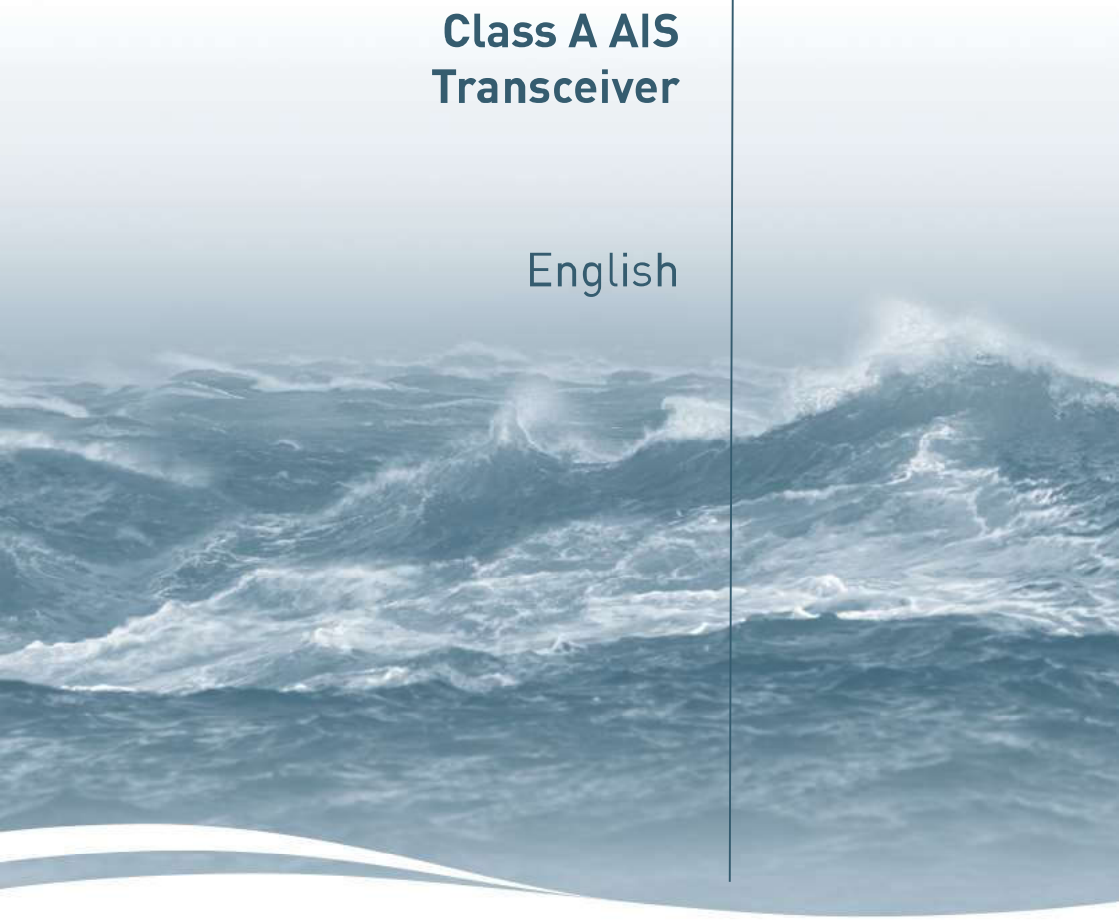
ocean SIGNAL

User Manual

ATA100

Class A AIS Transceiver

English



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SUPPLEMENTARY INFORMATION

ATA100 INSTALLATION MANUAL 912S-03333

ATA100 QUICK START MANUAL 912S-03334

1. SAFETY WARNING

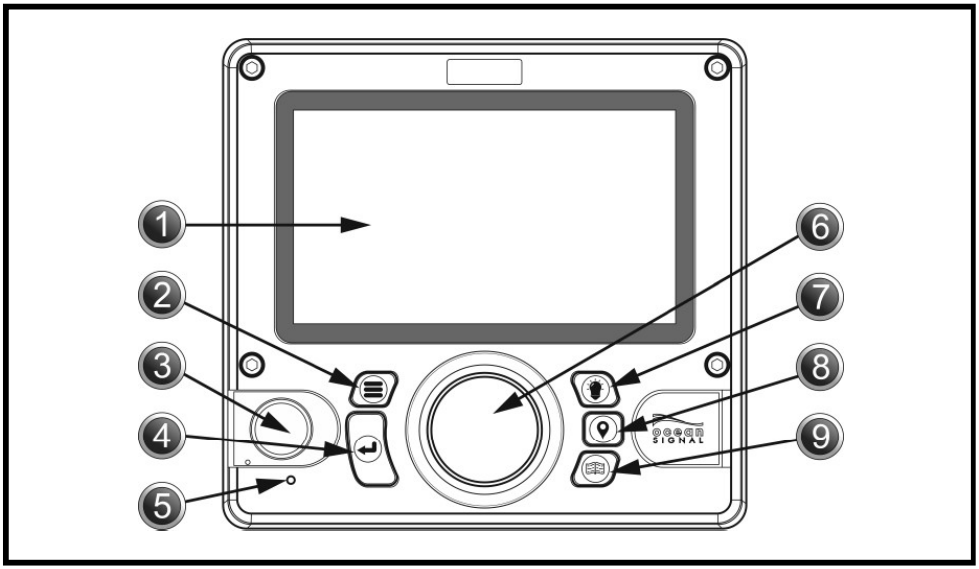
- This equipment must be installed in accordance with the instructions provided in this manual. Failure to do so will seriously affect its performance and reliability. It is strongly recommended that a trained technician installs and configures this product.
- This equipment is intended as an aid to navigation and is not a replacement for proper navigational judgement. Information provided by the equipment must not be relied upon as accurate. User decisions based upon information provided by the equipment are done so entirely at the users own risk.
- Do not install this equipment in a flammable atmosphere such as in an engine room or near to fuel tanks.
- It is recommended that this product is not installed in direct sunlight or under a windshield where it can be subjected to excessive solar heating
- Do not attempt to service this equipment as doing so may cause fire, electric shock or malfunction and will invalidate the warranty. If any malfunctions are detected contact your supplier or service agent.
- Do not install the transceiver where rain or water may leak onto the equipment. This product has been designed for installation and use in an environment protected from moisture.
- NOT ALL SHIPS CARRY AIS. The Officer of the Watch (OOW) should always be aware that other ships and, in particular, leisure craft, fishing vessels and warships may not be fitted with AIS. Any AIS equipment fitted on other ships as a mandatory carriage requirement may also be off based on the Master's professional judgement

2. GENERAL NOTICES

- All marine Automatic Identification System (AIS) transceivers utilise a satellite based location system such as the GLONASS or GPS satellite networks.
- The compass safe distance of this transceiver is 0.5m or greater for a 0.3° deviation.
- This product is categorised as 'protected' in accordance with the definitions provided in IEC 60945.
- Please dispose of this AIS transceiver in accordance with the European WEEE Directive or with the applicable local regulations for disposal of electrical equipment.
- This manual is intended as a guide to the installation, setup and use of this product. Every effort has been made to ensure the accuracy of this manual, however due to continuous product development this manual may not be accurate in all respects, therefore no guarantee is offered. If you are in any doubt about any aspect of this product, please contact your dealer.

3. BASIC OPERATION

3.1 Front Panel Controls



No.	Item	No.	Item
1	LCD Screen	6	Jog Stick/Control Knob
2	Menu Key	7	Display Brightness Key
3	Pilot Plug (under cover)	8	Voyage Data Input Key
4	Enter Key	9	Page Key
5	Indicator LED		

3.2 Front Panel Controls Explained

1. LCD Panel Display

The ATA100 incorporates a 7-inch full-colour LCD Display allowing for visibly pleasing maps and screens, ensuring a user-friendly experience and ease-of-use.

2.  **Menu Key**

Pressing the menu key will access the ATA100 menu system. The menu screen that appears will depend on the screen in use when the menu key is pressed. The menu key can also be used to close the menu system.

3. Pilot Plug

The pilot plug allows pilots and other mariners to connect a laptop PC or other portable device directly into the ATA100 giving access to the AIS information of the vessel including necessary dynamic and static vessel information.

4.  **Enter Key**

The enter key on the ATA100 allows the user to select a hi-lighted field and either see information or enter information as necessary. This entering process can also be achieved by depressing the jog stick on the front panel.

5. Indicator LED

Green - Power on
Amber flash - Each Transmit
Amber - Silent Mode
Red - Transmit fail

6.  **Jog Stick**

The jog stick allows the user to navigate through the different screens and menus of the ATA100 using directionality of up, down, left and right and also by rotating clockwise and anticlockwise. The jog stick can also be depressed as an alternative to using the enter key.

7.  **Display Brightness Key**

Pressing the display brightness key on the front panel will access a brightness level indicator. Rotate the jog stick to increase or decrease the light level.

8.  **Voyage Data Input Key**

Pressing the voyage data input key allows quick access to update variable voyage information such as navigational status and estimated time of arrival.

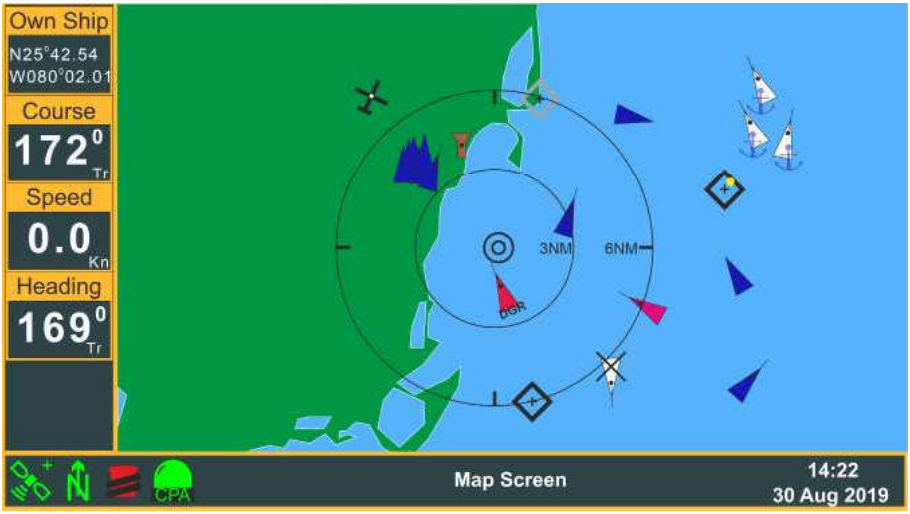
9.  **Page Key**

Pressing the Page key will allow the user to alternate between three target view screens. These are Map Screen, Target List Screen and Target Radar Screen. Pressing the page key will close all open menus and windows (except for Alarm pop-up windows) and revert back to the last active target view screen.

3.3 User Interface Overview

When the ATA100 is powered on for the first time, a map warning will be displayed. To remove this window it must be accepted to confirm that it has been read and understood. This window will appear once every 24 hours and will need to be accepted to remove it.

Press ↵ to accept



3.4 Menu Structure

Pressing the (Menu) key activates the on-screen menu.

Options with > show access to a further menu level.

Options with ... show access to a set-up screen.

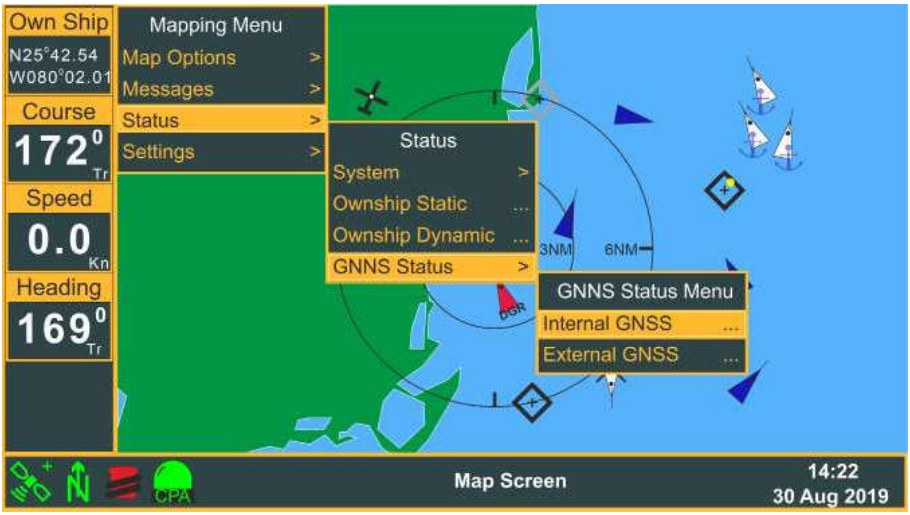
Rotate the (Jog Stick) to highlight your selection and then press (Enter) to show the next menu level.

When a selection has no > or ... then pressing (Enter) will select that option.

Pressing the (Jog Stick) is an alternative to pressing (Enter).

For example:

Status GNSS Status will show the menu below



Pressing will then select the Internal GNSS Status page.

4. STATUS ICONS

A row of icons along the bottom information bar underneath the active page give basic information regarding the status of the AIS Transceiver.

4.1 Position Fix

Blue - Indicates an internal GNDSS receiver fix
Green - Indicates an external GNDSS receiver fix
Red - Indicates no GNDSS fix available

\+ - Differential (DGPS)
! - Temporary loss of signal

4.2 Chart Orientation

Indicates the orientation of the chart screen:
North Up,Heading Up or Course Up

4.3 Navigation Status

Indicates the basic navigation status:
At Anchor, Under Way or Moored

4.4 CPA Alarm

Green - Indicates Closest Point of Approach alarm enabled
Red (flash) - Indicates Closest Point of Approach alarm active
With a red cross - Indicates Closest Point of Approach alarm disabled

4.5 Message

Indicates there are unread messages in one of the In-boxes
Flashing indicates there are multiple messages

4.6 Information & Caution

Indicates there are active Caution messages

4.7 Warnings

Indicates the are System Warnings active:
Unacknowledged, Acknowledged, Rectified unacknowledged

4.8 Transmitter Mode

Indicates the are System is operating at Low Power Mode or Silent Mode.
See section 9.3.1 of this manual for further information.

5. BUTTON CONTROLS

5.1 Menu

Pressing the menu button will bring up the first level of the settings menu.

Rotate to select the required option then press to move to the next menu level.
Pressing again will move back through the menu levels.

5.2 Brightness

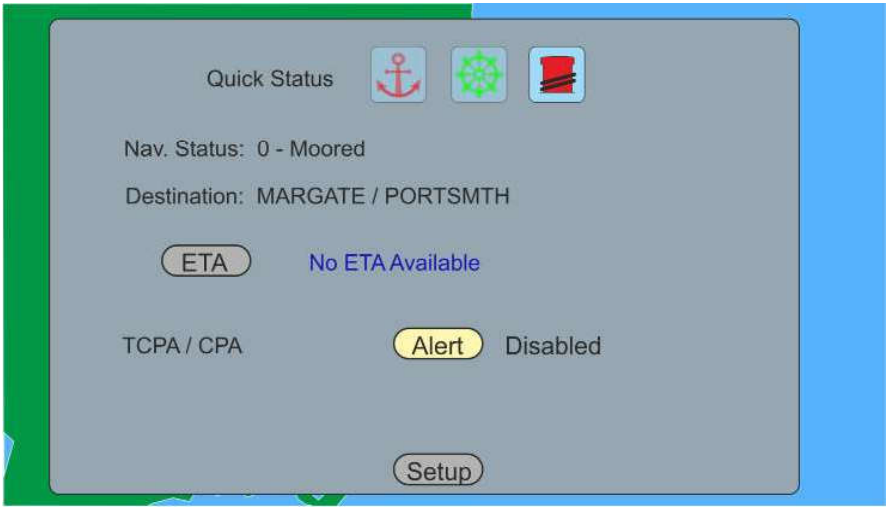
Pressing the brightness button on any screen will bring up the screen brightness slider.
Rotate to increase or decrease the brightness.

If the screen looks black at any time try pressing and rotating to make sure the brightness has not been turned right down.

Press or to remove the brightness bar.

5.3 Voyage Data

Pressing the Voyage Data button brings up the Quick Status pop-up page.



5.3.1 Quick Status

To quickly change your Navigation Status use to select one of the three icons at the top of the screen:

At Anchor

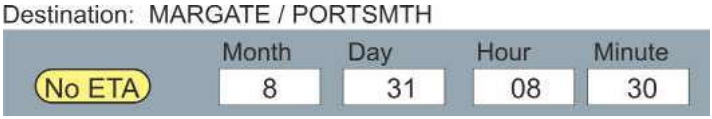
Under way - this selection will enter you default status (See 9.2.1)

Moored

Your default destination is displayed, should you wish to change this or enter an alternative Navigation Status then select and click "Setup" to enter the full Navigation Status page.

5.3.2 ETA

Select and click the "ETA" button to expand the entry selection



Pressing in any data box will bring up the keyboard. If you do not wish to sent an ETA then select and click "No ETA" to clear the fields.

5.3.3 TCPA/CPA Alarm

Select the TCPA/CPA "Alarm" button and use to toggle the Alarm Enabled / Disabled.

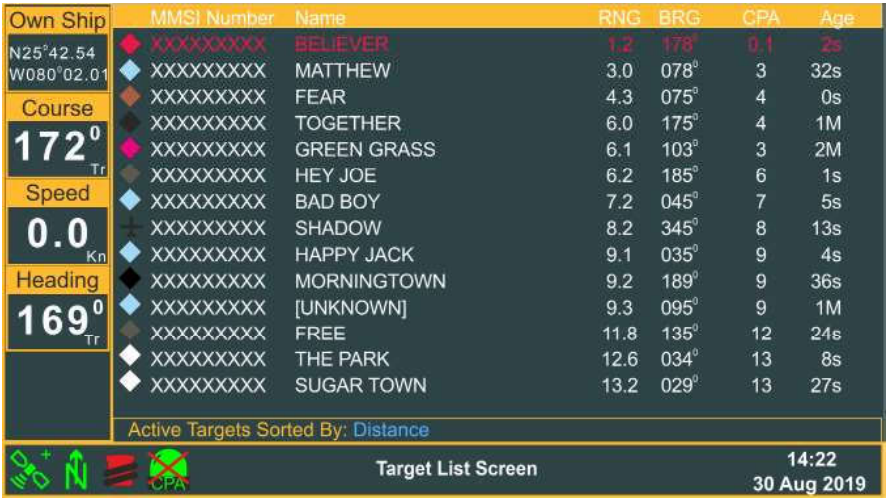
The Alarm will sound as directed by the TCPA and CPA settings set in the full Navigation Status page. Select and click "Setup" to change these settings.

5.4 Page Select

Pressing page select moves through the three main display screens available:

5.4.1 Map Screen - see page 14

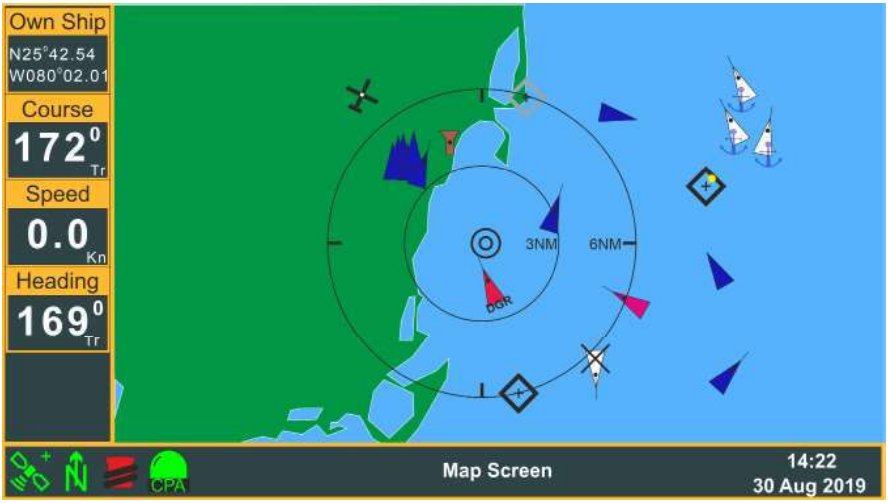
5.4.2 Target List Screen - see page 18



5.5 Target Radar Screen - see page 19

6. SCREEN DETAILS

6.1 Map Screen



The Map Screen shows visible targets on basic cartography.

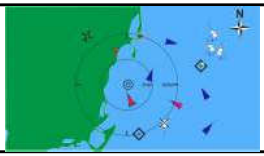
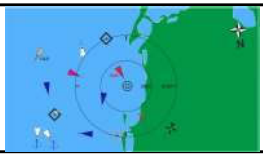
Item	Description	Information
	Own Ship	Can be turned on and off in settings
	Pointer	The pointer is not visible until the jog wheel is active.  to point to a target
	White - Class A Vessel	The orientation of the line from the front of the target indicates the True Heading of the target vessel. If the vessel is not transmitting a heading then the triangle will be orientated to COG and the orientation line will not be present. Stationary vessels with no heading transmitted will point to the top of the screen.
	Magenta - Class A Friend Vessel	
	Light Blue - Class B Vessel	
	Dark Blue - Class B Friend Vessel	
	Red (flash) - Dangerous Target	This target definition is defined by the CPA and TCPA settings
	White - Class A Vessel at anchor	
	Indicates a lost target	This target definition indicated that a previously received target has not been received as subsequently expected.
	Shows a target has been selected	Press  to display further information
	Land Based Stations	
	SART	
	MOB Devices	
	AtoN	
	Virtual AtoN	
	AtoN Off Position	
	Search and Rescue Craft	
	Chart North Indicator	Shown opposite in North Up mode this icon rotates when the map is set to Course Up or Heading Up mode

6.1.1 Map Options

Press **Map Options** when the Map Screen is being displayed shows

Use and to select:

Orientation

North Up	Course Up	Heading Up
		

Range Rings

Enabled	Disabled
	

Grid

Enabled	Disabled
	

Ownship Trail

Enabled	Disabled
	

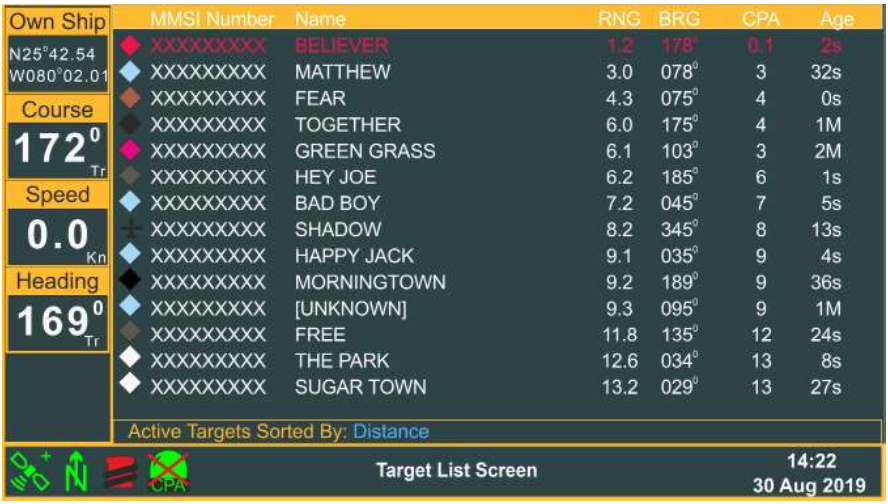
6.1.2 Chart Screen Scale and Position

The scale of the chart can be changed by rotating the  (Jog Stick) where an indication of the scale is given on the range rings.

To scroll the map away from being centred on the vessel's position push the  (Jog Stick) move the cursor in the direction you wish to scroll.

NOTE: The chart will return to centred position after 15 seconds of no cursor movement or on returning to the Chart Screen following viewing of another screen.

6.2 Target List Screen

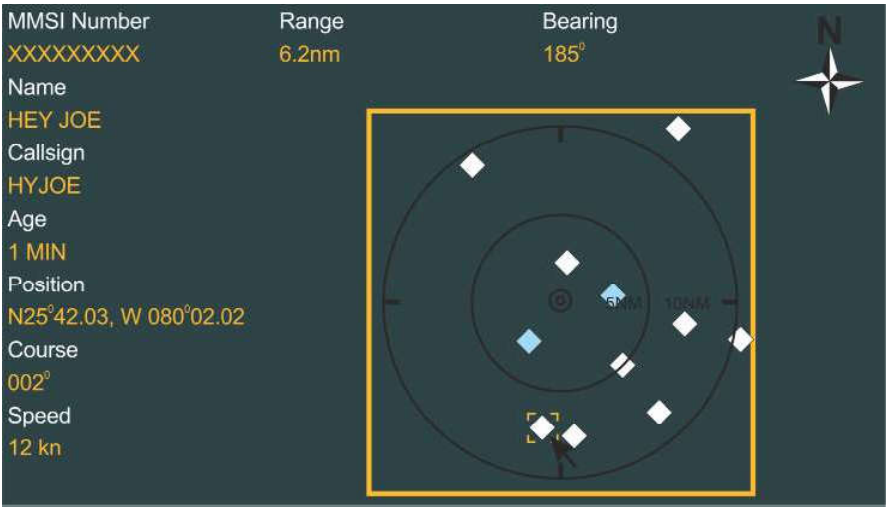


Use and to select the required target and display the Target Information Screen. For further details see page 20 of this manual.

Pressing **Sort** when the Target List Screen is being displayed shows

Use and to select the required option.

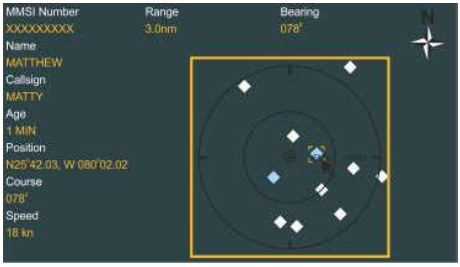
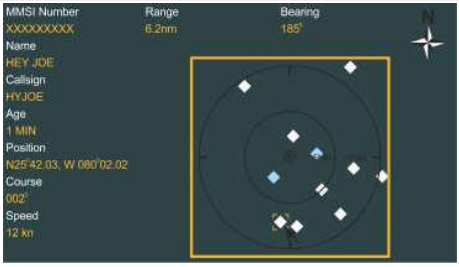
6.3 Target Radar Screen



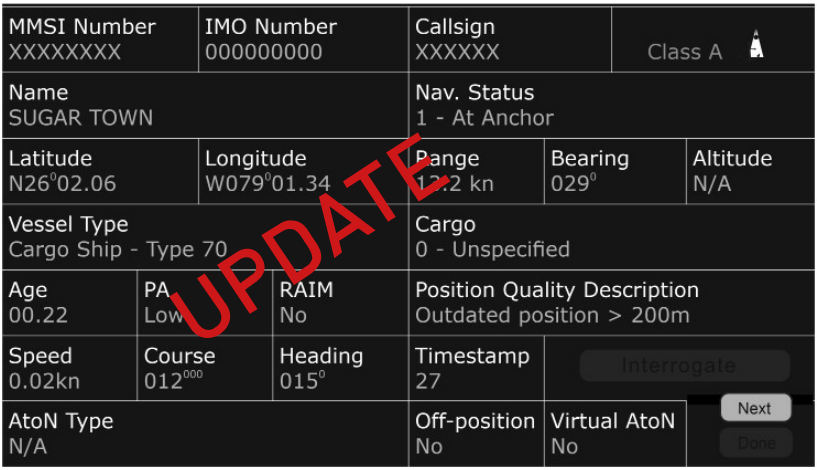
Pressing **Map Options** when the Map Screen is being displayed shows

Use and to select the required orientation

Use to move the cursor around the screen to display different target information

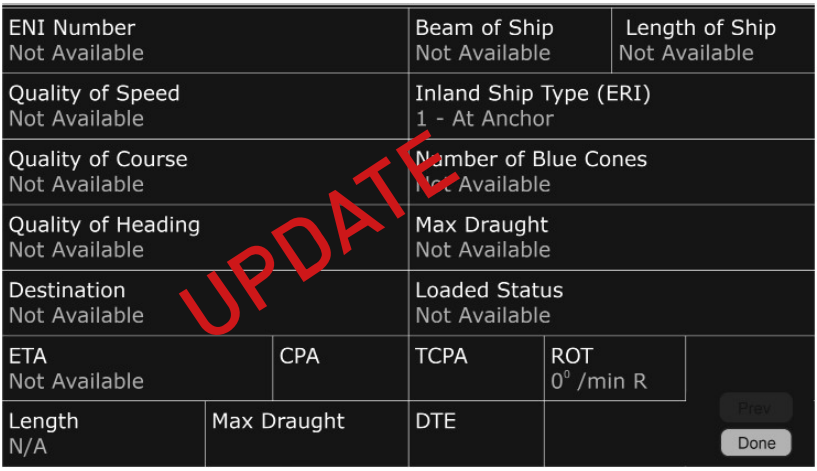
Example 1	Example 2
	

6.4 Target Information Screen



MMSI Number	The received vessel's MMSI number
IMO Number	The received vessel's IMO number
Callsign	The received vessel's radio call sign
AIS Class	The type of AIS unit transmitting this information and the vessel status (see page 15)
Name	The received vessel's name
Nav. Status	The received vessel's navigation status
Latitude / Longitude	The received vessel's position
Range / Bearing / Altitude	The received vessel's relative position
Vessel Type / Cargo	The received vessel's Type and Cargo
Age / PA / RAIM	
Position Quality Description	
Speed / Course / Heading / Timestamp	
Interrogate	
AtoN Type / Off-position / Virtual AtoN	

Click Next to display further information



ENI Number	
Beam / Length of ship	
Quality of Speed	
Inland Ship Type (ERI)	
Quality of Course / Heading	
Number of Blue Cones	
Max Draught	
Destination	
Loaded Status	
ETA	
CPA / TCPA / ROT	
Length / Max Draught / DTE	

7. MESSAGES

7.1 Message Pop-up Screen

New messages and Alerts will be announced by a pop-up screen and an audible double beep:

Alert

Pressing Ignore will remove the pop-up but leave the Alert active.

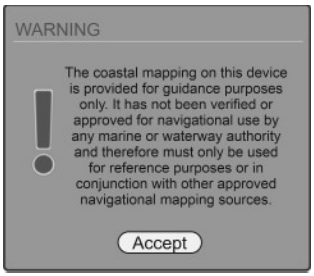
Pressing OK will remove the pop-up and acknowledge the Alert.

For the definitions of Warnings and Alerts see section7.1.4 on page 26 of this manual.

Message

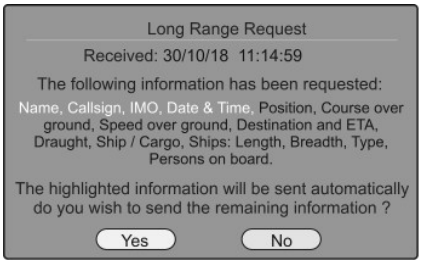
Press OK to remove the pop-up. The messages will can be viewed in the appropriate message lists (see page 25 of this manual).

Map Warning



The Map Warning pop-up appears on power up and every 24 hours of continual use.
Press ⊙ or ↵ to clear.

Long Range Request



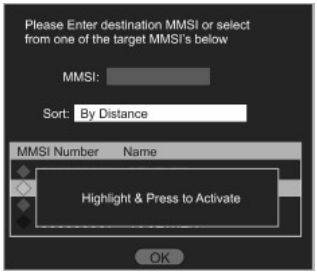
Press Yes to send the full message request or No to send just the highlighted information. After 1.5 minutes the highlighted information only will be sent automatically and the pop-up will be cleared.

7.1.1 Send Message - Messages Send Message:

Select the message Type and :
Broadcast Safety, Addressed Safety, Broadcast Text, Addressed Text.

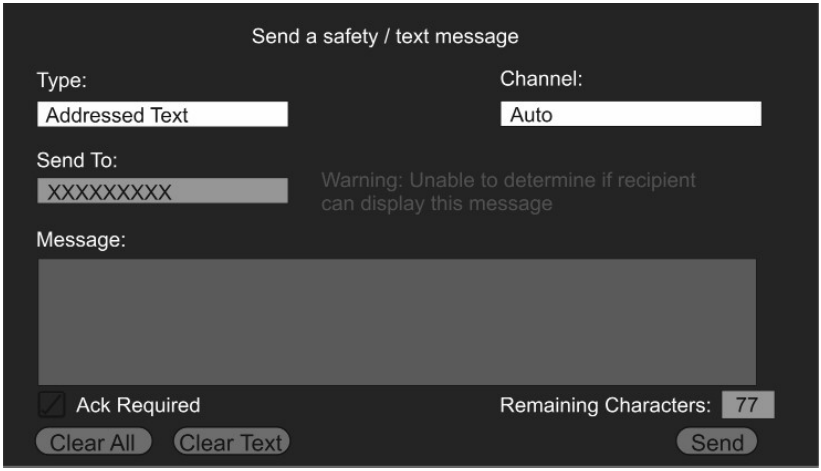
Select a specific channel to send the message on if required. Leave as the default "Auto" if there are no specific requirements.

When selecting an Addressed message a pop-up will be displayed



Either enter a known MMSI number or use and to highlight the chooser.

Use and to select the required vessel.



displays the keyboard pop-up to enter the required message content.

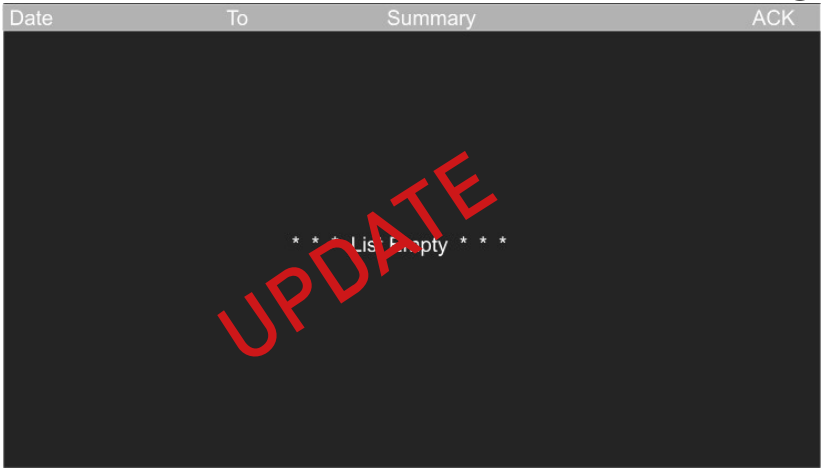
There is a "Remaining Characters" number to help compile the message and once "Done" is selected from the keyboard there is a check-box to select whether a receipt acknowledgement is required.

For Addressed Text messages only there is an Acknowledgement Required check-box.

When everything is correct select "Send" and press .

7.1.2 Text Messages List - Messages Text Messages

Addressed Inbox - Broadcast Inbox - Addressed Outbox - Broadcast Outbox:



Select any message in the list and press to see more information.

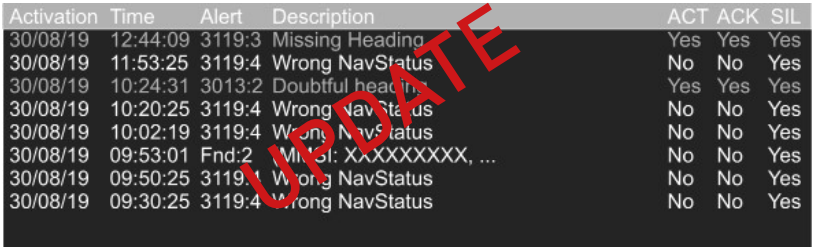
Additional content is added to the Messages Menu: Delete Selected / Delete All and Sort where sort selection options are: By date or Bay Sender.

7.1.3 Safety Messages List - Messages Safety Messages

Addressed Inbox - Broadcast Inbox - Addressed Outbox - Broadcast Outbox:

Additional content is added to the Messages Menu: Delete Selected / Delete All and Sort where sort selection options are: By date or Bay Sender

7.1.4 System Alerts - Messages System Messages Alerts:



Messages in this list are colour coded as follows:

Status	Visual Indication	Audible Signal
Warnings, not acknowledged	Amber, flashing	2 beeps every 15 seconds until acknowledged. Should the Warning remain Active after 5 minutes the Audible Alarm will sound again
Warnings, silenced	Amber, flashing	Silent
Warnings, acknowledged	Amber	Silent
Caution	Yellow	Silent

Select any message in the list and press ↵ to see more information.
Then select "Ignore" or "OK".

Identifier	Text	Additional Information
3108	Locating Device	Check AIS Targets
3062	General Fault	Check AIS Equipment
3008	Transceiver Fail	Not Transmitting - check AIS Not Receiving - check AIS
3015	Lost Position	Own ship position not transmitted
3116	Impaired Radio	Reduced Coverage (antenna VSWR) Ch1, Ch2 or DSC inoperative, check AIS
3113	Sync in fallback	Check AIS for UTC time synchronisation
3003	Lost Ext EPFS	Check external position sensor
3119	Missing COG or SOG Missing Heading Missing ROT	Not transmitting COG or SOG Not transmitting Heading Not transmitting Rate of Turn
3031	Doubtful GNSS Doubtful Heading	Int/Ext GNSS Position mismatch Difference with COG exceedes limits
3019	Wrong Nav Status	Check Nav Status settings

7.1.5 Status Messages - Messages Status Messages Status Messages:

Received:	MSG Description
30/08/19 12:44:09 034	AIS: Other ROT source in use
30/08/19 11:53:25 027	AIS: external SOG / COG in use
30/08/19 10:24:31 022	AIS: external GNSS in use
30/08/19 10:20:25 025	AIS: internal GNSS in use
30/08/19 10:02:19 027	AIS: external SOG / COG in use
30/08/19 09:53:01 022	AIS: external GNSS in use
30/08/19 09:50:25 028	AIS: internal SOG / COG in use
30/08/19 09:30:25 025	AIS: internal GNSS in use
30/08/19 09:20:15 033	AIS: Rate of Turn Indicator in use

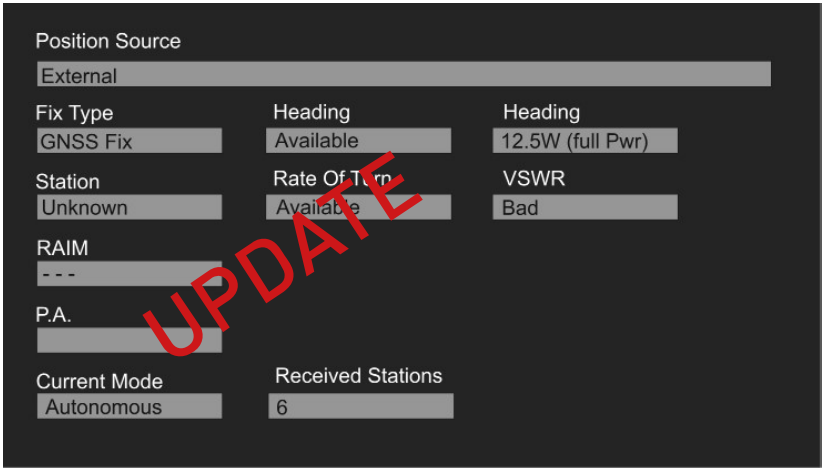
Additional content is added to the Messages Menu:
Delete All

Identifier	Message
21	AIS: external DGNSS in use
22	AIS: external GNSS in use
23	AIS: internal DGNSS in use (beacon)
24	AIS: internal DGNSS in use (Message 17)
25	AIS: internal GNSS in use
27	AIS: external SOG/ COG in use
28	AIS: internal SOG/ COG in use
31	AIS: Heading valid
33	AIS: Rate of Turn Indicator in use
34	AIS: Other ROT source in use
36	AIS: Channel management parameters changed
37	AIS: Low power tanker mode active
38	AIS: Low power tanker mode inactive
40	AIS: Operating in assigned mode by Message 16 from base station 00MIDXXXX
41	AIS: Operating in data link management mode by Message 20 from base station(s) 00MIDXXXX[...]
42	AIS: Operating in channel management mode by Message 22 from base station 00MIDXXXX on channels YYYY and ZZZZ
43	AIS: Operating in group assignment mode by Message 23 from base station 00MIDXXXX
44	AIS: Returned to default operations

8. STATUS

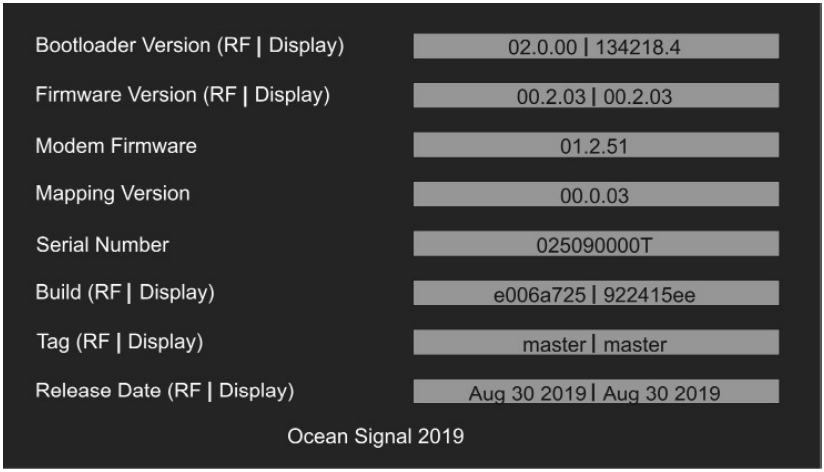
8.1 System

8.1.1 Status - Status System Status:



Position Source	Internal / External
Fix Type	
Heading	Available / Not available / Disabled
Power	12.5W (Full Power) / 1W (Low Power) / Silent Mode
Station	N/A or GNNS correction station details
Rate of Turn	Available / Not available / Disabled
VSWR	Good / Poor
RAIM	Yes / No
P.A.	Position Accuracy: Low (>10m) or High (<=10m)
Current Mode	Autonomous / Assigned (controlled by a Base Station)
Received Stations	Np. of targets not including Class BCS

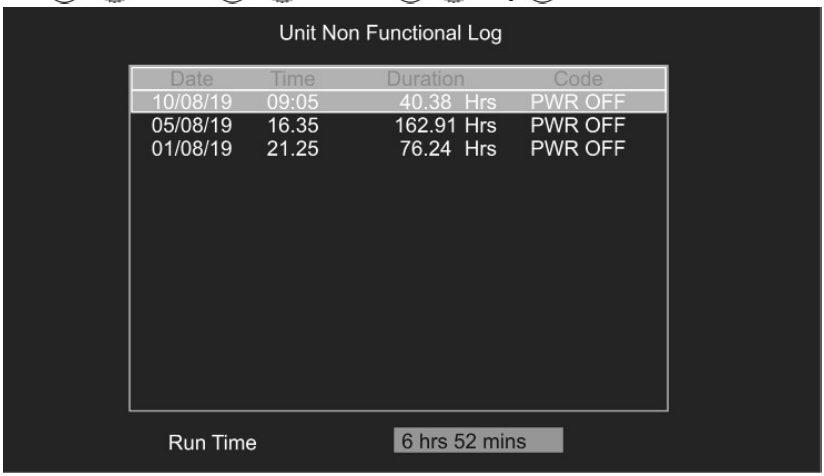
8.1.2 Info - Status System Info:



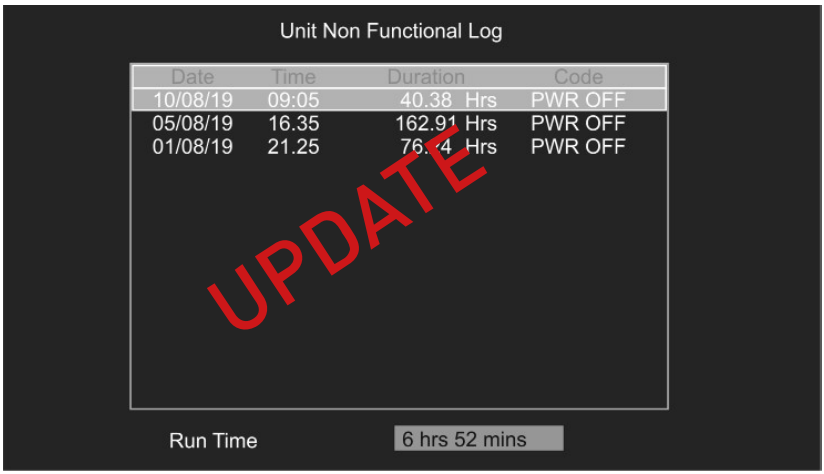
Information about the system may be required during fault finding or inspection. Check on the Ocean Signal website (www.oceansignal.com) for the latest Firmware version available.

! **It is important to make sure the ATA100 is kept up to date by checking for Firmware updates. If you have registered the product email notifications will be sent. See section 11.3 of this manual for further information on Firmware updates**

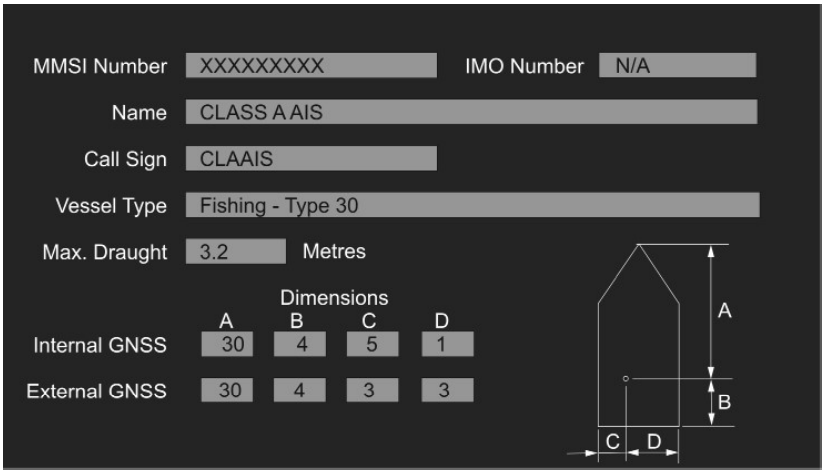
8.1.3 Log - Status System Log:



Use to highlight and to select an entry to vie further information:

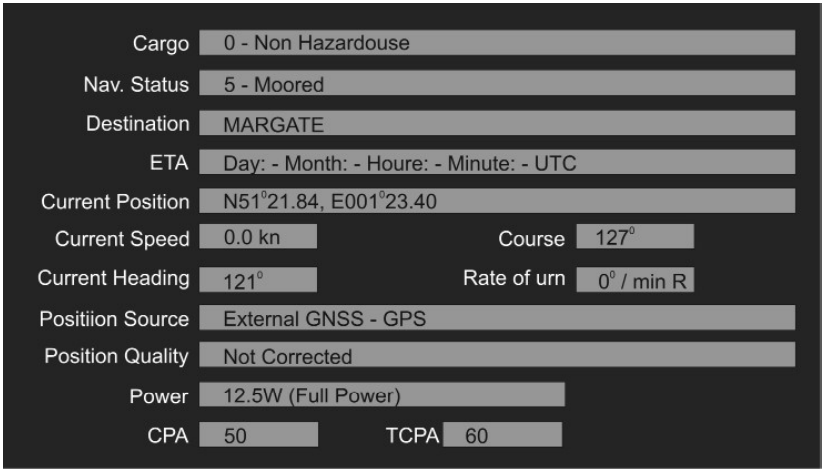


8.2 Ownship Static - Status Ownship Static :



To change any of these details go to the AIS setup page described on page xx of this manual.

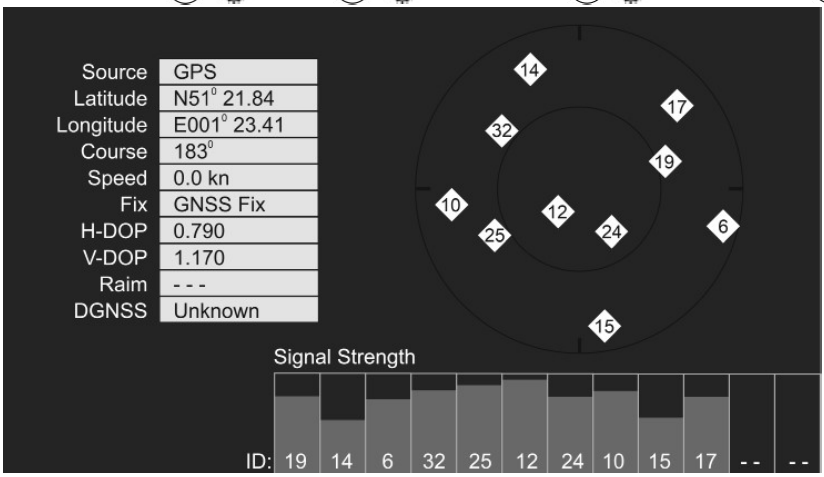
8.3 Ownship Dynamic - Status Ownship Dynamic:



To change any of these details go to the AIS setup page described on page xx of this manual.

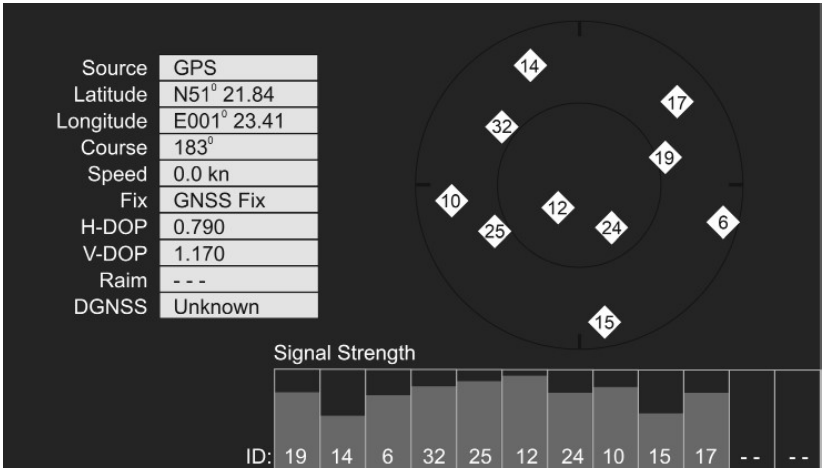
8.4 GNSS Status

8.4.1 Internal GNSS - Status GNSS Status Internal GNSS:



Use this page to check the quality of the internal GNSS receiver.

8.4.2 External GNSS - Status GNSS Status External GNSS



Use this page to check the quality of the internal GNSS receiver.

NOTE: Depending on the information being sent by the third party GNSS receiving equipment this page may display limited data.

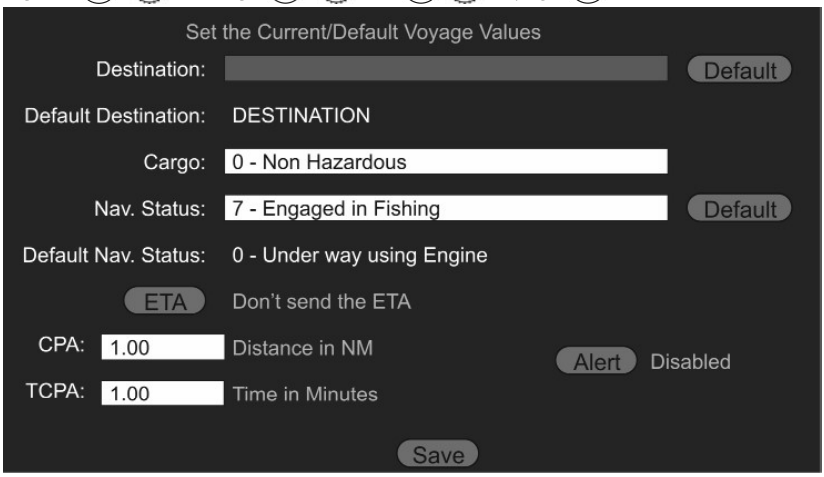
9. SETTINGS

9.1 Password Protection

There are two passwords available in the ATA100, A User Password and an Admin Password. Where passwords are required a pop-up keyboard will be displayed. See the ATA100 Installation Guide for information regarding password set-up.

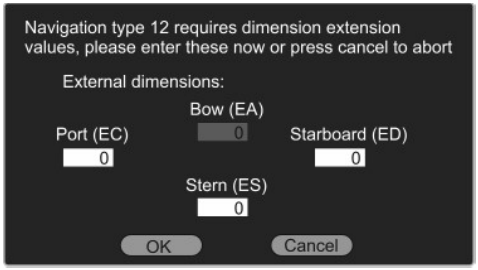
9.2 AIS

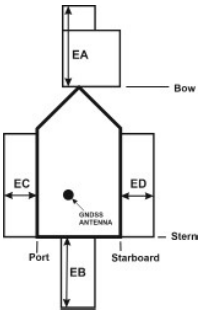
9.2.1 Voyage - Settings AIS Voyage:



Destination	Enter the destination port name or three letter ID
Cargo	Enter the current cargo being carried
Nav. Status	Select from the list (Press "Default" to save the usual status)
ETA	Enter the Estimated Time of Arrival at the destination port if this information is to be transmitted.
CPA / TCPA	Enter the distance and the Time at which the Closest Point of Approach Alarm will sound
Alert	Click to Enable or Disable the CPA Alarm
Save	

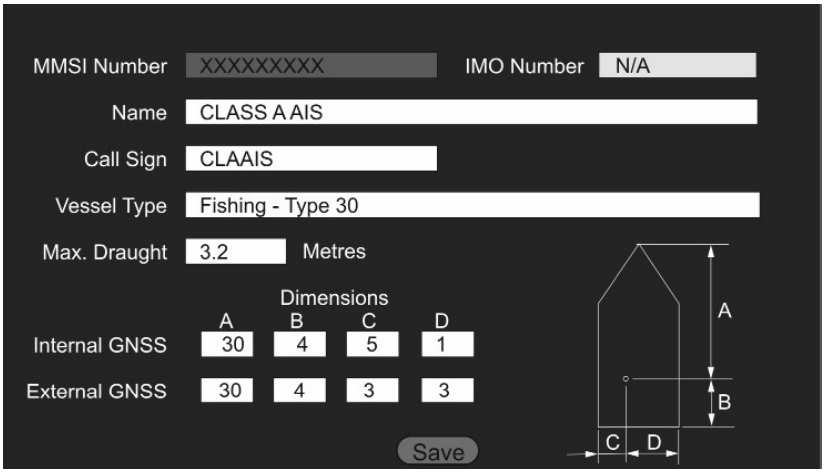
If Navigation status type 12 is selected dimension extension values will be required





9.2.2 Ownship - Settings AIS Ownship:

<Password Required> (see page xx)

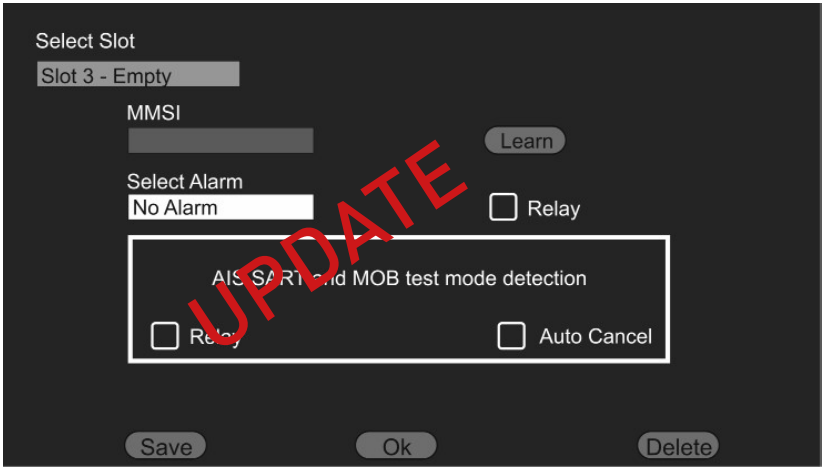


MMSI Number	Enter the Vessel's MMSI number that has been issued by the radio authorities. This MUST be entered for the AIS to transmit.
IMO Number	Enter the Vessel's registered IMO number. Leave blank if the vessel has no number.
Name	Enter the Vessel's name
Call Sign	Enter the Vessels radio Call Sign.
Vessel Type	Select the vessel type from the drop down list.
Max. Draught	Enter the Vessel's maximum draught.
Internal GNSS	Enter the position of the GNSS antenna that is connected to the ATA100 with respect to the vessel.
External GNSS	Enter the position of the GNSS antenna that is connected to the External Position-Fixing Source connected tot he ATA100.
Save	Click this button to save the details displayed on this page.

9.2.3 Friends - Settings AIS Friends:

Press to view the list 

and then and to select one of the 29 available slots.



"Friends" may be other vessels in a fleet, particular vessels you wish to know are in range or AIS SART / MOB devices belonging to your vessel. Entering any AIS MOB devices will set up the ATA100 as a Man Overboard Alarm sounding an audible warning and/or activating the build in relay to trigger a third party indicator or Alarm.

MMSI	Enter a known MMSI number	
Select Alarm	Options: No Alarm, Silent, Sounder, Warble Down, Warble Up	
Relay	Select to activate the relay on this alarm	
AIS SART and MOB Test	If the MMSI number you have entered is an AIS SART or MOB device then select the actions to be taken should the test button be activated.	
Learn 		To assist in entering AIS SART or MOB devices belonging to the vessel the ATA100 can automatically detect these units when the test button is activated.
Save, OK, Delete	Save to store a new entry, OK to exit without saving or Delete to clear an already occupied slot.	

9.2.4 Regions - Settings AIS Regions:

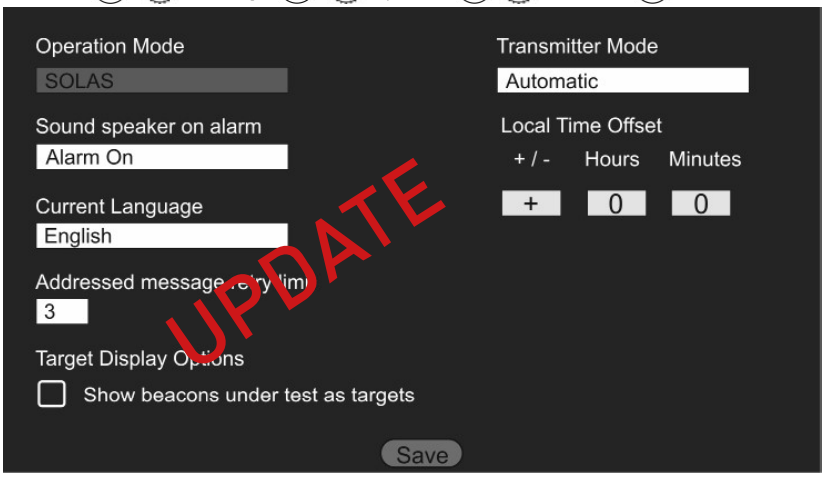
Region setting can be entered by the following:

- Input Port (ie. Pilot Port)
- Base Station
- DSC Message
- Manually

The default reqion is "Open Seas" and when there are multiple rgiones listed the active region is marked in Green.

9.3 System

9.3.1 General - Settings System General:



Default settings are marked in **bold.**

Operation Mode	**SOLAS** / Inland Waterways
Sound Speaker on Alarm	**Alert On** / Alert Off When off the internal speaker will not sound regardless of any other selections.
Current Language	**English**
Addressed Message Retry	0 / 1 / 2 / **3**
Device Alerts	☐ **(Off)** / ☑ **(On)**
Target Display Options	☐ **(Off)** / ☑ **(On)**
Transmitter Mode	**Automatic** / Low Power Mode / Silent Mode
Local Time Offset	Default is + 0 Hours 0 Minutes where time is shown as UTC.
Addressed message retry limit	0 / 1 / 2 / **3**
Save	Click to save changes on this page

9.3.2 Audio Alarms - Settings System Audio Alarms:

Select the alarms that you wish to trigger the built in audio speaker.

9.3.3 WiFi - Settings System WiFi:

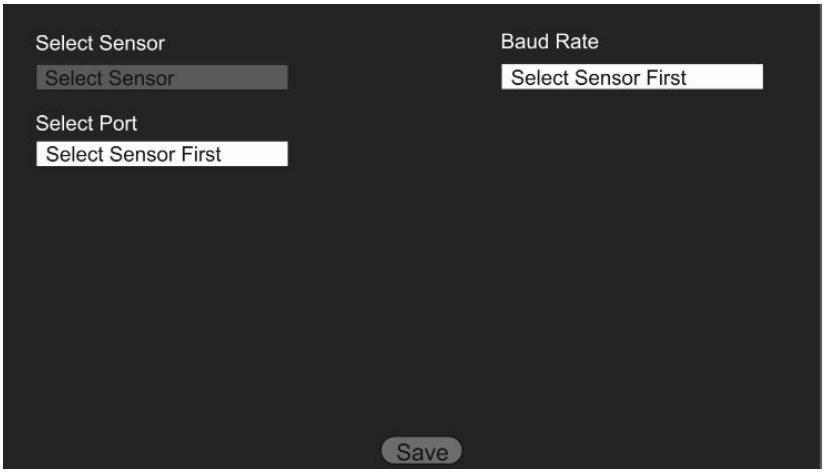
The ATA100 has WiFi built in to allow connection to navigation software on WiFi capable computers, tablets and mobile phones. There are two modes:

Access Point Mode - Devices connect directly to the ATA100

Infrastructure Mode - The ATA100 connects to an existing WiFi Network

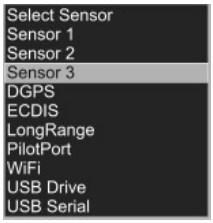

Enable WiFi
No
UPDATE
OK

9.3.4 Input / Output - Settings System Input / Output: <Password Required> (see page xx)



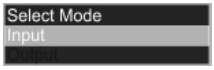
To transmit and receive information using the Input / Output ports using NMEA0183 it is necessary to configure the ports correctly to allow communication.

First select the port from the drop-down list:

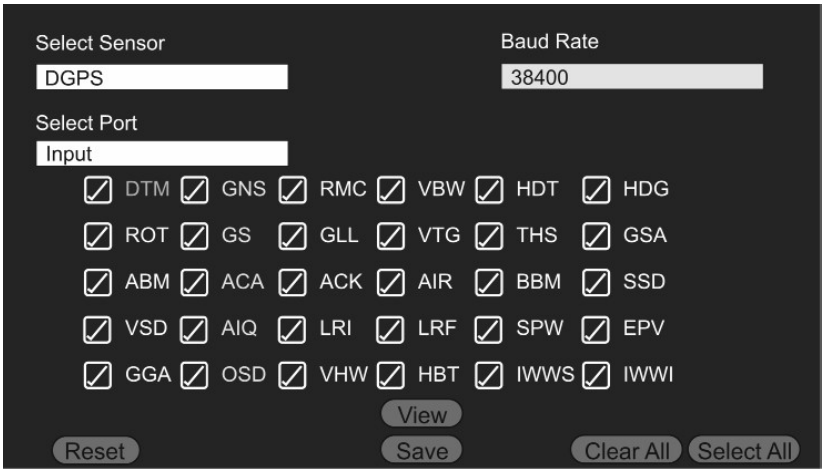


Select the baud rate to match the item that is being connected:

Select whether you wish to set-up the Input or Output for the port:

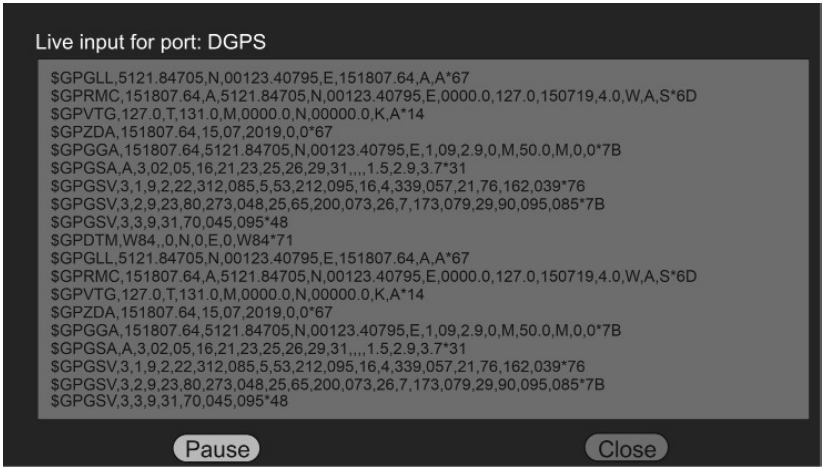


Input



Select the NMEA0183 sentences that you want to receive on the selected port. A list of the NMEA0183 Sentences can be found on page xx of this Manual.

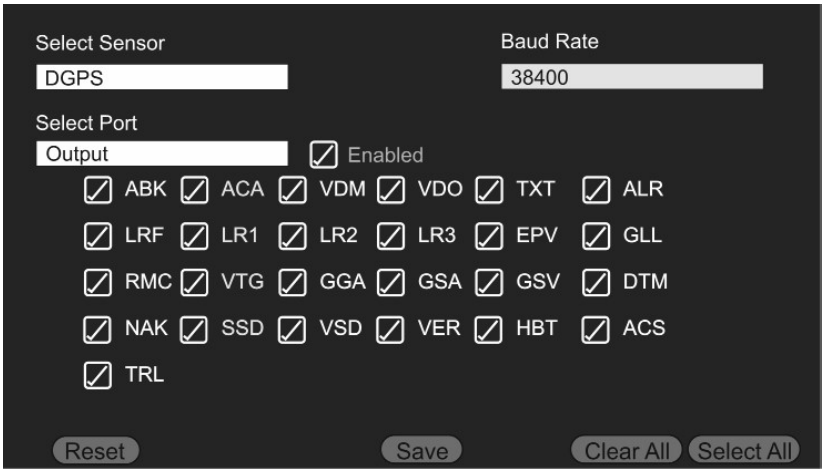
Selecting "View" ↵ will display the live data being received on the selected port:



In the above example the information contained in the GLL, RMC, GSA, GGA and DTM sentences will be received and processed by the ATA100.

Select "Close" ↵ to return to the Input page and "Save" ↵ to store the selection.

Output



Select the NMEA0183 sentences that you want to transmit on the selected port. A list of the NMEA0183 Sentences can be found on page xx of this Manual.

To disable the output completely uncheck the tick-box next to "Enabled"

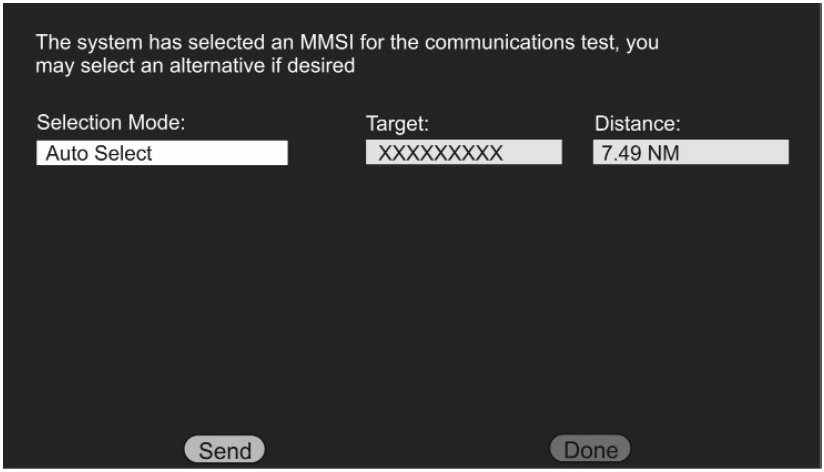
Select "Save" to store the selection.

NOTE: Sensor 3 is an Input only if selected to receive RTCM104 used for Differential GNSS Services or both an Input and an Output if selected to IEC 61162 (NMEA0183).

NOTE: USB Drive is an Output only used for logging data to an attached USB drive.

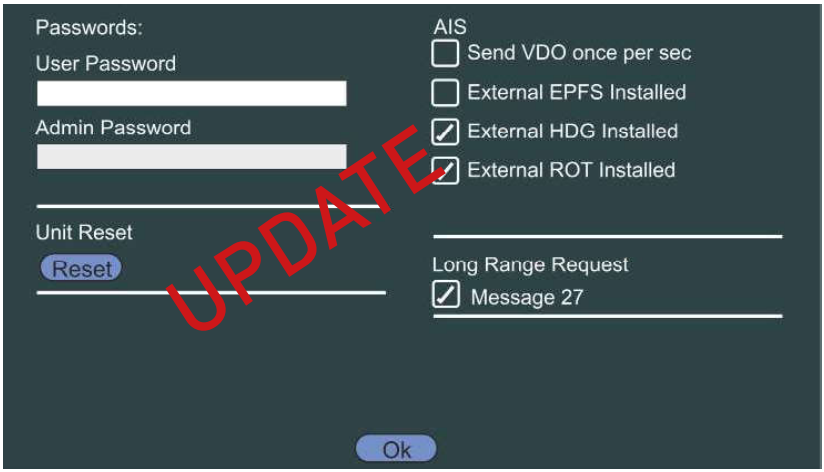
NOTE: USB Serial has no speed settings as this is defined by the USB connection.

9.3.5 Comms Test - Settings System Comms Test:



9.3.6 Advanced - Settings System Advanced:

<Password Required> (see page xx)



Unit Reset	To return the unit to its factory default setting click this button. A conformation pop-up will be displayed.
User Password	Enter the password required to allow entry to the Vessel Static Data pages.
Admin Password	Enter the password required to allow entry to the Advanced setup pages (including MMSI entry)
Send VDO once per sec	
External EPFS Installed	If the ATA100 is not connected to an External Position-Fixing System then uncheck this box to prevent alarms being triggered.
External HDG Installed	If the ATA100 is not connected to an External Heading source then uncheck this box to prevent alarms being triggered.
External ROT Installed	If the ATA100 is not connected to an External Rate Of Turn source then uncheck this box to prevent alarms being triggered.
Message 27	
Save	Click this button to save any changes on this page.

10. GLOSSARY AND ABBREVIATIONS

AIS	Automatic Identification System	LED	Light Emitting Diode
AtoN	Aid to Navigation	LEN	Load Equivalence Number
AWG	American Wire Gauge	LRM	Long Range Messaging
BRG	Bearing	MED	Marine Equipment Directive
COG	Course Over Ground	MFD	Multi-Function Display
CPA	Closest Point of Approach	MMSI	Maritime Mobile Service Identity
DSC	Digital Selective Calling	MOB	Man Over Board
ECDIS	Electronic Chart Display and Information System	NMEA	National Marine Electronics Association
ENI	Electronic Navigation Industries	PGN	Parameter Group Number
EPFS	Electronic Position Fixing System	RAIM	Receiver Autonomous Integrity Monitoring
ETA	Estimated Time of Arrival	RNG	Range
EU	European Union	ROT	Rate of Turn
FCC	Federal Communications Commission	RTCM	Radio Technical Commission for Maritime
GLONASS	Global Navigation Satellite System	SART	Search And Rescue Transponder
GNSS	Global Navigation Satellite System	SOLAS	Safety of Life at Sea
GPS	Global Positioning Satellite	TCPA	Time to Closest Point of Approach
HDG	Heading	USB	Universal Serial Bus
IMO	International Maritime Organization	VHF	Very High Frequency
LCD	Liquid Crystal Display	VSWR	Voltage Standing Wave Ratio

11. MAINTENANCE

11.1 Product Cleaning

- Lightly rinse or flush with clean, cool fresh water.
- Do NOT wipe the screen with a dry cloth, as this could scratch the window.
- Do NOT use: abrasive, acidic, ammonia, solvent or chemical based cleaning products.
- Do NOT use a jet wash.

11.2 Service and Maintenance

This product contains no user serviceable components. Please refer all maintenance of the product to Ocean Signal Ltd.. Unauthorised repair may affect your warranty.

! **FCC Warning (Part 15.21)**
Changes or modifications to this equipment not expressly approved in writing by Ocean Signal Ltd. could violate compliance with FCC rules and void the user's authority to operate the equipment.

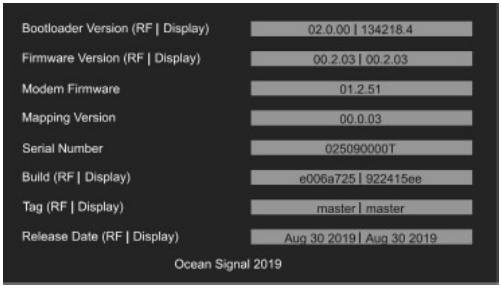
11.3 Firmware Updates

Ocean Signal reserves the right to produce Firmware updates as required. These updates will be made available to download from www.oceansignal.com and will be accompanied with relevant documentation including updated User Manuals.

11.3.1 To update Firmware

Download the relevant file and copy it to a blank USB stick. Power down the ATA100 and use the supplied USB on-the-go cable to connect the USB stick to the USB port on the front of the unit. Power on the ATA100 and the firmware will be loaded into the unit automatically with progress reported visually on the screen. On completion power down the ATA100 and remove the USB on-the-go cable before powering up once more.

Firmware versions loaded can be viewed:



11.4 Routine equipment checks

It is recommended that you perform the following routine checks, on a regular basis, to ensure the correct and reliable operation of this equipment:

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

12. APPROVALS

12.1 EU Marine Equipment Directive

The ATA100 is approved under the EU Marine Equipment Directive under MED/4.32 of the current implementing regulation. The Declaration of Conformity can be downloaded from: www.oceansignal.com/products/ATA100

12.2 United States of America

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- This device may not cause harmful interference, and
- this device must accept any interference received, including interference that may cause undesired operation.

12.3 Canada

This AIS class A digital apparatus complies with Canadian ICES-003.

13. SPECIFICATIONS

Transmitter	
Transmit Power	12.5/1Watts
Frequency Range	156.025 – 162-025MHz
Modulation AIS	GMSK: BT 0.4
DSC	FSK: Mod Index 2
Receiver	
Sensitivity	-107dBm for 20% packet error rate
Frequency Range AIS RX1 and RX2	156.025 – 162.025MHz
DSC	156.525MHz
General	
Dimensions	214 x 211 x 150mm (8.5" x 8.3" x 5.9")
Nominal viewing distance	0.5m (20")
Temperature Range	-15°C to +55°C (5°F to 131°F)
Waterproof	IPx7 (1metre for 30minutes)
Equipment Category (Display Unit)	Protected
Equipment Category (GPS Antenna)	Exposed
Supply Voltage Range	9.6V to 31.2V
GPS Receiver	High sensitivity
Channels	99 acquisition/33 tracking
Interfaces	
Serial ports	IEC61162-1, -2 3 Rx only, 3 Rx/Tx, Pilot plug USB[1]
Blue switch input	Isolated
Alarm Relay	Normally Open/Normally closed: 2A max.
Compliance	
Standards	IEC61993-2, IEC60945, IEC62288[2]

[1] For maintenance/configuration
[2] AIS operation only

14. SPARES AND ACCESSORIES

Part Number	Description
763S-02845	GNNS Antenna (with 10m cable)
963S-03089	USB On-The-Go Cable
763S-03090	USB A to USB Micro Cable
761S-02758	Pilot Plug Cover
	Mounting Bracket Kit
761S-02760	Cable Support and Seal Kit

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