i70 User MANUAL

Raymarine[®]

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Chapter 1: Important information

Safety notices



Warning: Product installation and operation

This product must be installed and operated in accordance with the instructions provided. Failure to do so could result in personal injury, damage to your vessel and/or poor product performance.



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.

Caution: Cleaning

When cleaning this product:

- Do NOT wipe the display screen with a dry cloth, as this could scratch the screen coating.
- Do NOT use abrasive, or acid or ammonia based products.
- · Do NOT use a jet wash.

Caution: Service and maintenance

This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

Caution: Use the sun covers

To protect your product against the damaging effects of ultra violet light, always fit the sun covers when the product is not in use.

TFT LCD Displays

The colors of the display may seem to vary when viewed against a colored background or in colored light. This is a perfectly normal effect that can be seen with all color Liquid Crystal Displays (LCDs).

In common with all Thin Film Transistor (TFT) LCD units, the screen may exhibit a few (less than 7) wrongly illuminated pixels. These may appear as black pixels in a light area of the screen or as colored pixels in black areas.

Water ingress

Water ingress disclaimer

Although the waterproof rating capacity of Raymarine products exceeds that called for by the IPX6 standard, water intrusion and subsequent equipment failure may occur if any Raymarine equipment is subjected to commercial high pressure washing. Raymarine will not warrant equipment subjected to high pressure washing.

Disclaimers

This product (including the electronic charts) is intended to be used only as an aid to navigation. It is designed to facilitate use of official government charts, not replace them. 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. This product supports electronic charts provided by third party data suppliers which may be embedded or stored on memory card. Use of such charts is subject to the supplier's End-User Licence Agreement included in the documentation for this product or supplied with the memory card (as applicable).

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 the Global Positioning System (GPS) 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.

EMC conformance

Raymarine equipment and accessories conform to the appropriate Electromagnetic Compatibility (EMC) regulations for use in the recreational marine environment.

Correct installation is required to ensure that EMC performance is not compromised.

Suppression ferrites

Raymarine cables may be fitted with suppression ferrites. These are important for correct EMC performance. If a ferrite has to be removed for any purpose (e.g. installation or maintenance), it must be replaced in the original position before the product is used.

Use only ferrites of the correct type, supplied by Raymarine authorized dealers.

Connections to other equipment

Requirement for ferrites on non-Raymarine cables

If your Raymarine equipment is to be connected to other equipment using a cable not supplied by Raymarine, a suppression ferrite MUST always be attached to the cable near the Raymarine unit.

Chapter 2: Handbook information

Chapter contents

- 2.1 About this handbook
- 2.2 i70 Handbooks
- 2.3 Before using the i70

2.1 About this handbook

This handbook describes how to operate your product in conjunction with compatible peripheral equipment.

It assumes that all peripheral equipment connected to the system is compatible, correctly installed and commissioned in accordance with the products installation instruction. This handbook is intended for users of varying marine abilities, but assumes a general level of product knowledge, nautical terminology and practices.

2.2 i70 Handbooks

The i70 Instrument has the following handbooks available:

i70 Handbooks

Description	Part number
Installation and commissioning instruction	87131
Operating instructions (quick reference)	86141
User reference handbook	81330
Mounting template	87130

Additional handbooks

Description	Part number
SeaTalkng reference manual	81300

2.3 Before using the i70

Before using the instrument under way it is important that it is properly set up as described in the installation instruction.

First time setup

The first time the instrument is powered on only, i70 provides on-screen instructions for the initial set up. If your instrument has been installed by a professional installer, this process may already have been carried out.

The first time setup screens takes you through the following:

- · Language selection
- · Vessel type selection

Note: First time set up may be bypassed if the data is already available on the system, e.g. via an already installed instrument display.

Calibrate essential data

Before using the i70 you must calibrate essential data to ensure that the readings displayed are accurate.

Use the transducer Setup menu: **Main menu > Setup > Transducer setup** to calibrate.

- Wind
- Speed
- Depth
- · Temperature

You should perform the above for any installation affecting the transducers.

Please refer to the installation instruction for details on setting up the instrument display and associated transducers for first use.

Chapter 3: Getting started

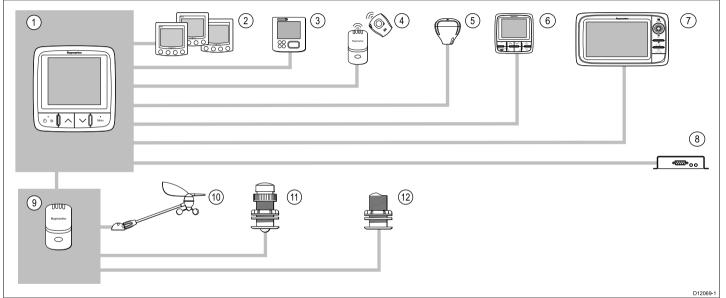
Chapter contents

- 3.1 System integration
- 3.2 Instrument controls
- 3.3 Instrument power
- 3.4 Display settings

3.1 System integration

The i70 Instrument provides multiple marine instrument functions in a single unit. The instrument displays information received from transducers and other sensors around the boat. There are multiple pages of information available, which you can customize to suit your needs.

The diagram below illustrates some of the various external devices that can be connected to your instrument display.

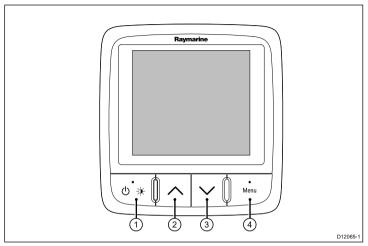


Item	Device type
1.	i70 Instrument display
2.	SeaTalk Instrument displays
3.	SeaTalkng Instrument displays
4.	MOB (connectivity via SeaTalk to SeaTalkng converter

Item	Device type
5.	SeaTalkng GPS receiver
6.	SeaTalkng Pilot controllers
7.	Raymarine Multifunction displays
8.	AIS receiver / transceiver
9.	Transducer pods
10.	Analogue wind transducers
11.	Analogue speed transducers
12.	Analogue depth transducers
Other devices not shown:	Smart transducers (e.g. DST800, DT800) NMEA2000 devices (e.g. trim tab control, engine data)

3.2 Instrument controls

Control layout and functions.



Item	Description
1.	LEFT SOFT BUTTON Power, brightness, cancel, back
2.	UP ARROW Up navigation, Adjust Up
3.	DOWN ARROW Down navigation, Adjust Down
4.	RIGHT SOFT BUTTON Menu, select, OK, Save

3.3 Instrument power

Powering the instrument on

 Press and hold the LEFT SOFT button for 1 second, until the Raymarine logo appears.

The instrument will load to favorites page one.

Powering the display off

- 1. From any favorite page press and hold the **LEFT SOFT** button. After 1 second a power down pop up will appear.
- Continue to hold the LEFT SOFT button for a further 3 seconds to complete the power off

3.4 Display settings

Display and shared brightness

You can change the brightness of the individual display, or networked displays.

You can only use and set shared brightness on displays which support sharing and are assigned to network groups .

You will not be able to set shared brightness levels on displays which do not support sharing.

Adjusting the displays brightness

To adjust the brightness of the individual display:

- Whilst in a favorite page momentarily press the LEFT SOFT button.
 - This will open the brightness setting screen.
- 2. Use the **UP** and **DOWN** buttons to change the brightness percentage to the required level.
- Press the RIGHT SOFT button to confirm new brightness and go back to the favorites page you were on.

Assigning A Network Group

When assigned to a network group you can change brightness level and color scheme on displays which support sharing.

To enable shared brightness and color schemes the display must be assigned to a network group as follows:

- Navigate to Menu > Set Up > System Set Up > Network Group.
 A list of network groups will be displayed:
 - None (default)
 - Helm 1
 - Helm 2
 - · Cockpit
 - Flybridge

- Mast
- Group 1 Group 5
- 2. Use the **UP** and **DOWN** buttons to highlight the required group.
- 3. Press the **SELECT** button to assign the display you are using to that network group.
- 4. Navigate to Menu > Set Up > System Set Up > Brightness/Colour Group.

You will be presented with the following options:

- · This Display
- · This Group
- 5. Highlight and select the required setting.
- 6. Carry out steps 1 to 5 on all displays you wish to share.

Adjusting the shared brightness

Shared brightness is only accessible if the display has been assigned to a network group.

- 1. Whilst on a favorites page press the **LEFT SOFT** button to display the brightness setting.
- 2. Press the **LEFT SOFT** button again to access the shared brightness settings.
- Use the UP and DOWN buttons to change the shared brightness level.

Display and system brightness can also be accessed via Menu > Display settings > Brightness.

Display and shared color

The i70 can set a color scheme for the individual display or for the system (if color is available on the network displays).

Color settings can be accessed via **Menu > Display settings > Colors**.

Color schemes available are:

Example	Color Scheme
AWA	Day 1
AWA Speed 88.8 KTS 90 4.6 120 88.8 FT	Day 2
AWA 88.8 KTS 90 4.6 120 Bepth 88.8 FT	Inverse
AWA 50 0 30 888.8 60 60 60 KTS Depth 120 4.6 120 88.8 FT	Red/Black

Changing the color scheme

- From the color menu highlight a color scheme.
 Once highlighted the display will preview the selected color scheme.
- Press SELECT to confirm the color scheme and return to the color settings menu.

If the unit is part of a network group, the color scheme selected will change on all displays which are part of that group. If color is not available on the networked displays they will remain unchanged.

Display response

Setting the display response

Setting the response to a low value will provide a more stable reading of current conditions. Setting response to a high value will make readings more responsive.

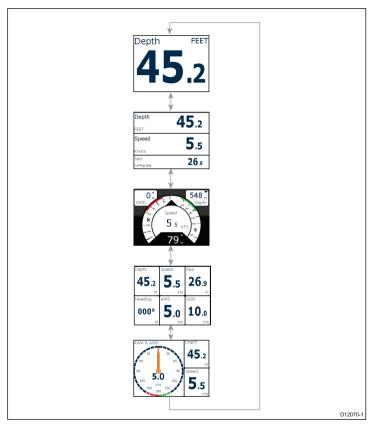
- 1. From Menu > Display settings select Display Response.
- 2. Use the **UP** and **DOWN** buttons to select the data type:
 - Speed
 - Depth
 - · Wind speed
 - · Wind angle
 - Heading
- 3. Press **SELECT** to set the response value:
 - 1 15
- Press SAVE to save the value and return to the display response options screen.

Chapter 4: Favorite Pages

Chapter contents

- 4.1 Favorite pages
- 4.2 Favorite page frames
- 4.3 Resetting maximum, minimum and trip data
- 4.4 Customizing pages

4.1 Favorite pages



The i70 presents instrument data on a series of pages. You can have a minimum of 1 and a maximum of 10 favorite pages available, There are sixteen different page layouts to choose from which can be customized with different data types.

There are also a number of be-spoke pages you can choose from.

Selecting pages

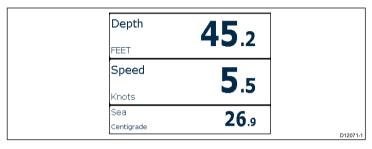
 Use the UP / DOWN arrows to select between the available pages.

Alternatively use the Rollover feature within the setup menu to cycle through the pages automatically.

4.2 Favorite page frames

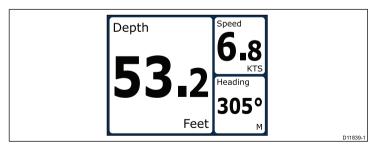
Each piece of information is displayed in a frame within the page. The frames support a number of different styles and formats for presenting the data.

Tri data frame



The tri data frame enables digital data to be displayed in numerical format.

Digital frames



The digital frames provides data in a numerical format.

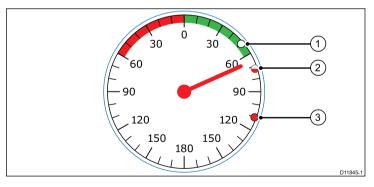
Analog frames



Analog frames provide real-time data in the form of an analog gauge. Analog gauges are only available for full and 2/3 screen frames.

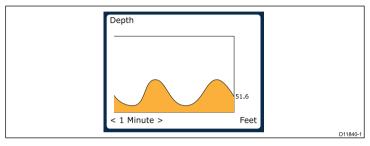
Maximum and minimum indicators

Maximum, minimum and average value indicators are displayed on analog speed, wind speed and wind angle screens.



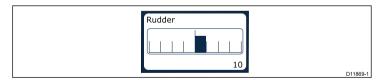
1	Minimum value
2	Average value
3	Maximum value indictor

Graph frames



Graphs provide a means of showing how a particular reading has changed over time.

Bar graph frames



The rudder bar is an example of a bar graph frame.

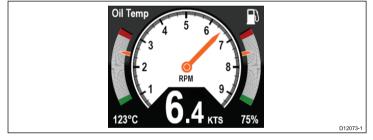
Multi gauge frames

The i70 provides three multi-gauge frames for use as favorite pages which you can see below:

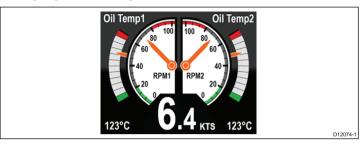
Multi-gauge — sailing vessel



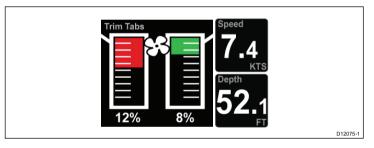
Multi-gauge — single engine vessel



Multi gauge — twin engine vessel



Trim tab frame



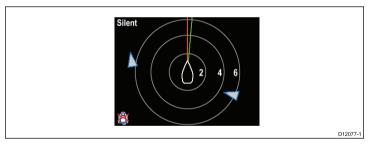
The trim tab frame provides information on the position of the trim tabs.

Race timer frame



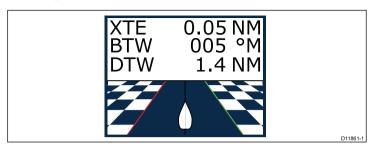
The race timer provides the ability for up to 3 countdown timers. See Race timer chapter for more details.

AIS frame



The AIS frame shows object positions relative to you vessel's position.

Rolling road frame



The rolling road provides waypoint and course deviation information.

4.3 Resetting maximum, minimum and trip data

The values of some data are accrued over time. These include information such a trip distance, and maximum and average speed. This type of information can be reset as and when required.

With the data to be reset displayed on the instrument screen:

- 1. Press the **RIGHT SOFT** button to open the menu.
- 2. Select **Quick options** by pressing the **RIGHT SOFT** button.
- Select reset against the data you want to reset and press the RIGHT SOFT button.

4.4 Customizing pages

You can use the **Favorites page** menu to change any instrument page to suit your requirements. You can:

- · Edit an existing page.
- · Add new pages.
- · Delete pages.
- · Change the page order.
- · Set pages to rollover

Editing an existing page

Follow these instructions to change the layout or information displayed on an instrument page.

- With an instrument page displayed on the screen press the RIGHT SOFT button to open the main menu.
- 2. Select Favorites page from the menu.
- 3. Select Edit page from the Favorites page menu.
- Using the UP and DOWN buttons select the page you want to edit, and then press SELECT.
- 5. Using the **UP** and **DOWN** buttons select the data pane you want to change, and then press **SELECT**.
- Highlight and select the data you wish to display and press SELECT.
- 7. Highlight the tick icon and press **SELECT** to save your choice.

The **Edit page** menu is also available from the **Quick options** menu: **Main menu > Quick options > Edit page**.

Adding a page

You can add up to a maximum of 10 pages in your favorites.

 With an instrument page displayed on the screen press the RIGHT SOFT button to open the main menu.

- 2. Select Favorites page from the menu.
- 3. Select New page from the menu.

If you already have the maximum number of pages set up you will not be allowed to add another page without deleting an existing page first . Otherwise you will be taken to a page layout option screen.

- 4. Highlight and select the required page layout and press **SELECT**.
- You can now select the required data to be displayed in your new page by following the Editing an existing page procedure.

Deleting a page

In order to delete a page follow the steps below.

- From the Favorite pages menu select Delete page.
 If you have two or more pages set up you will be able to delete a page from your favorite pages. I you only have one page set up you will not be allowed to delete a page as you must always have a minimum of one favorite page.
- When the confirm delete is displayed you can continue to delete the page by pressing the YES button.

Changing the page order

Follow these steps to change the order in which the instrument pages will be displayed.

- 1. From the Favorite pages menu select Page order.
- 2. Select the page you wish to move.
- 3. Using the **UP** and **DOWN** buttons move the page to the required location and press **SAVE**.

Setting page rollover

Using the Rollover page feature enables the Favorite pages to cycle automatically with no user interaction.

1. From the **Favourite pages** menu select **Rollover**.

- 2. To turn rollover function on select a time interval and press **SELECT** to confirm.
- 3. To turn rollover off select **Off** and press **SELECT** to confirm.

Chapter 5: AIS

Chapter contents

- 5.1 AIS Overview
- 5.2 AIS target symbols
- 5.3 Setting AIS range
- 5.4 Viewing AIS target information
- 5.5 AIS silent mode

5.1 AIS Overview

The AIS feature enables you to receive information broadcast by other vessels, and to view these vessels as targets relative to your boat. The AIS feature on i70 is standalone, settings and alarms cannot be shared with other AIS enabled products on your system.

How AIS Works

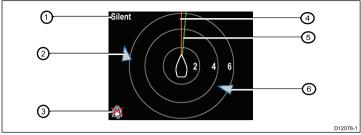
AIS uses digital radio signals to broadcast 'real-time' information between vessels and shore-based stations via dedicated VHF radio frequencies. This information is used to identify and track vessels in the surrounding area and to provide fast, automatic and accurate collision avoidance data.

Note: It may not be mandatory for vessels to be fitted with operational AIS equipment. Therefore, you should not assume that your multifunction display will show ALL vessels in your area. Due prudence and judgement should be exercised.

With an optional AIS unit connected to your system you can:

- · Display targets for any other AIS—equipped vessels.
- Display voyage information being broadcast by these targets, such as their position, course, speed and rate-of-turn.
- Display basic or detailed information for each target vessel, including safety-critical target data.
- · Set up a safe zone around your vessel.
- View AIS alarm and safety-related messages.

AIS information is displayed on the screen as shown below:



Item	Description
1,	AIS text See AIS messages in table below
2	Unknown vessel
3	Alarms off icon
4	Heading line
5	COG line
6	Unknown vessel

Note: Where unstable or no heading or COG data is available AIS targets will not be shown and the centre vessel icon will not be displayed.

AIS Messages

AIS messages are displayed on the top left of the AIS screen, with icons displayed on bottom left.

AIS Messages	Description	
AIS off	AIS Unit off	
(none)	AIS is on and transmitting	

AIS Messages	Description
Alarm on icon	AIS on, transmitting, alarm is active.
Silent	AIS on & user is silent to other vessels.
Alarm on	AIS on, user is silent to other vessels & alarm is active.
Alarm off icon	AIS on & Alarm off
Data lost	AIS on & data lost.
No fix	AIS on & lost GPS fix.
Insufficient COG/Hdg data	No stable COG or heading data

AlS-equipped vessels in the surrounding area are displayed on the page as targets. A maximum of 25 targets can be displayed, where more than 25 targets are in range a **Max targets** is displayed on screen. As the vessel's status changes, the symbol for the target changes accordingly.

5.2 AIS target symbols

Your display shows a range of symbols to represent the different types of AIS target.

Target type	Description	Symbol
Transmitting target	Target not activated, dangerous or lost. Target is moving or at anchor.	
Selected target	Target selected with cursor. Can view detailed data.	AIS
Dangerous target	Targets within specified distance (CPA) or time (TCPA). Dangerous target alarm sounds if enabled. Target red and flashes.	
Uncertain target	Calculated CPA / TCPA value uncertain.	A
Lost target	When signal of dangerous target not received for 20 seconds. Target in latest predicted position. Alarms sounds if enabled. Target with red cross and flashes.	
Aid To Navigation (AToN) target (Real)	AToN target is ON position.	

Target type	Description	Symbol
Aid To Navigation (AToN) target (Real)	AToN target is OFF position. Target red.	*
Aid To Navigation (AToN) target (Real)	AToN target is OFF position & dangerous. Target black and flashes.	- ♦
Aid To Navigation (AToN) target (Real)	AToN target is OFF position & lost. Target black with red cross and flashes.	-
Aid To Navigation (AToN) target (Virtual)	AToN target is ON position.	\lambda
Aid To Navigation (AToN) target (Virtual)	AtoN target is OFF position. Target red.	\$
Aid To Navigation (AToN) target (Virtual)	AToN target is OFF position & dangerous. Target black and flashes.	
Aid To Navigation (AToN) target (Virtual)	AToN target is OFF position & lost. Target black with red cross and flashes.	

Target type	Description	Symbol
Land base station target	Land base station target is ONLINE.	7
Yacht	Target vessel type is a yacht.	\(\)
Commercial Vessel	Target vessel type is a commercial vessel.	
High speed vessel	Target vessel type is a high speed vessel.	<u> </u>

5.3 Setting AIS range

You can change the scale of the AIS page by altering the AIS range.

- 1. Press the **RIGHT SOFT** button to bring up the menu.
- Using the UP and DOWN buttons highlight Quick options and press OK.
- Using the UP and DOWN buttons highlight AIS Range and press OK .
- 4. Using the UP and DOWN buttons highlight the required range and press SELECT to change the range to the selected option and return to the favorite pages, or press CANCEL to go back to the favorites pages without changing the range.

5.4 Viewing AIS target information

Whilst on the AIS page you can view information about AIS targets by following the steps below:

- Press the RIGHT SOFT button to bring up the Quick options and then select AIS Target info.
- Use the UP and DOWN buttons to select an AIS target on the screen.

The Name of the vessel will be displayed in the page header.

- Press INFO to bring up detailed information about the selected target
 - · Vessel name
 - · MMSI number
 - · Vessel type
 - Call sign
 - SOG

Information displayed is dependant upon the type of target selected.

- You can use the UP and DOWN buttons to scroll through the data if required.
- 5. To return to the AIS page press the BACK .

5.5 AIS silent mode

AIS silent mode enables you to disable AIS transmissions

AIS silent mode enables you to disable the transmitting functions of your AIS equipment. This is useful when you do not want to transmit your vessel's AIS data to other AIS receivers, but still wish to receive data from other vessels.

Note: Not all AIS equipment supports silent mode. For more information, refer to the documentation that accompanies your AIS unit.

Enabling and disabling AIS silent mode

Whilst viewing the AIS page:

- 1. Press the **RIGHT SOFT** button to bring up the menu items.
- Highlight Quick options using the UP and DOWN buttons, then press OK.
- 3. Highlight the **AIS Silent** option and press **OK** .

There are two options to choose from:

- Silent
- Transmit
- 4. To turn on Silent mode highlight Silent and press SELECT.
- To turn off Silent mode highlight Transmit and press SELECT.

Chapter 6: Race timer settings

Chapter contents

- 6.1 Setting the race timer
- 6.2 Using the race timer

6.1 Setting the race timer

If the race timer has not been setup as a favorite page then the timer can be accessed from the view data menu: **Menu > View** data > Time > Race timer



- To add the race timer as a favourite page from the View data menu display the race timer and press the RIGHT SOFT button.
- 2. Select Quick Options and then select Add to favourites.
- Once the race timer is a favoruite page to use press the RIGHT SOFT button and then select Quick options.

The following options will be available:

- · Start timer
- · Stop timer
- · Reset timer
- · Adjust start times

4.

6.2 Using the race timer

Once the **Race timer** has been set you can use the timer by following the steps below:

- 1. When on the Race timer screen Press the **RIGHT SOFT** button and select **Quick options** form the menu
- 2. To adjust a timer setting select Adjust start timer.
 - i. Use the **UP** and **DOWN** buttons to select either timer 1.2. or 3.
 - ii. Use the **UP** and **DOWN** buttons to change the timer value to the required setting and press **SELECT** to confirm.
- To start the timer select Start timer from the Quick options menu.
- 4. To pause the current running timer select Stop Timer.
- To resume the timers count down select RESUME from the Quick options menu.
- 6. To reset the current timer select **Reset Timer**.
- 7. Once the timer reaches zero count up shall begin automatically.
- 8. To skip to the next timer press the **SKIP** key.
- Whilst the timer is running you can view other favorite pages as normal.

Audible beeps shall be sounded at defined intervals to alert you to the timer status as follows:

- · Double beep every minute.
- · Beep Three times at the start of the last 30 seconds.
- · Beep every second for the last 10 seconds.
- Beep for two seconds when the timer reaches zero

Chapter 7: Multiple data sources (MDS)

Chapter contents

- 7.1 Multiple data source (MDS) overview
- 7.2 Viewing vessel data sources
- 7.3 Selecting a preferred data source

7.1 Multiple data source (MDS) overview

MDS is a system to manage installations with multiple instances of sensors providing the same type of data to vessel displays and systems. If attached to a compliant system a MDS enabled display will let you see all vessel sensors, and select the preferred sources for your data. e.g. in a system you may have a Multi-function display with an internal GPS and an external GPS such as a RS125+, by selecting your preferred data source allows you to determine which GPS is used by your system.

Where your system has already been assigned a preferred data source your display will use that source by default. You can use the display to set the preferred data sources on your system so that any other MDS enabled devices use that data source.

Types of multiple data source you can choose from are:

- · GPS Position
- Heading
- Depth
- Speed
- · Wind

Note: The presence of some non-MDS compliant devices on your system may prevent MDS from working.

7.2 Viewing vessel data sources

You can view available multiple data sources on a system by following the steps below:

- Go to the MDS menu: Main menu > Setup > System setup > Multiple data source.
- 2. Highlight the required data type:
 - · GPS position
 - Heading
 - Depth
 - Speed
 - Wind
- Press SELECT.

You will be shown a list of all available data sources for the chosen data type.

4. Highlight a data type and press SELECT

You will now see detailed information about the data source which will include:

- Device
- Serial number
- Port ID
- Status

7.3 Selecting a preferred data source

To select a preferred data source for your system:

- Go to the MDS menu: Main menu > Setup > System setup > Multiple data source.
- 2. Press OPTIONS.
- 3. Highlight **Selection** and press **SELECT**.
- Highlight Manual and press SELECT
 You will be taken back to the source options screen.
- 5. Highlight Use this source and press SELECT
- To let the system automatically select a data source at the source selection screen highlight and press AUTO.

Where displays on your system are not capable in participating in MDS you will be shown a list of the devices that do not support this feature.

Chapter 8: Instrument alarms

Chapter contents

8.1 Alarms

8.1 Alarms

Alarms are used to alert you to a situation or hazard requiring your attention.

Some examples of alarms are:

- Anchor alarm Used when anchored, this alerts you to a change in depth which could mean that the chain length requires adjusting.
- Depth and speed alarms These alarms alert you when your depth or speed moves outside of specified limits, for example a minimum depth.
- MOB (Man Overboard) alarm Received from an MOB system.

When an alarm occurs, a message is displayed and an audible alarm may sound.



You can either:

- · Silence the alarm, or
- · Silence the alarm and edit the alarm settings.

Note: With the exception of alarm clock, speed and sea temp SeaTalk systems will only be able to switch alarms on/off, SeaTalkng systems will be able to adjust settings.

Man overboard alarm

In the event of a Man Overboard (MOB) alarm, the instrument provides a range of information to help find the MOB target.



- · BTW: Bearing to MOB waypoint.
- DTW: Distance to MOB waypoint.
- · Elapsed: Time since start of MOB alarm.

BTW and DTW require data from other sources such as a GPS and multifunction display. If these are not available then only the elapsed time is displayed.

Alarm settings

Most alarms are generated locally using specified thresholds. They are also transmitted to the SeaTalk and SeaTalkng networks for display at other compatible devices.

Category	Alarm		Content
Depth	Shallow	Alarm	• On
			Off (default)
		Adjust	• 0 — xxx FT
			• 5 ft (default)

Category	Alarm		Content
Depth	Deep	Alarm	• On
			Off (default)
		Adjust	• 0 — xxx FT
			• 100 ft (default)
Depth	Shallow Anchor	Alarm	• On
			Off (default)
		Adjust	• 0 — xxx FT
			• 5 ft (default)
Depth	Deep Anchor	Alarm	• On
			Off (default)
		Adjust	• 0 — xxx FT
			• 100 ft (default)
Speed	Boat Speed	Alarm	• On
	High		Off (default)
		Adjust	• 0 — 100 KTS
			• 30 kts (default)
Speed	Boat Speed Low	Alarm	• On
			Off (default)
		Adjust	• 0 — 100 KTS
			• 5 kts (default)

Category	Alarm		Content
Temperature	Sea Temp. High	Alarm	• On
			Off (default)
		Adjust	• 0 — 50°C
			• 10°C (default)
Temperature	Sea Temp. Low	Alarm	• On
			Off (default)
		Adjust	• 0 — 50°C
			1°C (default)
Wind	AWS High Apparent Wind Speed high	Alarm	• On
			Off (default)
		Adjust	• 0 — 200 KTS
			• 25 kts (default)
Wind	AWS Low Apparent Wind Speed low	Alarm	• On
			Off (default)
		Adjust	• 0 — 200 KTS
			10 kts (default)
Wind	AWA High Apparent Wind Angle high	Alarm	• On
			Off (default)
		Adjust	• 0 — 180°
			• 25° (default)

Category	Alarm		Content
Wind	AWA Low Apparent Wind Angle low	Alarm	• On
			Off (default)
		Adjust	• 0 — 180°
			• 10° (default)
Wind	TWS High	Alarm	• On
	True Wind Speed high		Off (default)
		Adjust	• 0 — 200 KTS
			• 10 kts (default)
Wind	TWS Low	Alarm	• On
	True Wind Speed low		Off (default)
		Adjust	• 0 — 200 KTS
			• 10 kts (default)
Wind	TWA High True Wind Angle high	Alarm	• On
			Off (default)
		Adjust	• 0 — 180°
			• 25° (default)
Wind	TWA Low True Wind Angle low	Alarm	• On
			Off (default)
		Adjust	• 0 — 180 °
			• 10° (default)

Category	Alarm		Content
Other	Alarm Clock	Alarm	• On
			Off (default)
		Time	• 12:00 am — 12:00 pm
			• 00.00 – 23:59 24 hr
		Format	• 24 hour
			• am / pm
Other	Off Course	Alarm	• On
			Off (default)
		Adjust	• 0 — 180 °
			• 5° (default)
Other	MOB Man Overboard	Alarm	On (default)
			• Off
Other	Battery Low	Alarm	• On
			Off (default)
		Adjust	• 6 – 60 V
			• 10 V (default)

Category	Alarm		Content
Other	Other AIS Alarm Safety		• On
		messages	Off (default)
		Dangerous	• On
		target	Off (default)
		Safe zone	• (0.1 , 0.2, 0.5, 1.0, 2.0) nm
			• (0.1, 0.2, 0.5, 1.0, 2.0) sm
			• (0.2, 0.5, 1.0, 2.0, 5.0) km
		Time to safe	• 3 min
		zone	• 6 min
			• 12 min
			• 24 min

Chapter 9: Quick options

Chapter contents

- 9.1 Quick options menu
- 9.2 Quick options menu items

9.1 Quick options menu

The **Quick options** menu is a dynamic menu which displays menu items relative to the items displayed on the favourites page you are on. You can access this menu by pressing the **RIGHT SOFT** button and then selecting **Quick options**.

Main menu > Quick options.

9.2 Quick options menu items

Depending on the page being displayed different quick options are available as follows:

Page displayed	Quick options available
Menu	Edit page
MOB (when MOB is active)	MOB
Maximum depth	Reset Maximum Depth
Minimum depth	Reset Minimum Depth
Maximum speed	Reset Maximum Speed
Average speed	Reset Average Speed
Trip	Reset Trip
Max. SOG	Reset Max. SOG
Ave. SOG	Reset Ave. SOG
CMG & DMG	Reset CMG & DMG
Maximum Sea Temperature	Reset Max. Sea Temperature
Minimum Sea Temperature	Reset Min. Sea Temperature
Maximum Air Temperature	Reset Max. Air Temperature
Minimum Air Temperature	Reset Min. Air Temperature
Maximum AWA	Reset Maximum. AWA
Minimum AWA	Reset Minimum. AWA
Maximum AWS	Reset Max. AWS
Minimum AWS	Reset Min. AWS
Maximum TWA	Reset Max. TWA

Page displayed	Quick options available
Minimum TWA	Reset Min. TWA
Maximum TWS	Reset Max. TWS
Minimum TWS	Reset Min. TWS
Race Timer	Start timer
	Stop timer
	Reset timer
	Adjust start times
Graph	Time scale
(View data) page	Add to favorites
AIS	View AIS targets — (Only shown if there is Heading or stable COG data available.)
	AIS range
	AIS Silent mode

Chapter 10: View data

Chapter contents

- 10.1 Data views
- 10.2 Viewing data

View data 51

10.1 Data views

Note: The data described in the table below is dependent on the configuration of your system, so some items may not be applicable to your vessel.

The following table shows the data items available for each category.

Menu item / description	Settings / operation
Battery	Battery current
	Battery temperature
	Battery voltage
Boat	Rate of turn
	Tilt — inclination
	Trim tabs
	Grey water tank
	Black water tank
	Fresh water tank
Depth	• Depth
	Depth history
	Max depth
	Min depth
Distance	Log (through water)
	Trip (through water)

Menu item / description	Settings / operation
Engine	Boost pressure
	Coolant pressure
	Coolant temperature
	Engine hours
	Engine RPM
	Engine RPM history
	Fuel flow rate
	Fuel flow rate total
	Oil pressure
	Oil temperature
	Trim position
	• Load
	Engine tilt
	Alternator potential
	Transmission oil pressure
	Transmission oil temperature
	Transmission
	Engine overview 1 (allows bespoke engine dials)
	Engine overview 2 (allows bespoke engine dials)

Menu item / description	Settings / operation
Fuel	Fuel management is dependant on a suitable fuel or engine management system being available on the SeaTalkng network.
	Distance to empty
	• Economy
	Fuel flow — average
	Fuel flow — instantaneous
	Fuel level
	Estimated fuel remaining
	Fuel pressure

Menu item / description	Settings / operation
Environment	Air temperature
	Air temperature history
	Barometric pressure
	Barometric pressure history
	Dew point
	• Drift
	Drift history
	• Humidity
	Min air temperature
	Max air temperature
	Sea temperature
	Sea temperature history
	Min sea temperature
	Max sea temperature
	• Set
	Set history
	Set and drift pair
	Sunset / sunrise
	Wind chill apparent
	Wind chill true

Menu item / description	Settings / operation
GPS	• COG
	COG history
	COG + SOG pair
	• HDOP
	• LAT
	• LAT & LON
	• LON
	• Sats
	Sats + HDOP
	• SOG
	SOG history
	Max SOG
	Ave SOG
Heading	Heading
	Heading & speed
	Heading history
	Locked heading
	Locked heading error & locked heading
	Tack heading

Menu item / description	Settings / operation
Navigation	Active waypoint name
	Waypoint ID
	• CMG
	CMG history
	• BTW
	• DTW
	BTW & DTW
	• DMG
	CMG & DMG
	CMG & VMG
	CTS & XTE
	• ETA
	• TTG
	• XTE
	XTE history
	Rolling road
Pilot	Course to steer
	Pilot heading
	Pilot heading & speed pair
	Pilot status
	Rudder angle

Menu item / description	Settings / operation
Speed	Average speed
	Boat speed & SOG
	Max speed
	• Speed
	Speed history
	Trolling
	VMG windward
	VMG windward history
	VMG WPT
	VMG WPT history
Time	• Clock
	Local time
	Local time & date
	Race timer

Menu item / description	Settings / operation
Wind	• AWA
	AWA history
	AWA & AWS pair
	AWA(CH) & AWS pair
	AWA & VMG
	AWA max
	AWA min
	• AWS
	AWS history
	AWS max
	AWS min
	Beaufort
	Cardinal
	• GWD
	GWD history
	GWD + Beaufort
	• TWD
	TWD history
	• TWA
	TWA history
	TWA & TWS pair
	TWA(CH) & TWS pair

Menu item / description	Settings / operation
	TWA & VMG pair
	TWA max
	TWA min
	• TWS
	TWS history
	• TWS max
	TWS min
AIS	• AIS

10.2 Viewing data

You can use the **View data** menu to view information which has not been added to favorite pages.

- 1. Select View data menu from the main menu.
- 2. From the **Select Category** menu choose the data category.
- 3. Select the relevant item to view the data. The data will be displayed full screen.
- 4. To add the data to a favorite page press the **RIGHT SOFT** button.

Chapter 11: Setup menu

Chapter contents

• 11.1 Setup menu

11.1 Setup menu

The setup menu provides a range of tools and settings to configure the instrument display.

Menu item	Description	Options
Transducer setup	Set up and calibrate transducers as detailed in Transducer calibration section above.	DepthSpeedWindDST800DT800Trim tabs
User preferences	Set user preferences such as: Time & Date, Units of measurement, Language, Vessel type, Vessel details, and Variation.	Time & date Units Language Vessel type Vessel details Variation
System set up	Set system network groups, display and system color and brightness, Multiple data sources and about system setup	Network group Brightness / color group Multiple data sources About system setup

Menu item	Description	Options
Simulator	Enables or disables simulator mode, which allows you to practice operating your instrument display without any data from any other external unit.	• On • Off
Factory reset	Delete user settings and Restore unit to factory default settings.	Yes No
Diagnostics	Information About the display and system and key beep on / off setting	About displayAbout systemKey beep

Transducer setup menu

The **Transducer setup** menu provides the functions to enable setup and calibrate connected transducers.

Menu item	Description	Options
Depth	Enables setup and calibration of depth transducers and provides the following options: Details Depth offset	Details displays can supply information about the installed transducer or interface such as Serial No. and Software version etc. Depth offset allows you to set the offset distance so that the displayed depth reading represents the depth to the sea bed from either the keel or the waterline.
		Depth from:
		- Keel
		Transducer
		Water line
		Offset:
		– 0 to 99 ft, m
		About depth offset
Speed	Enables setup and calibration of speed transducers and provides the following options: • Details	Details displays can supply information about the installed transducer or interface such as Serial No. and Software version etc.
	Speed calibration speed should be calibrated at each of the speed points shown under speed calibration.	speed calibration: speed settings are determined by the calibration points stored either in the transducer or the interface unit.
	Calibrate water temperature	Calibrate water temperature:
		• xxx °C or °F

Menu item	Description	Options
Wind	Enables setup and calibration of wind transducers and provides the following options:	Details displays information about the installed transducer, Serial No. and Software version etc.
	Wind detail	Calibrate vane- follow the on screen instructions to calibrate the wind vane.
	Calibrate vane	App wind speed:
	App wind speed calibration	• xx kts
DST800	Enables setup and calibration of DST (Depth, Speed, and Temperature) smart transducers and provides the following options:	DST800 details displays information about the installed transducer, Serial No. and Software version etc.
	DST800 details	Depth offset allows you to set the offset distance so that the displayed depth reading represents the depth
	Depth offset	to the sea bed from either the keel or the waterline.
	Speed calibration	Depth from:
	Temperature offset	 Water line
		– Keel
		Transducer
		Offset:
		- 0 to 99 ft
		About depth offset
		Speed calibration:
		Add — adds a new speed setting using current SOG reading.
		Edit — edits a speed setting in 0.1 kt increments.
		Delete — deletes the selected speed setting.
		Reset — resets speed calibration to default settings.

Menu item	Description	Options
		Temperature offset: • xxx °C or °F
DT800	Enables setup and calibration of DT (Depth, and Temperature) smart transducers and provides the following options: • DT800 details • Depth offset • Temperature offset	DT800 details displays information about the installed transducer, Serial No. and Software version etc. Depth offset allows you to set the offset distance so that the displayed depth reading represents the depth to the sea bed from either the keel or the waterline. Depth from: Water line Keel Transducer Offset: 0 to 99 ft, m About depth offset Temperature offset: xxx °C or °F
Trim tabs	Provides on screen instruction on how to setup and calibrate trim tab display position: Trim tabs up Trim tabs down	Trim tabs up Click CONTINUE to confirm tabs fully up. Click CONTINUE to confirm tabs fully down.

User preference menu

The **User preference** menu enables users to customize user settings as detailed in the table below:

Menu item	Description	Options
Time & date	These options enable you to customize the date and time format to your requirements. You can also specify a local time offset from Universal Time Constant (UTC), to compensate for any time zone difference.	Date format: • mm/dd/yy • dd/mm/yy Time format: • 12hr • 24hr Time offset: • -13 to +13 hours
Units	Enables you to specify the units used for the following key measurements: • Speed • Distance • Depth • Wind speed • Temperature • Flow rate • Heading • Pressure • Volume • Barometric	Speed: • kts — knots. • mph — miles per hour. • km/h — Kilometres per hour. Distance: • nm — Nautical miles. • sm — Statute miles. • km — Kilometres. Depth: • ft — Feet • m — Metres • fa — Fathoms

Menu item	Description	Options
		Wind speed:
		• kts — knots.
		m/s — metres per second.
		Temperature:
		°C — degrees centigrade.
		°F — degrees fahrenheit.
		Flow rate
		UK Gal/H — UK gallons per hour.
		US Gal/H — US gallons per hour.
		LPH — Litres per hour.
		Heading:
		Mag — magnetic.
		• True
		Pressure
		PSI — pounds per square inch.
		• Bar — bar.
		kPa — Kilo pascals.
		Volume:
		UK Gallons
		US Gallons
		• ltr — litre.

Menu item	Description	Options
Language	Determines the language that will be used for all on-screen text, labels, menus and options.	Chinese
		Croatian
		• Danish
		• Dutch
		• English — UK
		• English — US
		Finnish
		French
		German
		• Greek
		• Italian
		Japanese
		Korean
		Norwegian
		• Polish
		Portuguese (Brazilian)
		Russian
		Spanish
		Swedish
		• Turkish

Menu item	Description	Options
Vessel type	Determines the default setup of the unit and favorite pages	Race sail
		Sail cruiser
		Catamaran
		Workboat
		• RIB
		Outboard speed boat
		Inboard speed boat
		Power cruiser 1
		Power cruiser 2
		Power cruiser 3
		Sport fishing
		Pro fishing
Vessel details	Enable you to specify the following:	Number of engines:
	Number of engines	· 1 — 5
	Number of batteries	Number of batteries
	Number of fuel tanks	· 1 — 5
		Number of fuel tanks
		· 1 — 5
Variation	Enables you to turn on and off magnetic variation, specify slave source or adjust manually. • Variation mode	Variation mode:
		• On
		• Off
	Variation range	• Slave

Menu item	Description	Options
		Variation range:
		• -30° — +30°

System setup menu

The **System setup** menu enables users to customize user settings as detailed in the table below:

Menu item	Description	Options
Network group	This allows you to add multiple units together in a	Pre-defined groups
	group so that when the color scheme or brightness is changed on one unit the changes are applied to all	None
	units in the group.	• Helm 1
		• Helm 2
		Cockpit
		Flybridge
		Mast
		Undefined
		Group-1 — Group-5
Brightness / color group	This enables you to synchronize the displays brightness and color to be the same as the other units in the same network group.	Sync brightness / color
		This display
	j .	This group

Menu item	Description	Options
Multiple data sources	This allows you to view and select preferred data sources. • Select data source • Data source found • Data source details	Select data source GPS position Heading Depth Speed Wind Data source found model name — serial number Port ID Data source details Device name Serial No. Port ID Status or No data
About system setup	System set-up provides the option to add instruments or pilot head to a group. Once in a group, tasks like changing brightness and color can be done from a single device. Multiple Data source allows you to view & manage which Data source is used on your pilot head. Data types include: GPS Position, Heading, Depth, Speed & Wind.	

Simulator

The Simulator mode enables you to practice operating your display without live data from a transducer or other connected peripherals.

The simulator mode is switched on/off in the **Simulator** option from the **Setup Menu**.

Note: Raymarine recommends that you do NOT use the simulator mode whilst navigating.

Note: The simulator will NOT display any real data, including any safety messages (such as those received from AIS units).

Note: Any system settings made whilst in Simulator mode are not transmitted via SeaTalk to other equipment.

Factory reset

Your product can be reset to factory default settings from the **Setup** > **Factory reset** menu.

Performing a factory reset will reset your product back to factory default settings and erase any saved data and user settings.

Diagnostics

You can access diagnostics details from the **Setup > Diagnostics** menu option and can view information relating to:

Menu item	Description	Options
About display	Allows you to view information about the instrument display you are using:	Software version
		Hardware version
		Bootloader version
		Temperature
		• Volts
		Max. volts
		Current
		Max. current
		Run time
		Deviation (If available)
About system	Allows you to view information about products on the system you are using:	Model number
		Serial number
		Software version
		Hardware version
		• Volts

Menu item	Description	Options
Key beep	Enables you to turn on and off the audible beeps when keys are pressed	• On • Off
Self test	The product has a built in self test which can help to diagnose faults.	 Memory test Button test Display test Buzzer test Illumination test

Chapter 12: Maintaining your display

Chapter contents

- 12.1 Service and maintenance
- 12.2 Routine equipment checks
- 12.3 Cleaning
- 12.4 Cleaning the display screen
- 12.5 Performing a factory reset

12.1 Service and maintenance

This product contains no user serviceable components. Please refer all maintenance and repair to authorized Raymarine dealers. Unauthorized repair may affect your warranty.

12.2 Routine equipment checks

Raymarine strongly recommends that you complete a number of routine checks to ensure the correct and reliable operation of your equipment.

Complete the following checks on a regular basis:

- Examine all cables for signs of damage or wear and tear.
- Check that all cables are securely connected.

12.3 Cleaning

Best cleaning practices.

When cleaning this product:

- Do NOT wipe the display screen with a dry cloth, as this could scratch the screen coating.
- Do NOT use abrasive, or acid or ammonia based products.
- · Do NOT use a jet wash.

12.4 Cleaning the display screen

A coating is applied to the display screen. This makes it water repellent, and prevents glare. To avoid damaging this coating, follow this procedure:

- 1. Switch off the power to the display.
- Rinse the screen with fresh water to remove all dirt particles and salt deposits.
- 3. Allow the screen to dry naturally.
- 4. If any smears remain, very gently wipe the screen with a clean microfibre cleaning cloth (available from an opticians).

12.5 Performing a factory reset

To reset your i70 to factory settings follow the steps below.

Note: Performing a factory reset will erase all saved data and customized settings.

- 1. Press the **RIGHT SOFT** button to open the main menu.
- 2. Select Set Up.
- 3. Select Factory reset.
- 4. Press the Yes button.

Your i70 will now reset itself to factory default settings.

Chapter 13: Technical support

Chapter contents

- 13.1 Raymarine customer support
- 13.2 Viewing product information

13.1 Raymarine customer support

Raymarine provides a comprehensive customer support service. You can contact customer support through the Raymarine website, telephone and email. If you are unable to resolve a problem, please use any of these facilities to obtain additional help.

13.2 Viewing product information

- 1. From the main menu scroll to **Set Up** and press the **SELECT** key.
- From the Set Up menu scroll to **Diagnostics** and press the **SELECT** key.
- 3. Select About system.

A range of information is displayed, including the software version and Serial number.