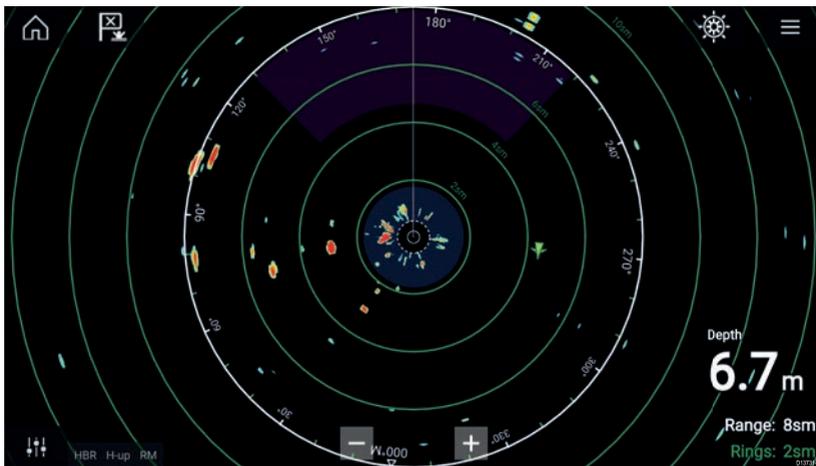
Tracked Radar targets and AIS targets are displayed using target symbols.

The Radar app allows you to configure alarms which are triggered when a target or object conflicts with the **Dangerous targets** or **Guard Zone** alarm settings.

The Range rings, bearing ring and VRM/EBLs can be used to identify a targets distance and heading in relation to your vessel.

Radar app controls

Icon	Description	Action
	Home icon	Takes you to the Homescreen
	Waypoint / MOB	Place waypoint / activate Man Overboard (MOB) alarm
	Pilot icon	Opens and closes the Pilot Sidebar
	Menu icon	Opens the App menu
	Image adjustment	Displays onscreen sensitivity / image adjustment controls
Off	Power Off	Powers down the current Radar scanner
On	Power On	Powers up the selected Radar scanner
Transmit	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 scanner's maximum range).
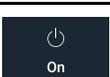
Opening the Radar app

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

Off/Not connected

⏻
On

D13732-1
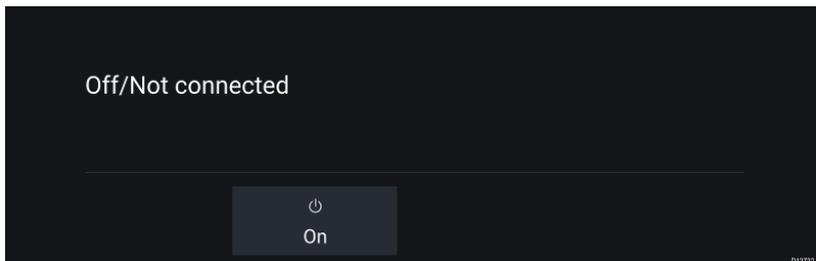
If the '**Off/Not Connected**' message is displayed then:

• 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

Quantum (-58028)
Off

⏻
On

D13735-1
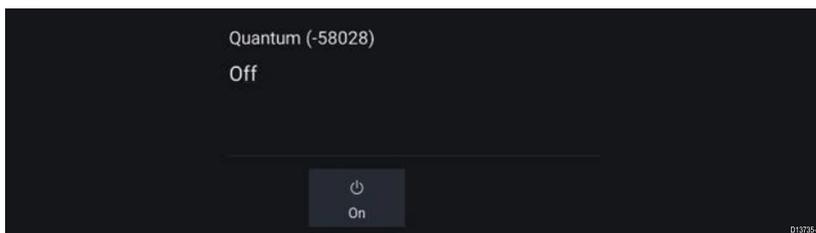
If the '**Off**' message is displayed then your Wi-Fi connected Radar scanner is paired but powered off, select **On** to power up your Radar

Standby (Not transmitting)

4kW 18" HD Color Radome (-90006)

Standby

⏻
Off

((•))
Transmit

D13733-1
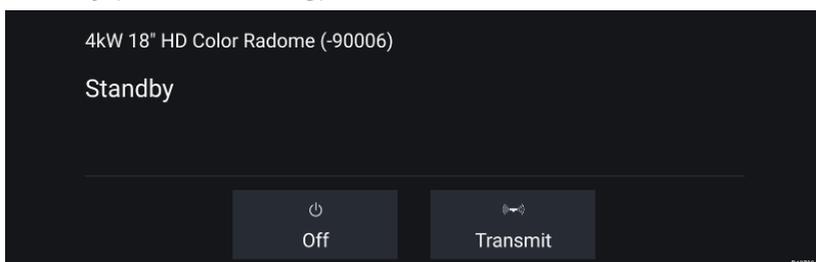
If the '**Standby**' message is displayed then select **Transmit** to begin transmitting.

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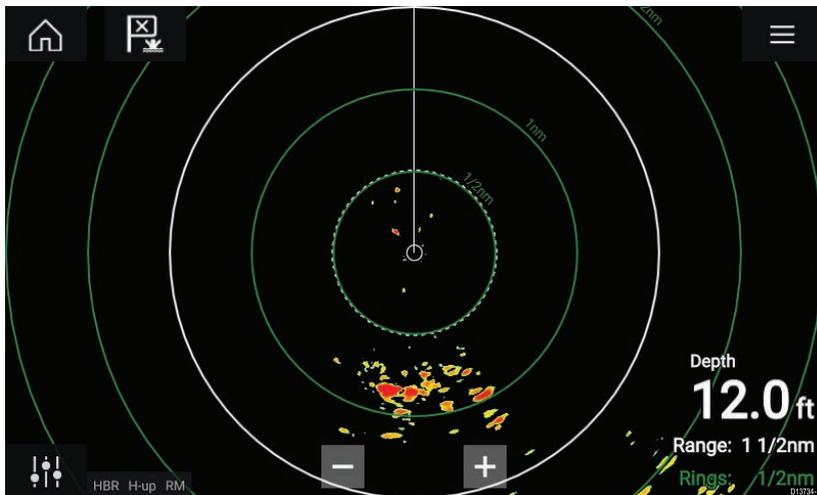
If your Radar scanner is connected, powered up and transmitting then the Radar image is displayed and echoes/targets are displayed onscreen.

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.
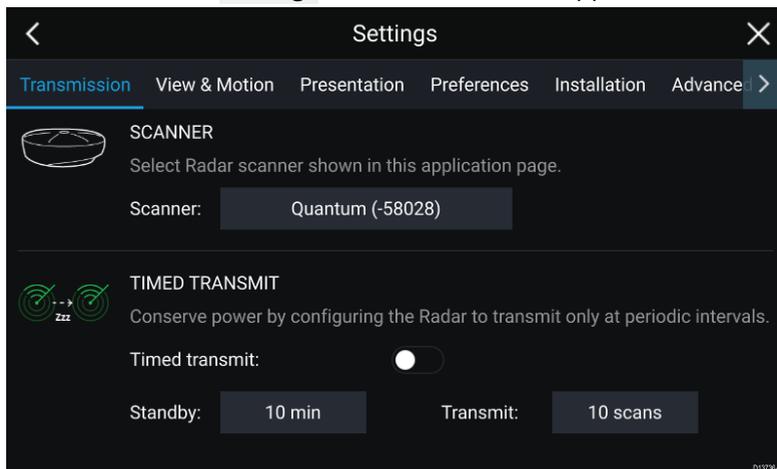
2. Select the **Scanner:** box on the **Transmission** tab.

   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**.
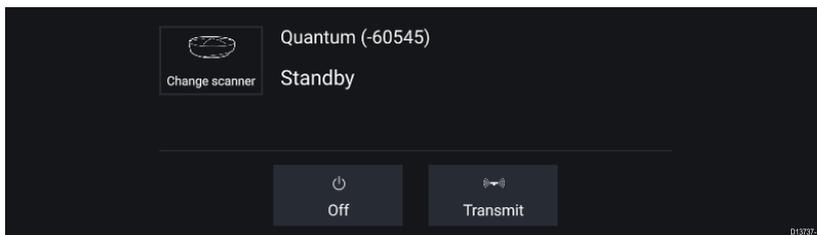
Radar modes

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.
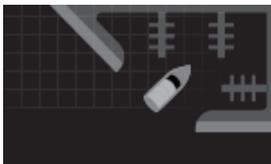
HARBOR
Harbor mode takes into account land clutter that is typically encountered in a Harbor, so that smaller targets are still visible. This mode is useful when navigating in a Harbor.
Radar scanners: All.
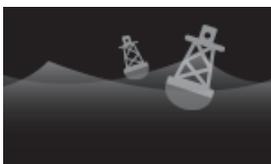
BUOY
Buoy mode enhances the detection of smaller targets such as mooring buoys, and is useful at ranges up to 3/4nm.
Radar scanners: SuperHD™ Open Array, HD Open Array and HD Radome.

COASTAL
Coastal mode takes into account slightly higher levels of Sea clutter that are encountered out of Harbor areas. This mode is useful when in open water but keeping to coastal areas.
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™ and Quantum™ 2 Doppler.

AIS targets

With compatible AIS hardware connected to your MFD, AIS targets can be automatically displayed in the Chart app and Radar app.

Tracked AIS targets are identified onscreen using target symbols.
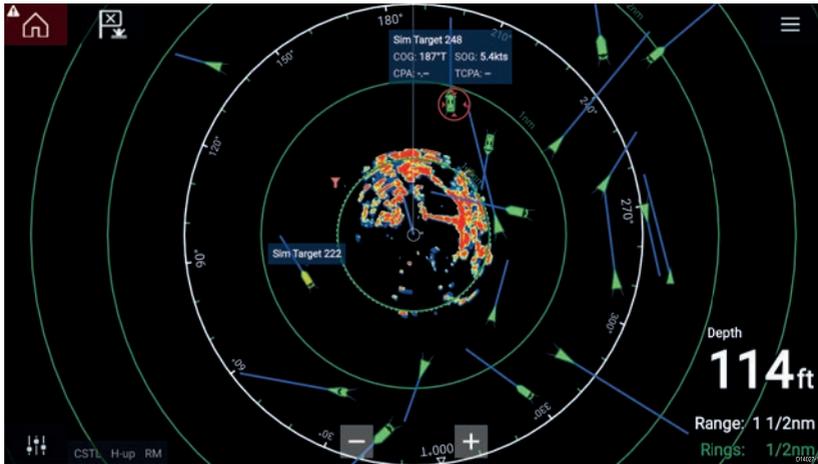
Up to 100 AIS targets can be tracked simultaneously. If more than 100 targets exist, within your range, the 100 targets nearest to your vessel will be displayed.

Target vectors and information can be displayed for each target by selecting the relevant option from the AIS target context menu. The AIS target context menu is accessed by selecting the AIS target.

You can also select the type of AIS targets that should be displayed, i.e.: **All**, **Dangerous**, **Buddies** and hide static targets from the AIS Settings tab.

Radar targets

With a compatible Radar scanner connected to your MFD, Radar targets can be tracked in the Chart app and Radar app. Depending on your Radar scanner, Radar targets can be acquired manually (MARPA) or automatically (ARPA), based on your configured Guard zones.

Tracked Radar targets are identified onscreen using target symbols.
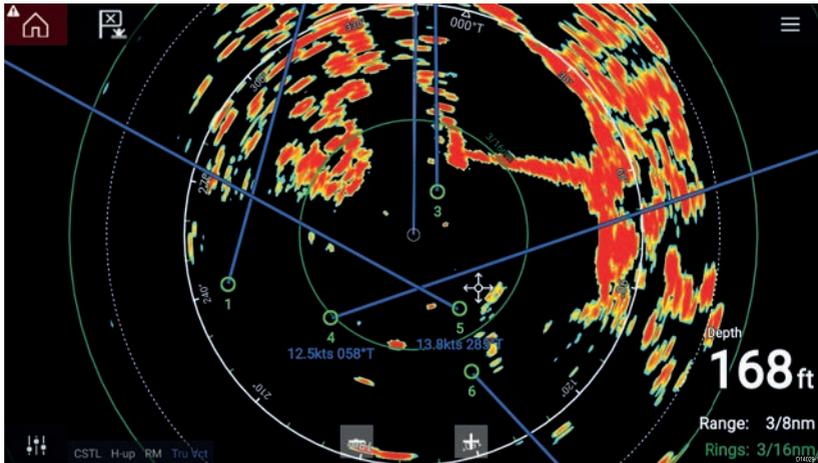
Multiple Radar targets can be tracked simultaneously.

Target vectors and information can be displayed for each target.

Radar target options are available from the Radar target context menu. The Radar target context menu provides options for you to **Cancel target**, **Show CPA** graphic or Display **Target info** onscreen by selecting the relevant option. The Radar context menu is accessed by selecting the Radar target.

Acquiring a target manually

To acquire a Radar target manually using MARPA (Mini Automatic Radar Plotting Aid) follow the steps below.

With the Radar app, or Chart app with Radar overlay enabled:

1. Select the target.

   The context menu is displayed.

2. Select **Acquire target**.

   Once acquired the target will be tracked.

Automatic target acquisition

With a compatible Radar scanner connected, Radar targets can be acquired automatically.
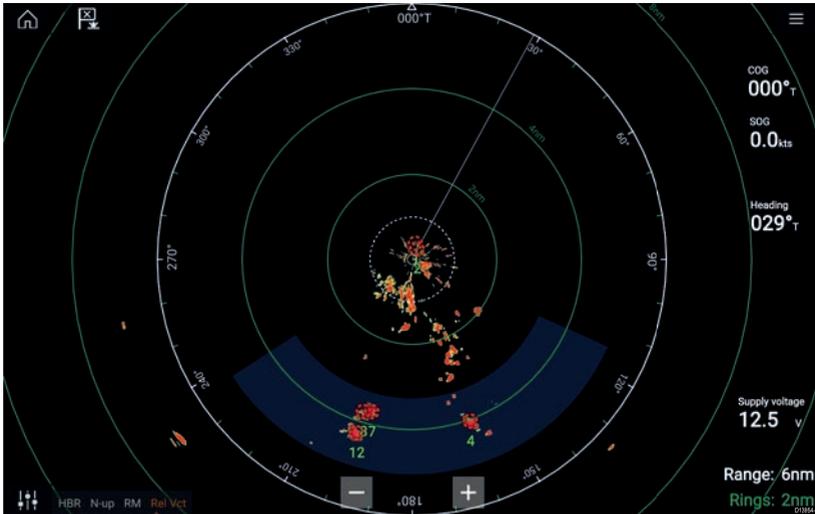
Once configured, targets which enter or appear in your chosen **Guard Zone**(s) will be automatically acquired.

> **Note:**
>
> - Automatic target acquisition cannot be enabled at the same time as **Timed Transmit** or **Dual Range**.
> - Automatic target acquisition will be temporarily paused if the Radar display range is 12nm or greater.

Dangerous targets alarm

You can use the Dangerous targets alarm to notify you if a Radar or AIS target will reach a specified distance from your vessel within a specified time.
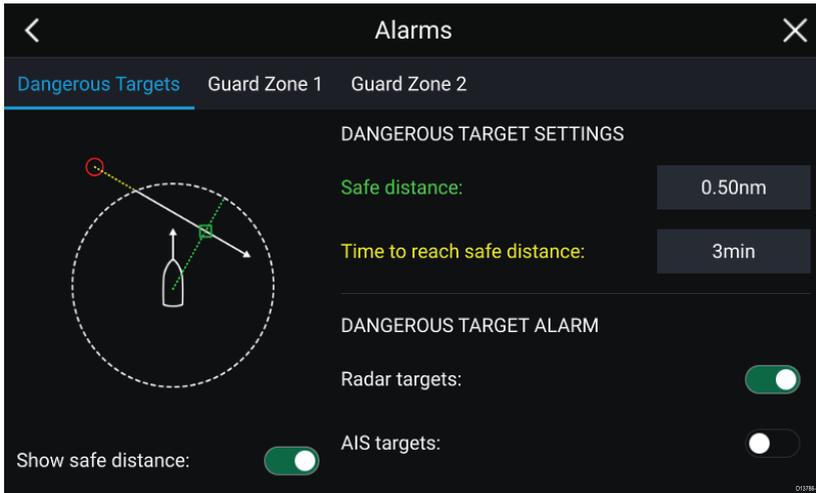
To set up the Dangerous target alarm, first adjust the **Safe distance** to the desired value and then select a **Time to reach safe distance**. The alarm will be triggered if a tracked target will reach the specified Safe distance from your vessel within the time period selected.

You can choose whether you want the Dangerous target alarm to trigger for Radar and / or AIS targets.

You can display a Safe distance ring around your vessel in the Radar app using the **Show safe distance** control.

Guard zone alarms

Guard zones alert you if a Radar return is detected within the Guard zone area.

2 Guard zones can be configured for each connected Radar scanner.

The Guard zones can be configured from the **Alarms** menu: **Menu > Alarms > Guard zone 1** or **Menu > Alarms > Guard zone 2**
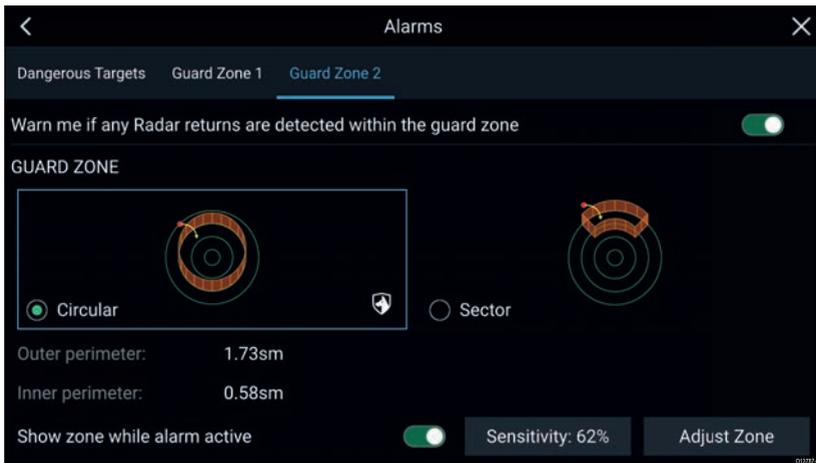
A Guard zone can be configured as a sector or as a circle around your vessel.

Selecting **Adjust Zone** allows you to configure the size of the Guard Zone.

Adjust the guard zone's size by dragging the inner and outer perimeter end points (circles) to the desired locations.

Once configure select **Back**.

If required, you can also adjust the Guard zone sensitivity. Sensitivity determines the size at which objects trigger the alarm.

Chapter 10: Dashboard app

10.1 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 ® / NMEA 2000 and SeaTalkhs ™. The Dashboard app can also be configured to provide control of your compatible Digital Switching devices.

> **Note:** For data to be available in the Dashboard app it must be being transmitted to your MFD from compatible hardware using supported protocols and messages.

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	Home icon	Takes you to the Homescreen.
Waypoint / MOB	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm.

Icon	Description	Function
	Pilot icon	Opens and closes the Pilot Sidebar
	Menu icon	Opens the app menu.
	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, located at the bottom of the screen, to cycle through the available data pages.
2. Alternatively, you can select a specific data page from the Dashboard app menu.

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 pop-over menu.
3. Select the new Data item that you want to display.

Alternatively you can select **Customize page** from the app menu: **Menu > Customize page**.

Chapter 11: Video app

11.1 Video app overview

Analog video feeds (Axiom™ Pro only) and IP (Internet Protocol) digital video feeds can be viewed, recorded and played back on the MFD using the Video app. Examples of video feeds include: CCTV cameras and Thermal imaging cameras, DVD player etc. It may also be possible to view analog video feeds from other sources using a suitable third party analog-to-IP video converter.

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

Axiom™ Pro MFDs will transmit a connected analog video feed over RayNet to enable the feed to be viewed on networked MFDs.

Video app controls

Icon	Description	Function
	Home icon	Takes you to the Homescreen
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm
	Pilot icon	Opens and closes the Pilot Sidebar

Icon	Description	Function
☰	Menu icon	Opens the app menu
⏺	Record	Start recording (Replaced by Stop icon whilst recording.)
⏹	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 Video app

The Video app is opened by selecting an app page icon from the Homescreen which includes the Video app.

Pre-requisites:

1. Ensure your video feed is compatible by checking the latest details available on the Raymarine website against your device's specification. If in doubt please contact an authorized Raymarine dealer for advice.

2. Ensure you have installed your video device in accordance with the documentation that was supplied with your device.

The Video app will open in 1 of 3 states:

Note: If the Video app is opened soon after powering on your system, you may have to wait for the device(s) to finish booting before the video feed is displayed.

Video feed displayed

If your device is powered up and operational then the Device's video feed is displayed.

Camera not yet available

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

• a Video app page is opened before the camera has finished booting up.

• connection to the camera is lost.

CAM200 not yet available. Camera may be booting, or may have connection issues.
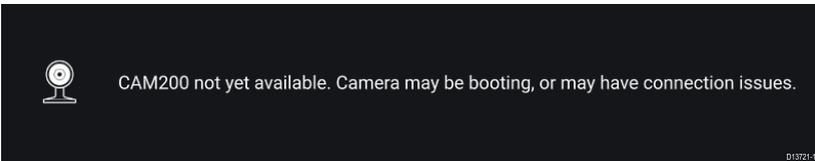
If the camera '**xxx not yet available.....**' message is displayed for more than 2 minutes, then your MFD cannot connect to your camera. Ensure network and power connections to your camera and MFD are correct and free from damage and then power cycle your system. If the camera feed is still not displayed, refer to your equipment's installation documentation for further troubleshooting information.

No camera detected

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

• a Video app page is opened for the first time and no compatible camera is connected.

• a Video app page is opened for the first time before the camera has finished booting up.

No camera detected

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, refer to your equipment's installation documentation for further troubleshooting information.

Selecting a video feed
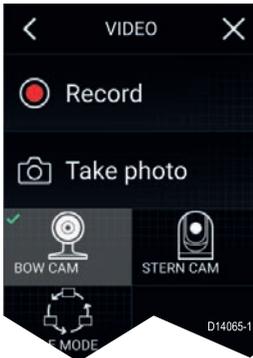
You can change the feed that is displayed in the Video app.
From the Video app main menu, select the icon for the camera that you want to display. Alternatively, you can select **CYCLE MODE** to automatically cycle through available feeds.

Chapter 12: Audio app

12.1 Audio app overview

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

The Audio app can be displayed in Fullscreen and half screen portrait app pages.
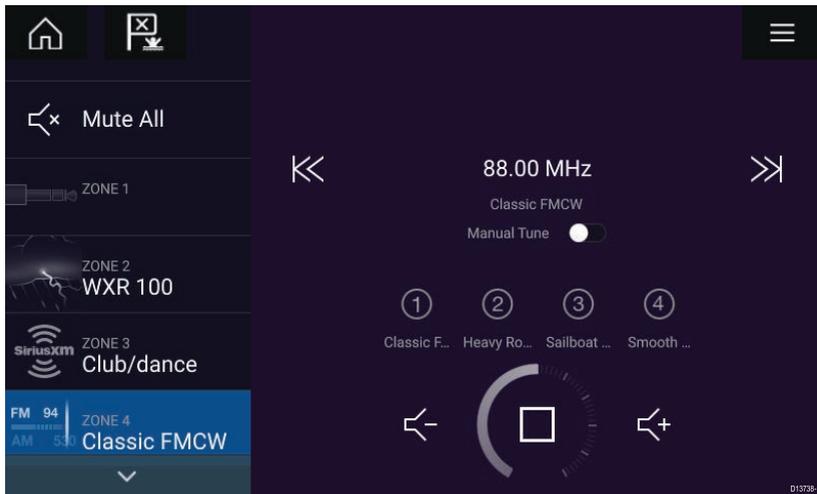
If more than 1 compatible Entertainment system is present on the network then the first system to obtain a network connection will be controlled by the Audio app. Only the Entertainment system that you want to control should be connected to the network.

Audio app controls

Icon	Description	Function
	Home icon	Takes you to the Homescreen.
	Waypoint / MOB	Place waypoint / activate Man overboard (MOB) alarm.
	Pilot icon	Opens and closes the Pilot Sidebar

Icon	Description	Function
Menu icon	Menu icon	Opens the app menu.
Power Off	Power Off	Powers off the Entertainment system.
Mute All	Mute All	Mutes all audio zones.
Volume Down	Volume Down	Decreases volume for current zone.
Volume Up	Volume Up	Increases volume for current zone.
Forwards	Forwards	• Skip to the next track (USB and Bluetooth) • Seek/Search Forward (Radio)
Backwards	Backwards	• Skip back to beginning of current track (USB and Bluetooth) • Seek/Search Backward (Radio)
Manual Tune	Manual Tune	• On (switches Forwards and Backwards icons with Manual Tune icons) • Off
Tune Up	Tune Up	Manually searches up for radio stations/channels.
Tune Down	Tune Down	Manually searches down for radio stations/channels.
Repeat	Repeat	• Off • Repeat Track • Repeat All
Shuffle	Shuffle	• On • Off

Icon	Description	Function
▷	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 by checking 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.
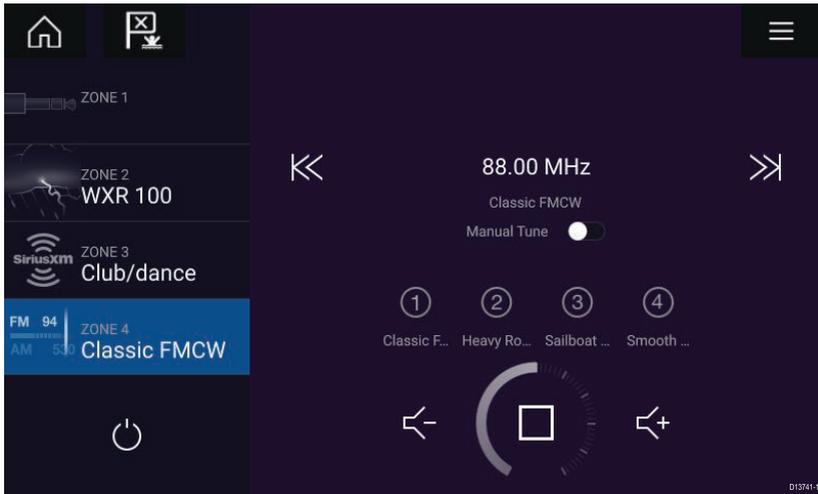
Entertainment system powered off

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 and 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.

No audio device found
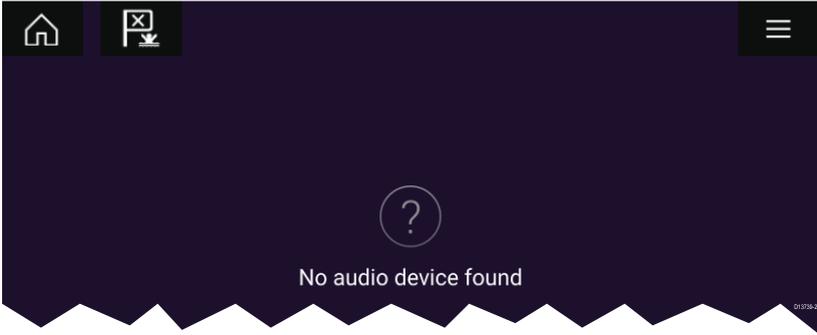
Selecting an audio source

1. Select the audio source you want to listen to from the app **Menu**.

   Before you can select an audio source from your MFD, the source must already be available to your Entertainment system's main control unit ("head unit").

Chapter 13: Mobile app support

13.1 Raymarine mobile apps

Please check the relevant app store for Raymarine mobile apps.
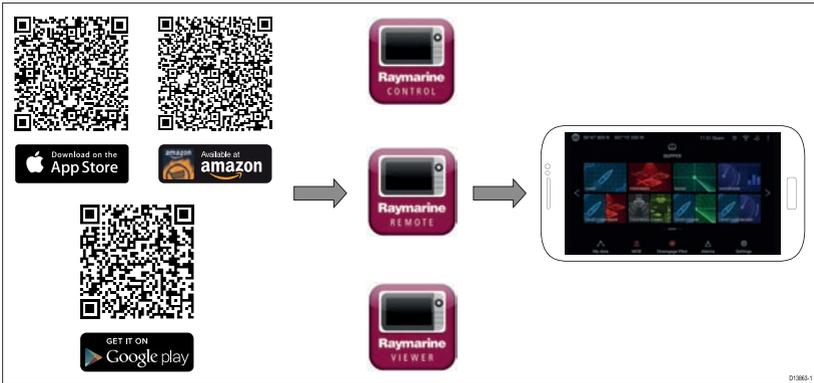
Note: When updating your MFD software ensure that you check for updates to your mobile apps.

Controlling your MFD using RayControl

The RayControl app allows you to remotely view and control your MFD from your mobile device.

1. Download and install RayControl from your app store.
2. Ensure your mobile device is connected to your MFD's Wi-Fi.
3. Open the RayControl app.
4. Control your MFD using your mobile device's touchscreen in the same way you would interact with the MFD's touchscreen.
5. You can also use a representation of an Axiom Pro's or RMK remote's physical buttons by sliding the controls sidebar out from the right of the screen or on smaller devices selecting **Remote Control**.
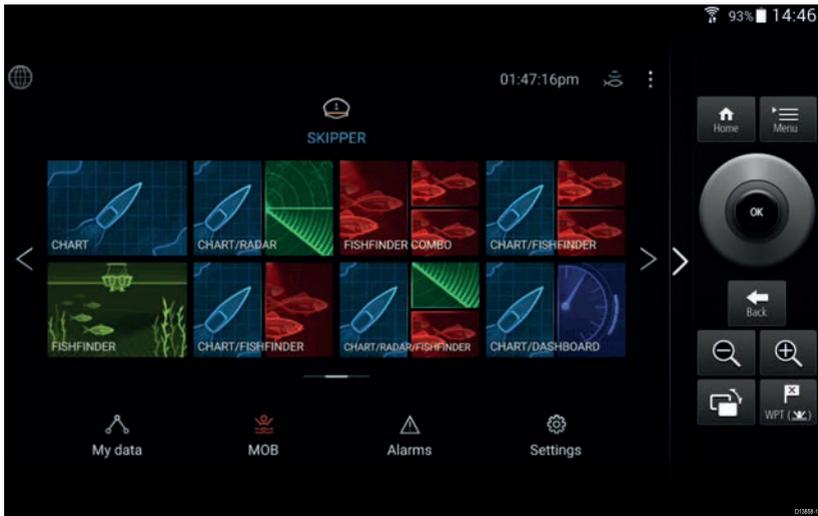
Controlling your MFD using RayRemote

The RayRemote app allows you to remotely control your MFD from your mobile device.

1. Download and install RayRemote from your app store.
2. Ensure your mobile device is connected to your MFD's Wi-Fi.
3. Open the RayRemote app.
4. Control your MFD on your mobile device using the on-screen equivalents of the physical buttons found on the Axiom Pro MFD or RMK remote keypad.

Viewing your MFD screen using RayView

The RayView app allows you to remotely view your MFD from your mobile device.
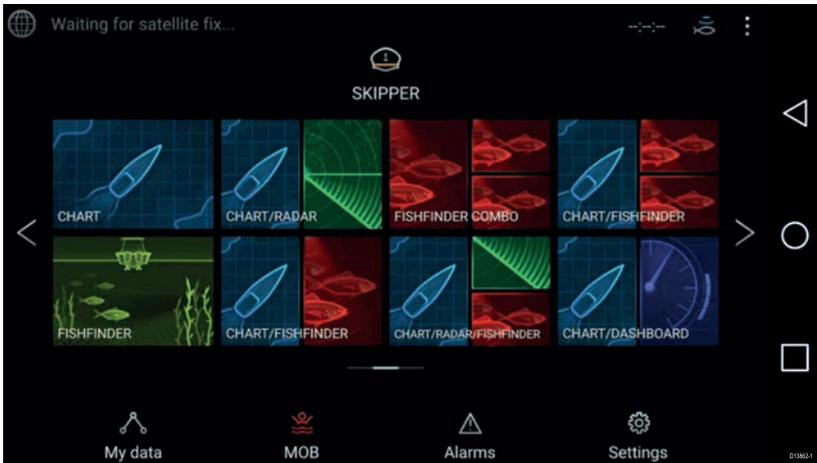
1. Download and install RayView from your app store.
2. Ensure your mobile device is connected to your MFD's Wi-Fi.
3. Open the RayView app.
4. Your mobile device's screen will now mirror your MFD's screen.

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