SIMRAD

V5043
Class A AIS Transceiver

Operator manual

English

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About this manual

Product features

Features described and illustrated in this document may vary from your unit due to continuous development of the software.

More information

Document version 001

This document was prepared using software version 2.0.X

For the latest version of this document in supported languages, visit: www.navico-commercial.com.

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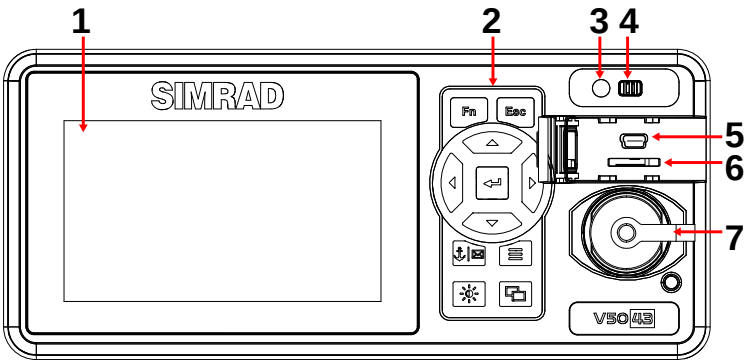
OPERATION

Front panel overview



1 LCD display
2 Keypad
3 Light sensor
4 Buzzer
5 USB
6 microSD® card port
7 Pilot plug

Keypad description

Item	Icon	Name	Function
1	Fn	Function	• **Radar view:** Select chart orientation and type of target to show • **Target list:** Select sort method and what type of target to show
2	Esc	ESC	• **Menu:** Go back to the previous level • Long Press: Go to **Alert list**
3		Voyage/SRM	• Short Press: Go to **Voyage** • Long Press: Go to **Send SRM**
4		Menu	• Go to **Menu** • Long Press: Capture a screenshot and save it to the micoSD® card.
5		Screen brightness	• Quick switch of screen brightness (5 levels) • Long Press: Change screen brightness to 1st level (screen protection)
6		DISP	• Short Press: Display modes rotating • Long Press: Go to **User customize**
7		Enter	• Confirm the currently selected item

8		Arrow keys	• Move the selection cursor
			• **Radar view:**
			  • Up-Down: change scale
			  • Right-Left: select target
			• **Ship detail:**
			  • Right-Left: change page

DISPLAY MODES

For quick access, users can cycle through display modes by pressing the button.

Radar view

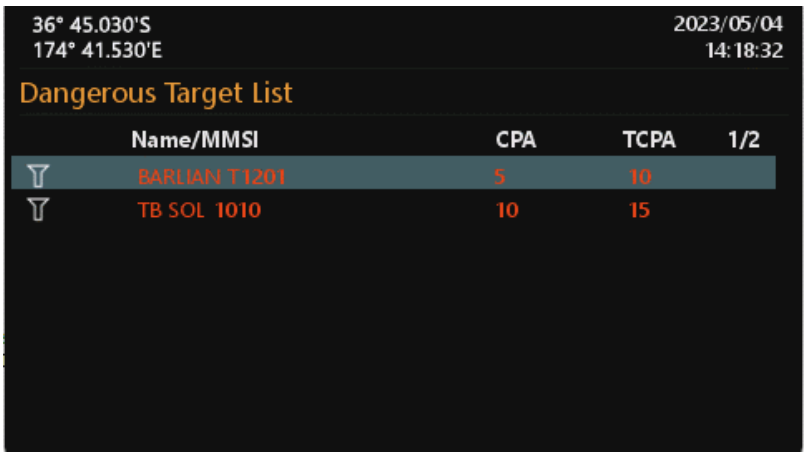
Displays all targets on Radar View, refer to *Radar view on page 8*.

AIS target list

Shows all received ship data, refer to *Target List on page 37*.

Dangerous target list

Shows all dangerous AIS targets presently, refer to *Dangerous Target List on page 44*.



GNSS satellite information

Shows the GNSS satellite current usage status, refer to *GNSS Status on page 41*.

Radar view

Radar View displays own ship and target ships' status, and their correlations. It is a proportional chart scale showing the current ratio displayed.

The distance between the inner and outer circles (1 grid) is the number displayed on the scale at left bottom. You can adjust the scale to display ships in different distances.

Radar View supports three ship orientation modes:

- **N-up** — North up — The orientation is fixed and true north is always pointing up.
- **H-up** — Head up — The orientation is determined by the direction of own ship's bow.
- **C-up** — Course up — The orientation is determined by the own ship's traveling course.

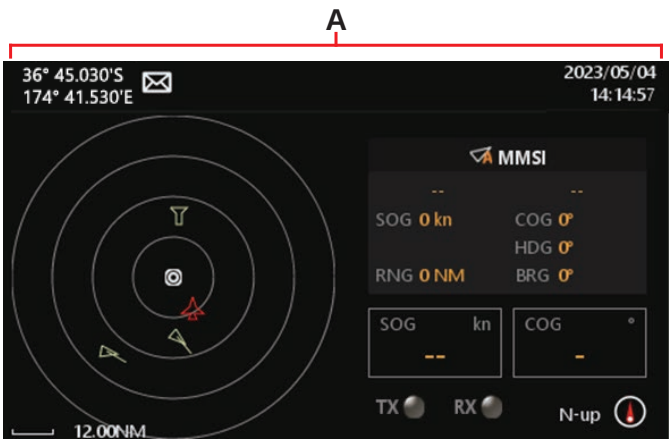
Target symbol description

Symbols for each AIS target displayed on the **Radar View** are described as below:

Own ship		White	Own ship icon.
AIS target		White	Ship equipped with AIS system in the surrounding sea will appear on the Radar View as an AIS target.
Selected Target		White flashing colored frame	Use the arrow keys to select any target on the Radar View. After selection, press  and the detailed information on each target can be viewed.
Dangerous Target		Red	When distance to a ship is smaller than CPA/TCPA, the target will be changing color to RED. Use the arrow keys to select the dangerous target and to view its detailed information.
AtoN (real)		Green plus sign	The icon will be displayed if any AIS AtoN (Aids to Navigation) real station is in the range of reception.
AtoN (virtual)		Green plus sign and undercut	The icon will be displayed if any AIS AtoN (Aids to Navigation) virtual station is in the range of reception.
SAR		Green	The icon will be displayed if any SAR air plane is in the range of reception.
SART		Green cross	The icon will be displayed if any SART message is sent out.
Base station		Green	The icon will be displayed when any AIS base station is in the reception range.

Status bar

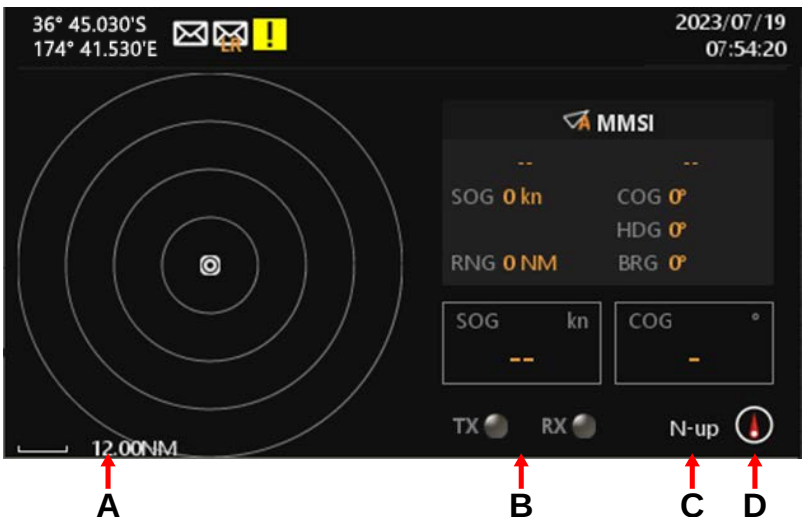
The **Status bar** constantly indicates own ship position, GPS status, SRM, ALR (alert state), and Date (YYYY/MM/DD) and time. It will indicate IL (Inland) and/or B (Blue Sign) when the system is running **INLAND** mode.



	Inbox SRM: Unread incoming SRM
LR	LR inbox: UnACK long-range interrogation
	Alert state: Active — unacknowledged
	Alert state: Active — silenced
	Alert state: Rectified — unacknowledged
	Alert state: Active — acknowledged
	Caution: Active — caution
IL	Indicate the system is running **INLAND** mode
1W	Low RF Tx power mode
B	Indicate Blue Sign device is connected
TX	Indicate the system is running in silent mode
SD	Indicate microSD® card detected

Transmission and reception bar

The **Transmission and Reception bar**, at bottom of **Radar view**, constantly displays real time status of AIS transmission and reception, and ship orientation mode.

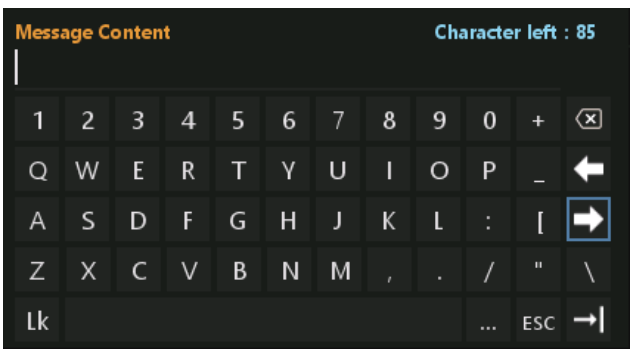


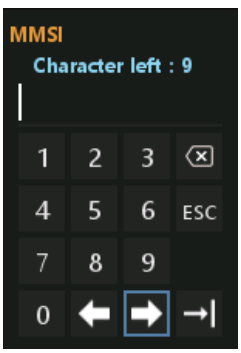
A	Scale	0.05 NM ~ 24 NM	
B	Indicators		No flash — No transmission or reception
			Flash green — AIS message received
			Flash orange — AIS message transmission
C	Ship orientation mode	N-up C-up H-up	North up Course up Head up
D	Compass		Indicates North direction

KEYBOARD

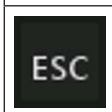
The keyboard will pop up when getting into **AIS Settings**, **Send SRM**, etc. pages.

The following two keyboards are used when entering text and the right one is only for entering numbers.





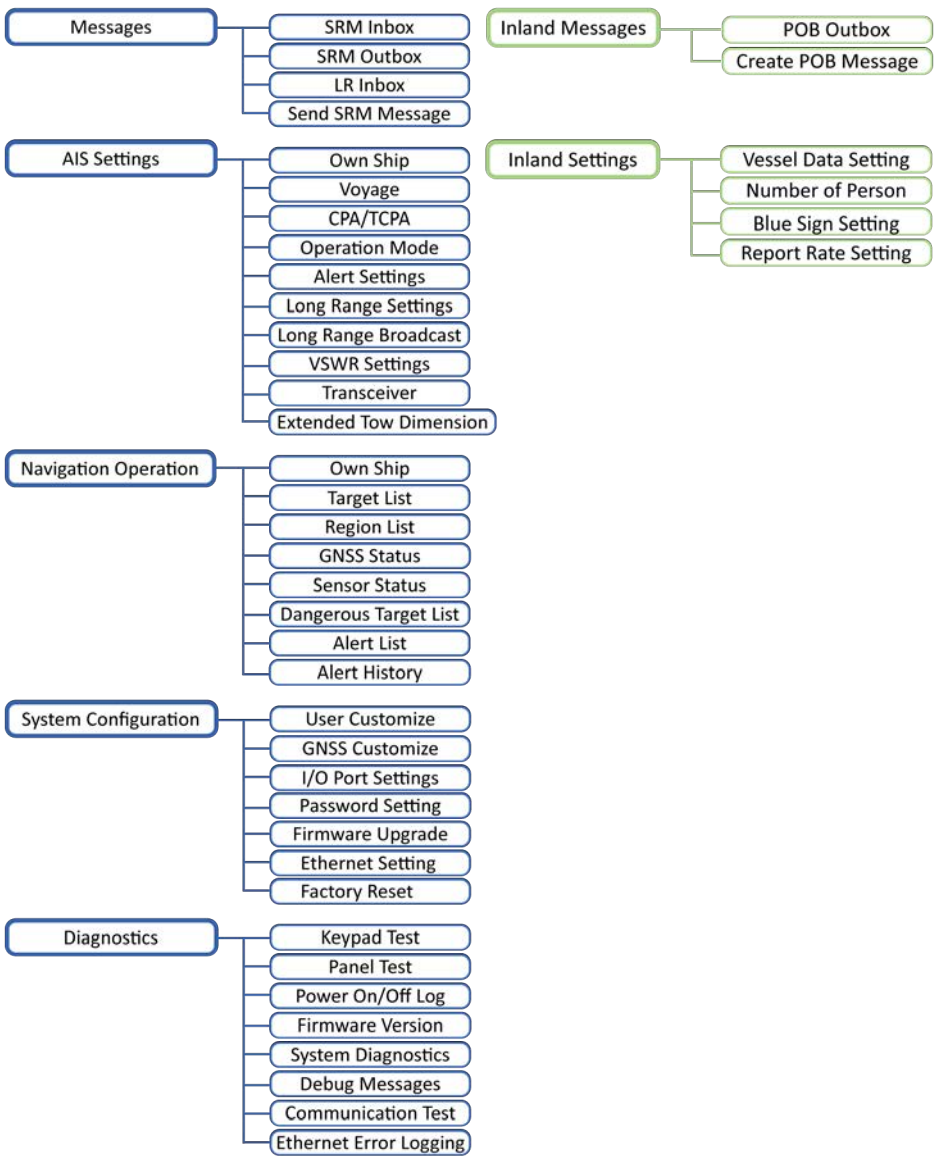
When the keyboard displays, you can use physical arrow keys on the device's front panel to select the characters.

	Use to mode the caret index
	Confirm the entered value. → ***Note:*** *You can also press*  *for 2 seconds.*
	Delete a single character
	Close the keyboard → ***Note:*** *You can also press*  .
	Change the keyboard character. → ***Note:*** *The keyboard character will change back after entering one character.*
	Lock the keyboard character

MENU TREE OVERVIEW

Press to enter the main Menu.

There are 5 menu choices, and additional 2 menu choices for Inland mode. Each menu holds related sub-menu as depicted below.



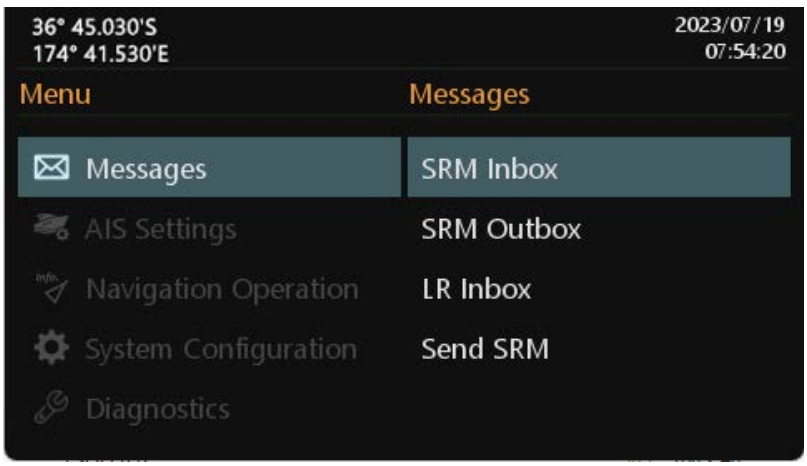
Menu Item Brief Description

Messages	
SRM Inbox	Log of safety related messages (SRM) received
SRM Outbox	Log of safety related messages (SRM) sent
LR INBOX	Log of received inquiry messages from long-range interrogation
Send SRM	Send SRM
AIS settings	
Own Ship	Your vessel setting
VOYAGE	Navigation setting
CPA / TCPA	CPA / TCPA setting
Operation Mode	Configure AIS mode to SOLAS or INLAND, and SART Test Mode
Alert Settings	Enable or disable Alert
Long Range Settings	Long Range settings
Long Range Broadcast	Long Range broadcast channel setting
VSWR Settings	VSWR (voltage standing wave ratio) setting
Transceiver	Configure silent mode and RF Tx power condition and External switch function
Extended Tow Dimension	Setting extended dimension values used by towing vessels. (When Navigation status is set to 12)
Navigation operation	
Own Ship	Your vessel information
Target List	Navigation status and boat information of other AIS-equipped vessels.
Region List	Regional information status
GNSS Status	Display GNSS statuses
Sensor Status	Display sensor statuses
Dangerous Target List	Dangerous ship list
Alert List	Display all activated alert.
Alert History	Log of activated alert

System configuration	
User Customize	Personalization settings
GNSS Customize	GNSS settings
I/O Port Settings	I/O port settings
Password Setting	Password change
Firmware Upgrade	Firmware upgrade
Ethernet Setting	Ethernet setting
Factory Reset	Restore all setting to default
Diagnostics	
Keypad Test	Button key test
Panel Test	LCD panel test
Power On/Off Log	Device activated log
Firmware Version	Firmware version
System Diagnostics	System diagnostics
Debug Messages	Debug messages
Communication Test	Test communication link
Ethernet Error Logging	Display Ethernet Error Logging
Inland messages	
POB Outbox	Log of Person On Board message (RFM55 or IFM16) sent
Create POB Message	Create Person On Board message (RFM55 or IFM16)
Inland settings	
Vessel Data Setting	Configure vessel data
Number of Person	Set number of persons
Blue Sign Setting	Set blue sign settings
Report Rate Setting	Set report rate settings

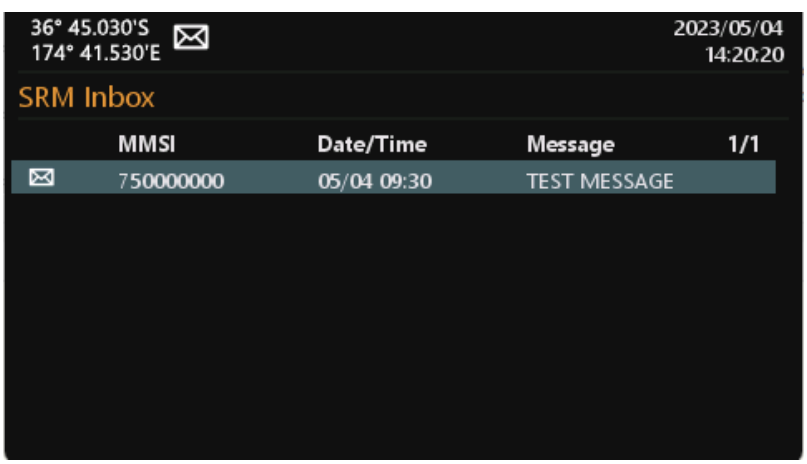
MESSAGES

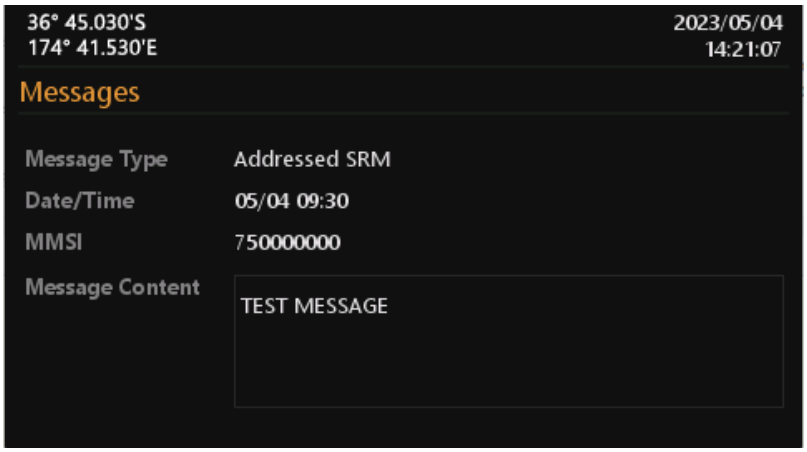
When a SRM (Safety Related Messages) from other AIS equipped vessels is received, the status bar will display ✉, the new message icon.



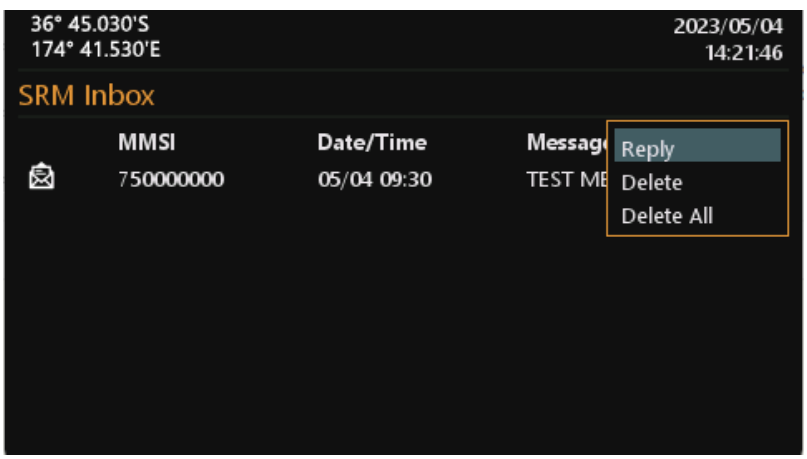
SRM Inbox

You can read received SRM under Inbox. Use ▲ ▼ to traverse the message list and highlight your choice. Read the message content by pressing ↵.



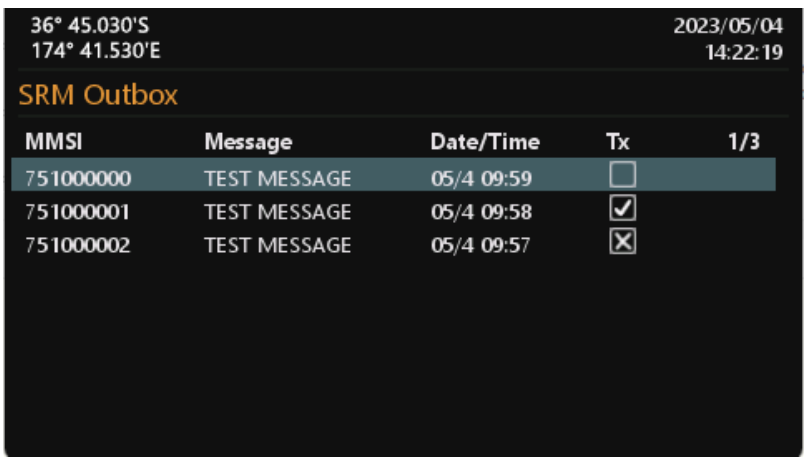


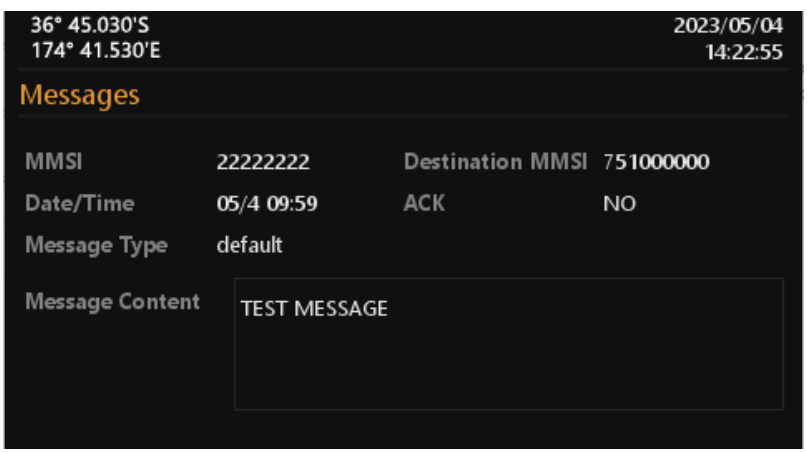
When pressing Fn, the system will show three options. You can choose to **reply** to the highlighted message, **delete** it or **delete all** messages in **SRM Inbox**. Press ↵ to confirm your choice.



SRM Outbox

You can read all sent SRM under Outbox. Use ▲ ▼ to traverse the message list and highlight your choice. Read the message content by pressing ↵. In the Tx column, you can see three different icons. ☐ means the device is still sending the message. After sending the message, the Tx column will show ☑, that means the message has been successfully sent, if there is a failure, it will show ☒.

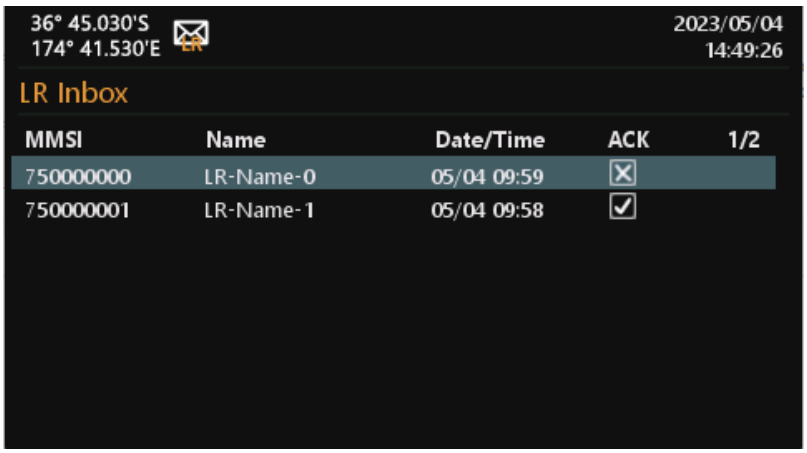


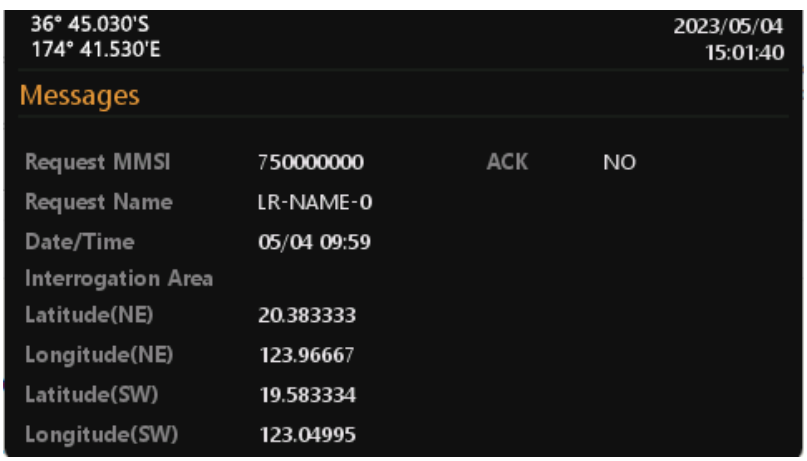


When pressing Fn, system will show 2 options. You can choose to **Delete** it or **Delete all** messages in **SRM Outbox**. Press ↵ to confirm your choice.

Long Range Inbox

When the transponder is connected to a long range communication system via the long range communication port then long range interrogations may be received. These are requests for information from a distant base station beyond normal AIS operation range. LONG RANGE Inbox holds all received Long Range Interrogation messages.



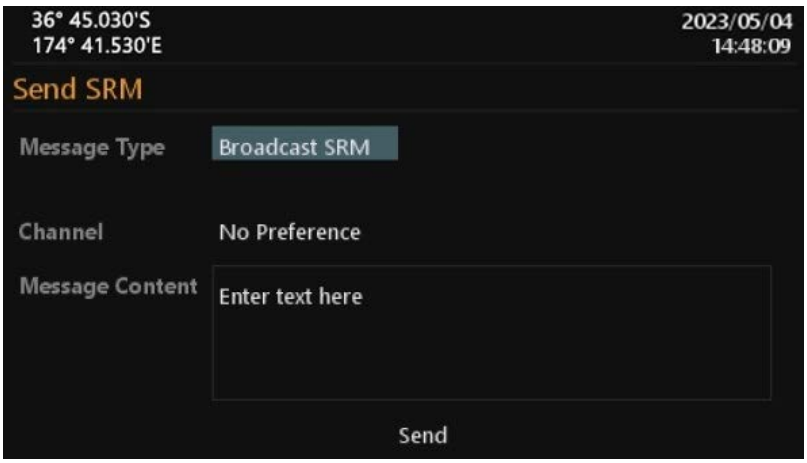


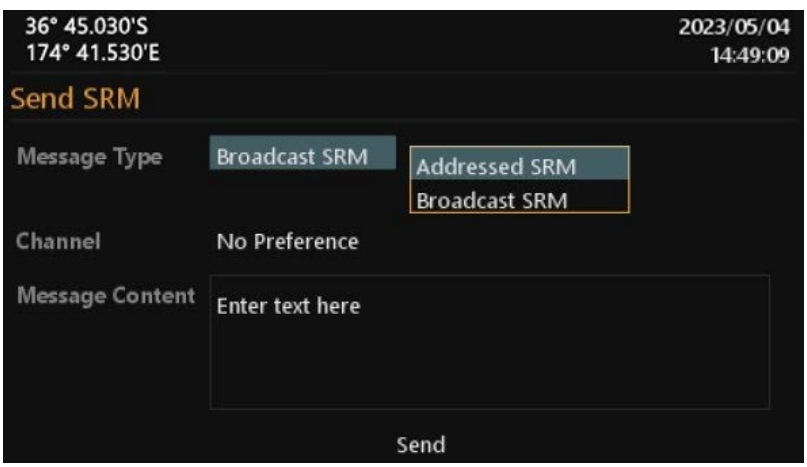
Use ▲ ▼ to traverse the message list and highlight your choice. Read the message content by pressing ↵.

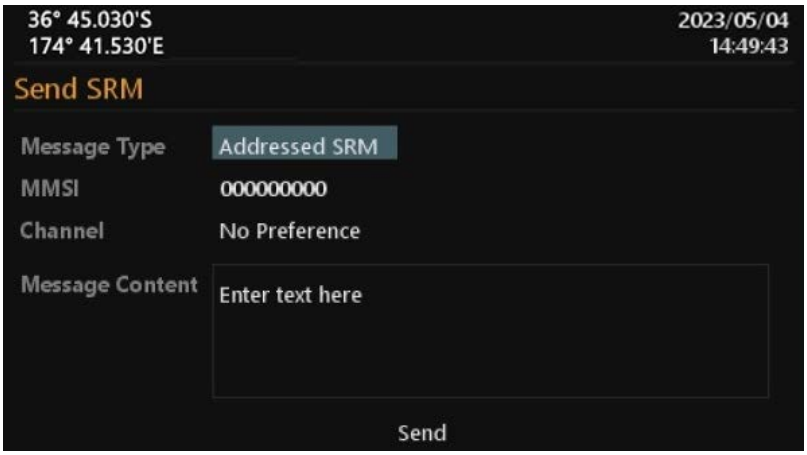
When pressing Fn, system will ask whether the highlighted message should be acknowledged. Press ↵ to confirm your choice.

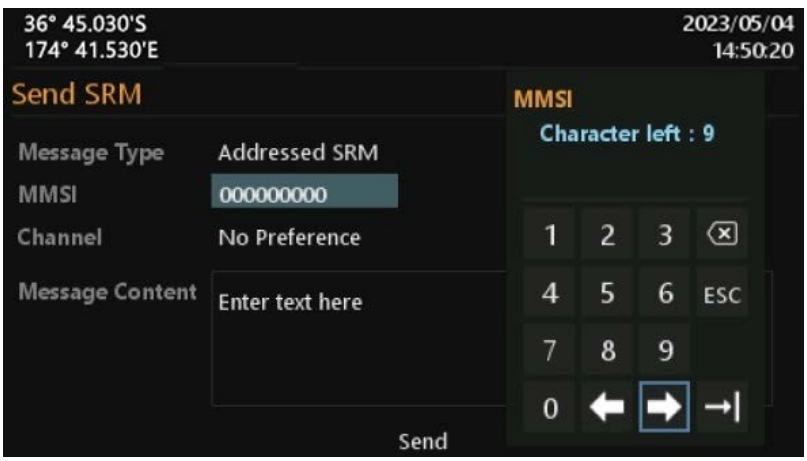
Send SRM

This submenu allows the users to compose a Safety Related Message (SRM). Maximum length for the message is 85 characters. **Message Type** gives you the option to send the broadcast message or the addressed message. If the user chooses to send the addressed message, the system will show **MMSI** below the **Message Type**.

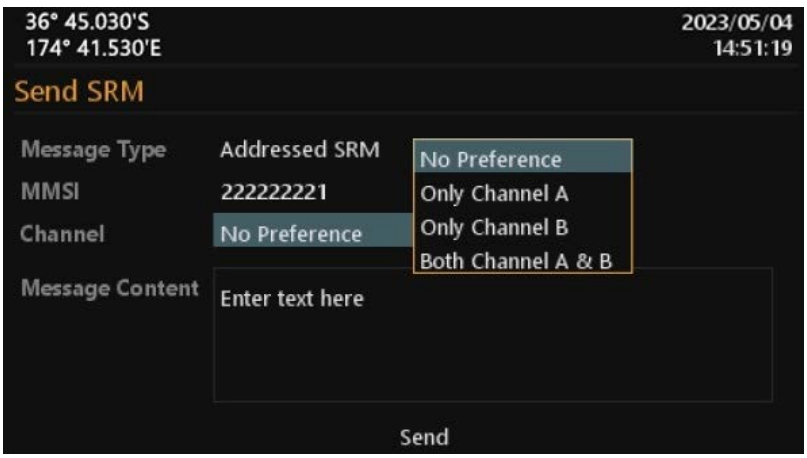





36° 45.030'S
174° 41.530'E
2023/05/04
14:49:43
Send SRM
Message Type
Addressed SRM
MMSI
000000000
Channel
No Preference
Message Content
Enter text here
Send

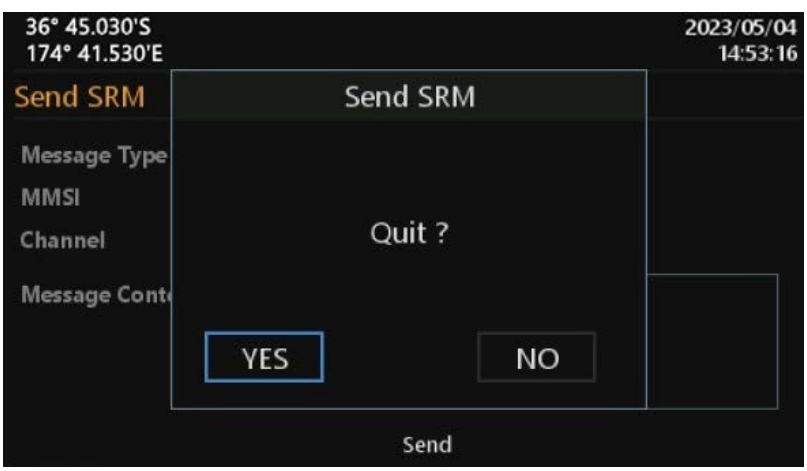

36° 45.030'S
174° 41.530'E
2023/05/04
14:50:20
Send SRM
Message Type
Addressed SRM
MMSI
000000000
Channel
No Preference
Message Content
Enter text here
Send
MMSI
Character left : 9
1
2
3
4
5
6
ESC
7
8
9
0

After entering the MMSI number, choose the **Channel**. It gives you the option to send message through channel A, B or both A&B. By **No Preference**, which is the default option, the system will select the channel automatically. Then, compose the message.



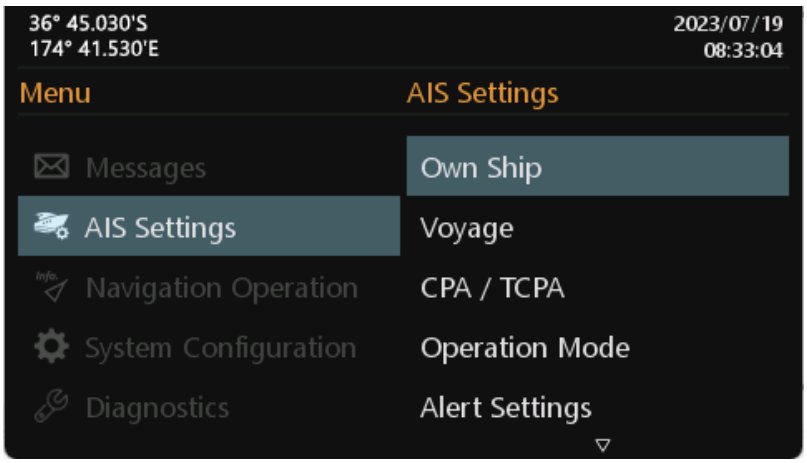
To send the message, press the send button on the bottom of the view and the system will ask whether to send the message. Select **YES** to send and return to Messages submenu, **NO** to cancel and stay at this view.

To leave this page, press Esc and the system will ask whether to leave this view. Select **YES** to leave, **NO** to stay at this view. For simple use, press Esc two times and the system will return to the Messages submenu.



AIS SETTINGS

This menu list provides access to settings that are required during installation of the transponder. There are a total of 9 submenus.

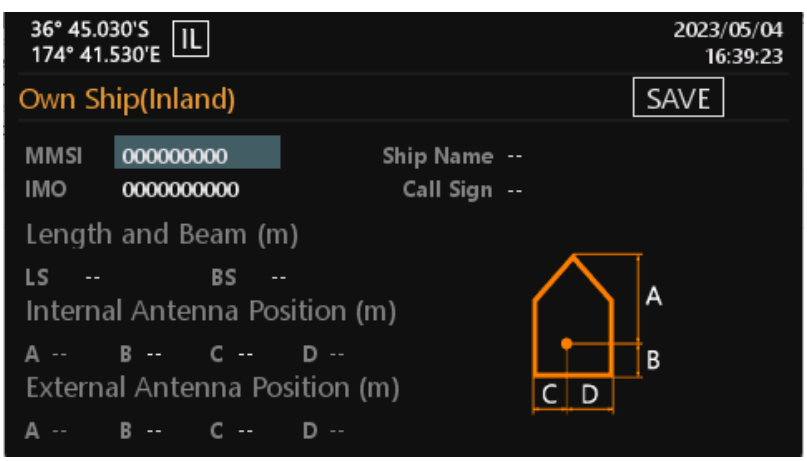


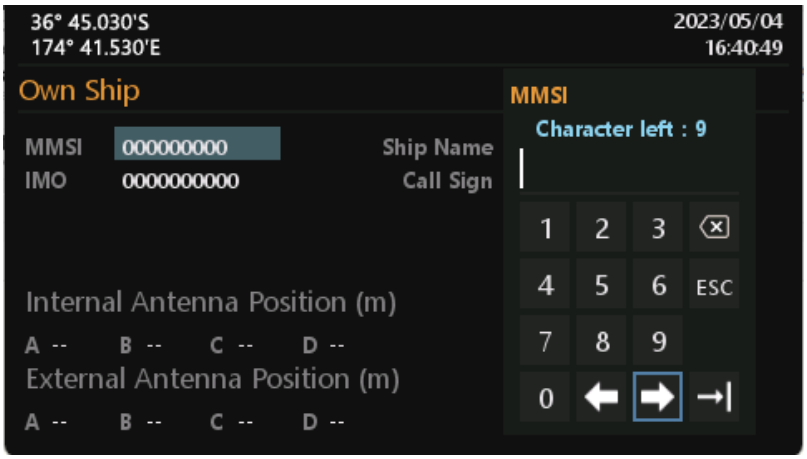
Own Ship

This section is password protected and can only be saved using the password.

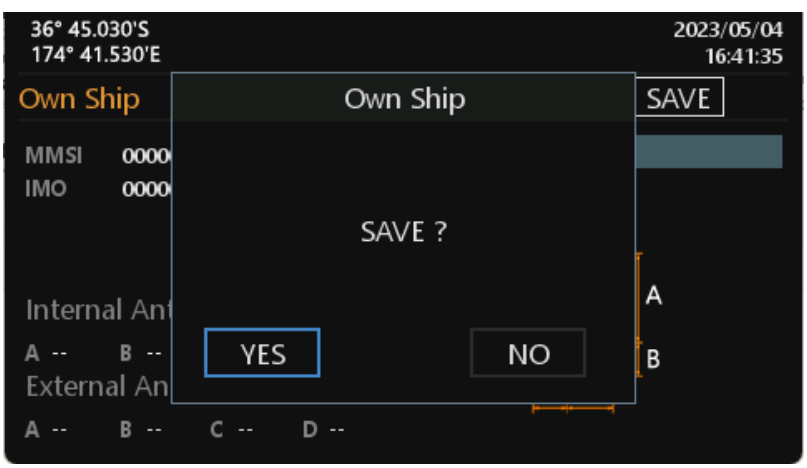
The following information about the vessel should be correctly set up by installation prior to operation.

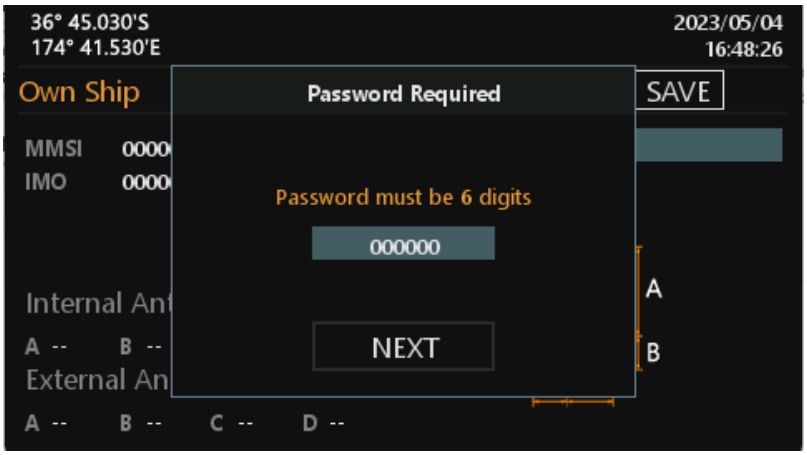
- MMSI
- Ship Name — limited to 20 characters
- IMO
- Call Sign — vessel radio call sign (limited to 7 characters)
- Position of internal GPS antenna — giving the location of the GNSS antenna connected to the AIS transceiver (integrated internal GPS receiver)
- Position of external GPS antenna — giving the location of the GNSS antenna connected to any external position source connected to the AIS transceiver
- Length and Beam — measured length and width of the ship (**INLAND** mode only)

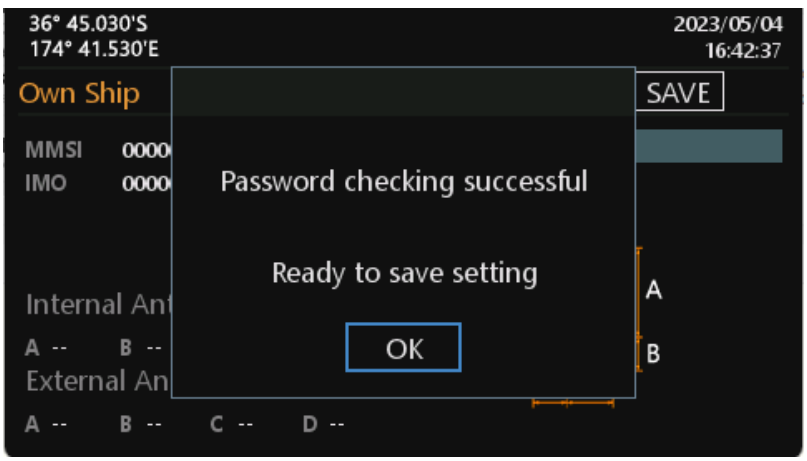



36° 45.030'S
174° 41.530'E
2023/05/04
16:40:49
Own Ship
MMSI 000000000
IMO 0000000000
Ship Name
Call Sign
Internal Antenna Position (m)
A -- B -- C -- D --
External Antenna Position (m)
A -- B -- C -- D --
MMSI
Character left : 9
1 2 3
4 5 6 ESC
7 8 9
0


36° 45.030'S
174° 41.530'E
2023/05/04
16:40:49
Own Shi
Ship Name
Character left : 20
MMSI
IMO
Internal
A -- B
External
A -- B
1 2 3 4 5 6 7 8 9 0
Q W E R T Y U I O P
A S D F G H J K L :
Z X C V B N M , . / ESC
Lk ...


36° 45.030'S
174° 41.530'E
2023/05/04
16:41:35
Own Ship
SAVE
MMSI 0000
IMO 0000
Own Ship
SAVE ?
YES
NO
Internal An
A -- B --
External An
A -- B -- C -- D --
A
B

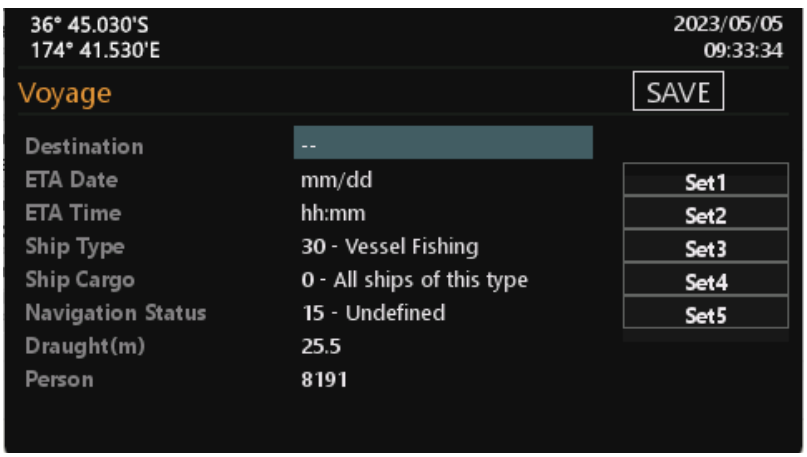

36° 45.030'S
174° 41.530'E
2023/05/04
16:48:26
Own Ship
Password Required
SAVE
MMSI 0000
IMO 0000
Password must be 6 digits
000000
Internal Ant
A -- B --
NEXT
External An
A -- B -- C -- D --
A
B


36° 45.030'S
174° 41.530'E
2023/05/04
16:42:37
Own Ship
SAVE
MMSI 0000
IMO 0000
Password checking successful
Ready to save setting
Internal Ant
A -- B --
OK
External An
A -- B -- C -- D --
A
B

Voyage

In this submenu the following navigational information can be configured:

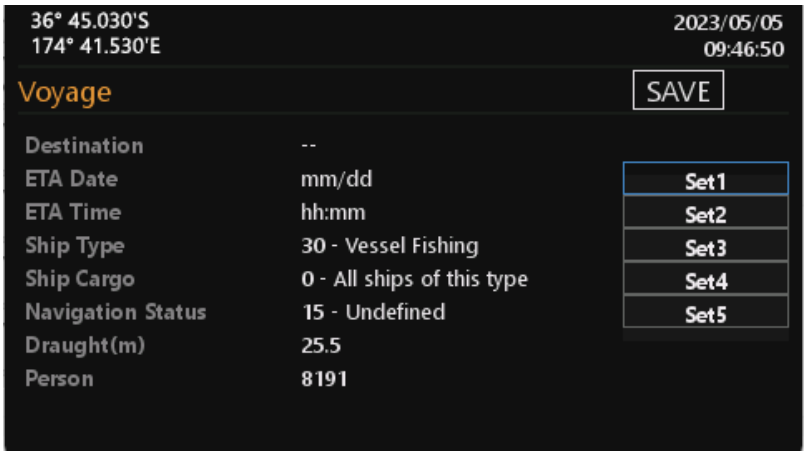
- Destination — Ship's next destination port (limited to 20 characters).
- ETA Date — Estimated date of arrival at destination (using UTC time).
- ETA Time — Estimated time of arrival at destination (using UTC time).
- Ship Type — use direction keys to select the type of vessel from the list.
- Ship Cargo — use direction keys to select the type of vessel from the list .
- Navigation status — use direction keys to select the suitable status from the list.
- Person — the number of person on board.

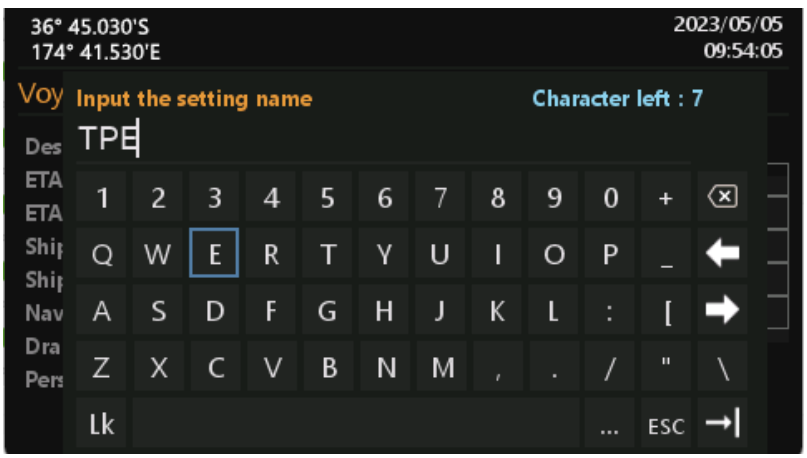


⚠ **WARNING: If Ship Type is Tanker, by regulation, whenever the ship navigation status is "Moored", the transponder's transmission power is automatically changed to 1W for safety measures.**

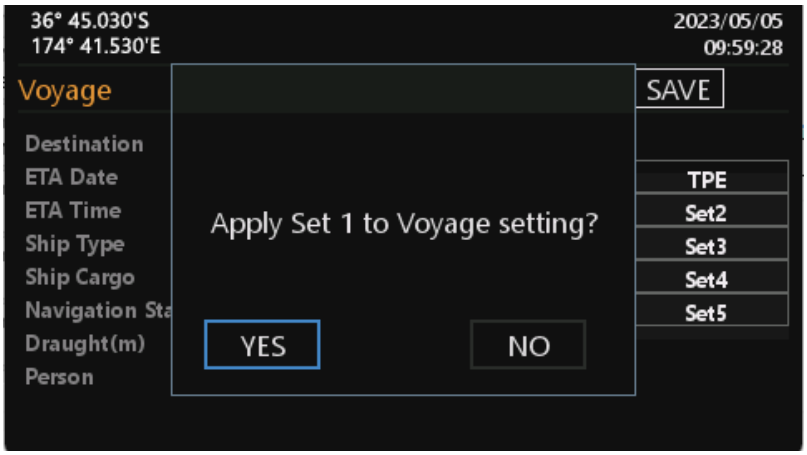
At the right side of the view, you can see a block (Set1~Set5) when pressing Fn, you can input the setting name and then the system will save the current voyage setting to this Set.

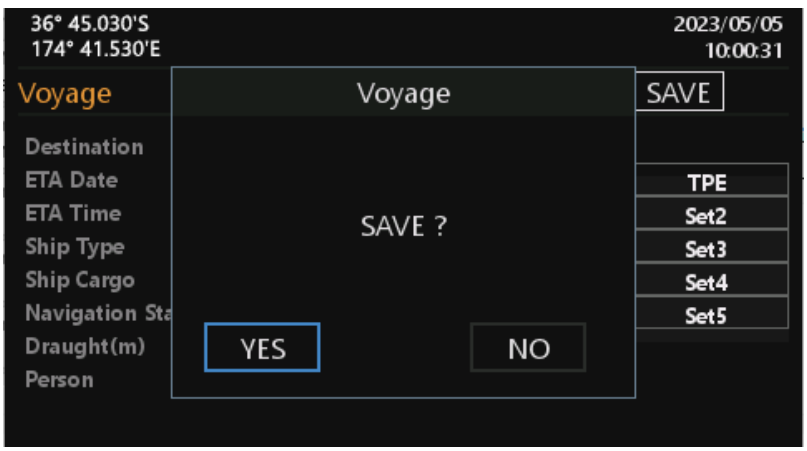
Next time, if you want to use the same setting, just select the Set, you saved, and press ↵. The system will apply the setting to the current voyage value.


36° 45.030'S
174° 41.530'E
2023/05/05
09:46:50
Voyage
SAVE
Destination --
ETA Date mm/dd
ETA Time hh:mm
Ship Type 30 - Vessel Fishing
Ship Cargo 0 - All ships of this type
Navigation Status 15 - Undefined
Draught(m) 25.5
Person 8191
Set1
Set2
Set3
Set4
Set5


36° 45.030'S
174° 41.530'E
2023/05/05
09:54:05
Input the setting name
Character left : 7
TPE
1 2 3 4 5 6 7 8 9 0 +
Q W E R T Y U I O P _
A S D F G H J K L : [
Z X C V B N M , . / " \
Lk
...
ESC


36° 45.030'S
174° 41.530'E
2023/05/05
09:55:37
Voyage
SAVE
Destination --
ETA Date mm/dd
ETA Time hh:mm
Ship Type 30 - Vessel Fishing
Ship Cargo 0 - All ships of this type
Navigation Status 15 - Undefined
Draught(m) 25.5
Person 8191
TPE
Set2
Set3
Set4
Set5

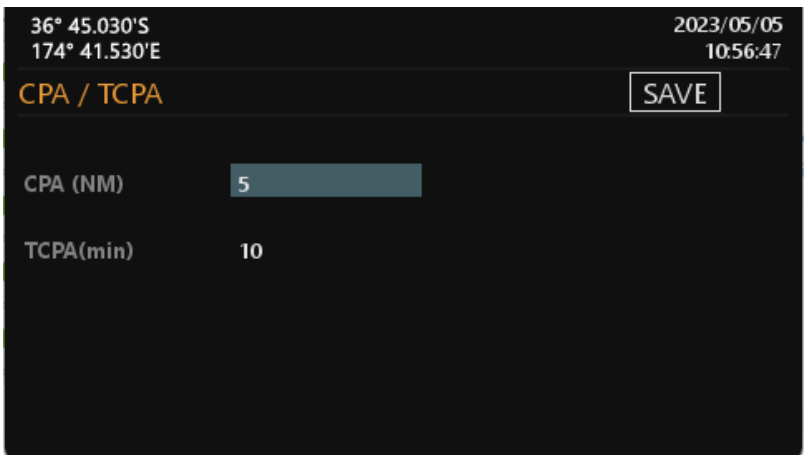

36° 45.030'S
174° 41.530'E
2023/05/05
09:59:28
Voyage
SAVE
Destination
ETA Date
ETA Time
Ship Type
Ship Cargo
Navigation Sta
Draught(m)
Person
TPE
Set2
Set3
Set4
Set5
Apply Set 1 to Voyage setting?
YES
NO


36° 45.030'S
174° 41.530'E
2023/05/05
10:00:31
Voyage
Voyage
SAVE
Destination
ETA Date
ETA Time
Ship Type
Ship Cargo
Navigation Sta
Draught(m)
Person
TPE
Set2
Set3
Set4
Set5
SAVE ?
YES
NO

CPA/TCPA

In this submenu the closest point of approach (CPA) and time to CPA (TCPA) can be set. The vessels with insufficient CPA and TCPA will be displayed in the dangerous list and radar view with red color.

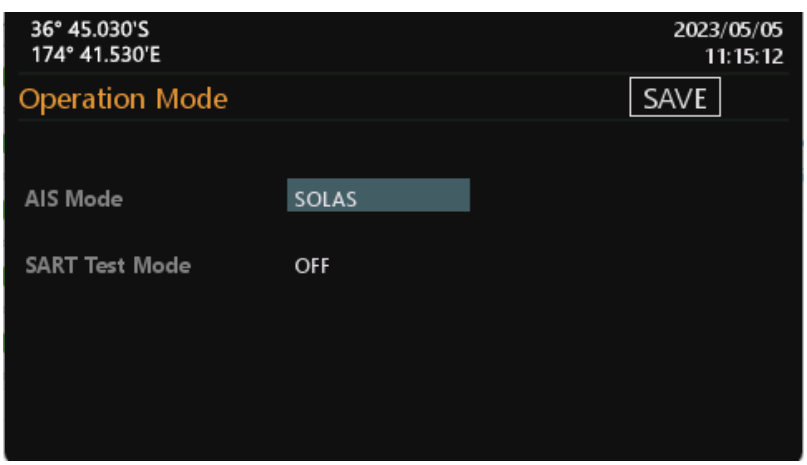
- CPA — in nautical miles
- TCPA — in minutes



To save the setting, select the SAVE button in the view and press ↵. The system will ask whether the changes should be saved. Select YES to save or NO to discard and return to AIS settings submenu.

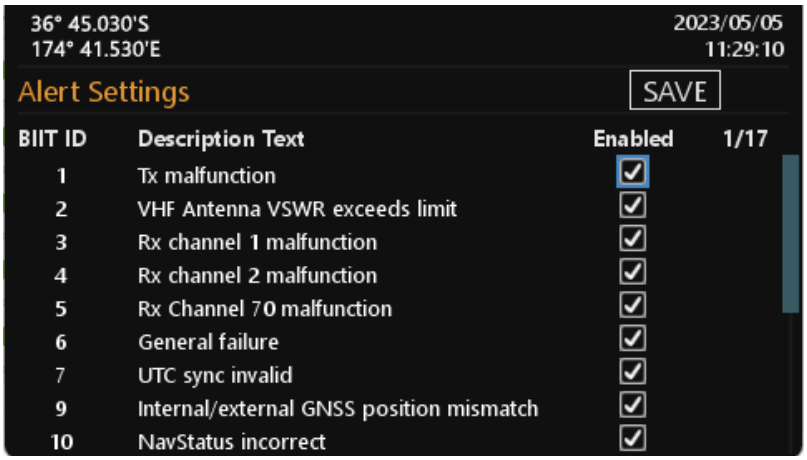
Operation mode

You can configure the transponder to operate in **SOLAS** or **INLAND** mode. Each mode has specific submenu and menu options. Displaying the SART Test on the V5043 screen can be enabled or disabled by configuration setting (ON/OFF) as well.



Alert Settings

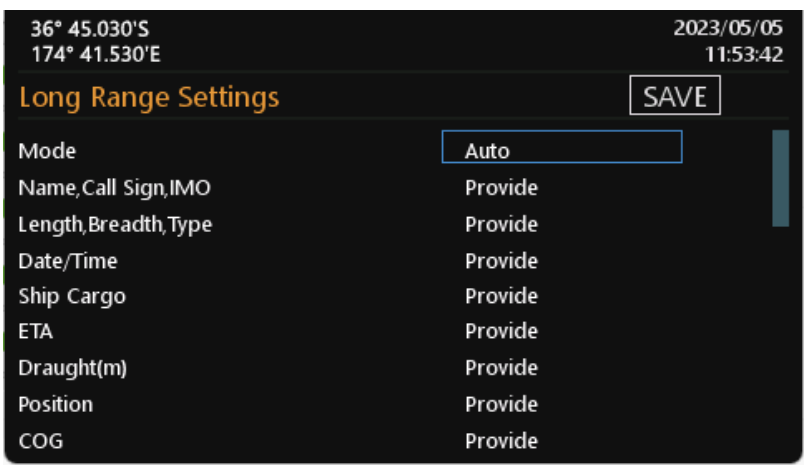
This submenu can be used to enable or disable ALF sentence. For instance, if an ALF sentence is not enabled, the corresponding alarm would not activate.



Long Range Settings

This section is password protected and can only be saved using the password. This option provides user choices to auto-response remote interrogation and settings of the response information.

You can either set **Mode** to **Auto** or **Manual**. The setting for the rest of information is either **Provide** or **Not Provide**.

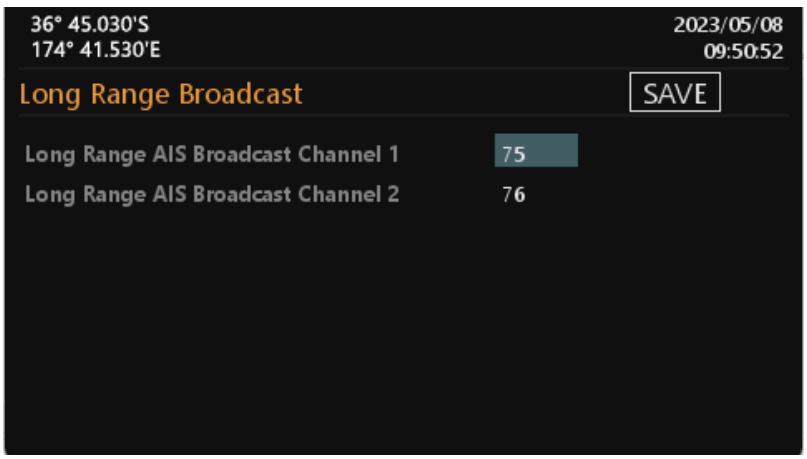


Long Range Broadcast

This section is password protected and can only be saved using the password.

Class A transmits Message 27 every 3 minutes through the channels alternately. Provided here are the options to change the transmitting channel for Message 27.

➔ ***Note:*** *Default values are 75 or 76.*



VSWR Settings

The VSWR setting function allows the fine-adjustment of VSWR threshold according to the cable length and VHF antenna characteristics.

Transceiver

This section is password protected and can only be accessed using the password.

The submenu allows the users to switch on or off the transmission and enable to switch the transmission power between 12.5W, as “normal”, and 1W.

The External Switch (**SOLAS** Mode Only) allows the user to set “No Function” and “Low TX Power Mode” function for “BLUE_SIGN” connector on Junction Box.

Extended Tow Dimension

This option provides users to set extended dimension values used by towing vessels.

Under the following two conditions, this option will appear in the menu:

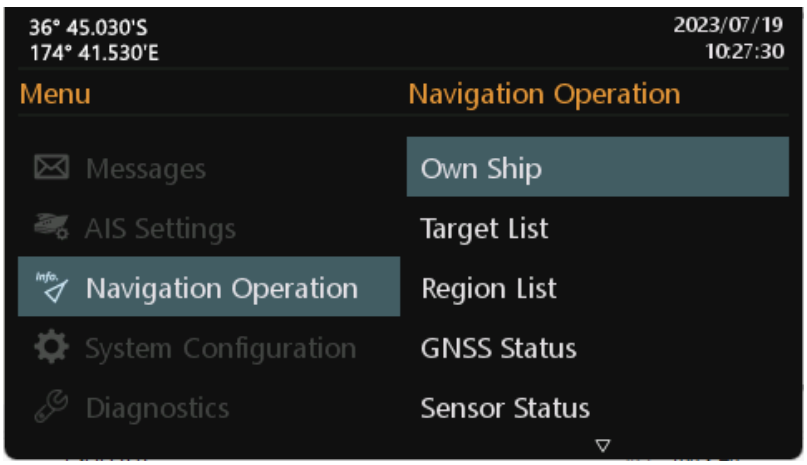
1 AIS operation mode is **INLAND** mode or

2 in **SOLAS** mode, and the Navigational Status is 12 = power-driven vessel pushing ahead or towing alongside.

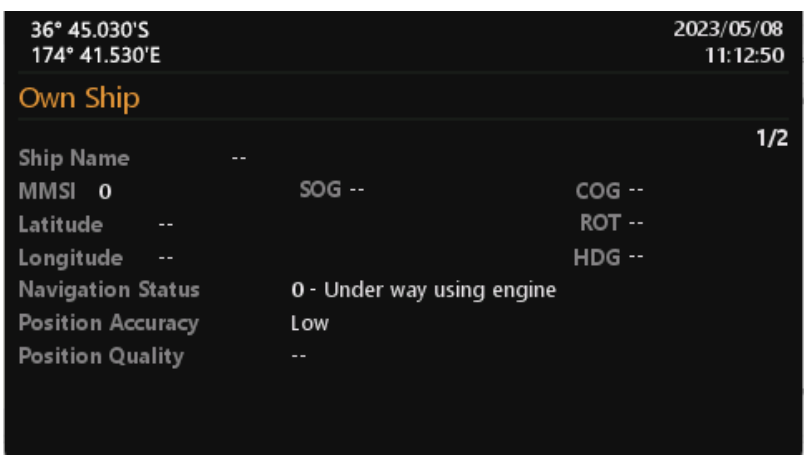
NAVIGATION OPERATION

Own ship

This option displays the full information on your ship, including both dynamic and static data. Use direction keys to change between dynamic and static information.

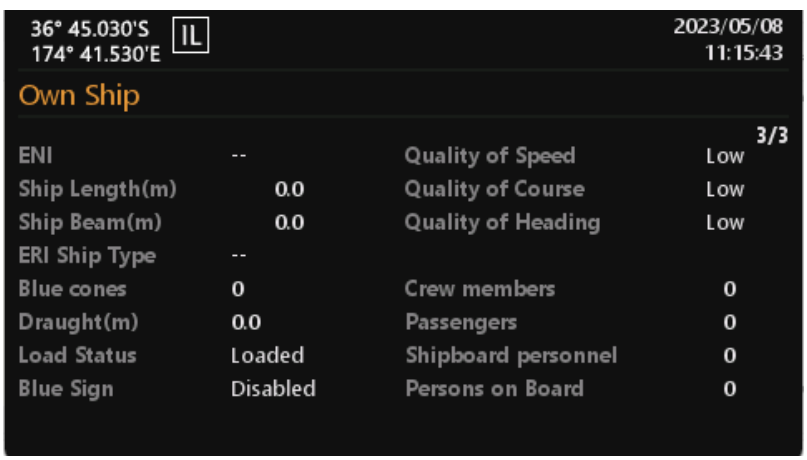


Static data and Dynamic data



Inland Vessel Information

The following information is only available under **INLAND** mode.

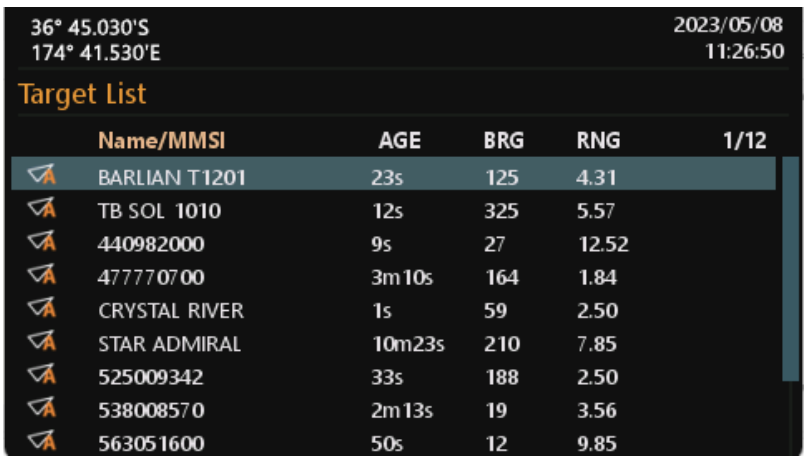


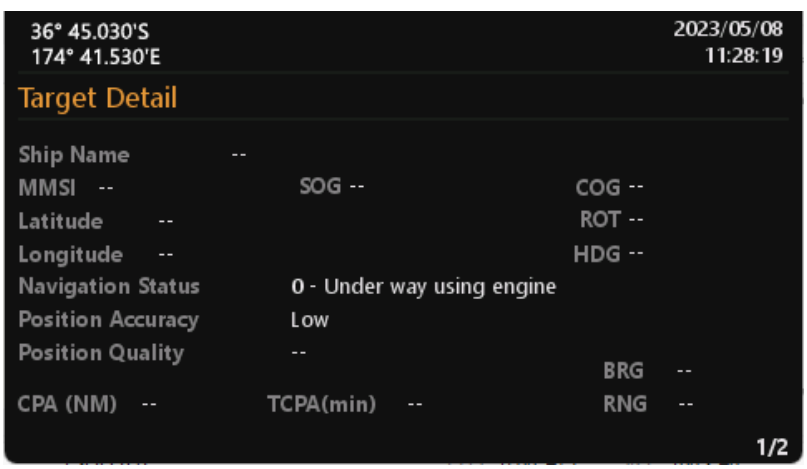
Target List

This option displays all received AIS information of other vessels including dynamic and static information.

Use direction keys to select AIS target and then press ↵ to go through dynamic and static information of the selected vessel.

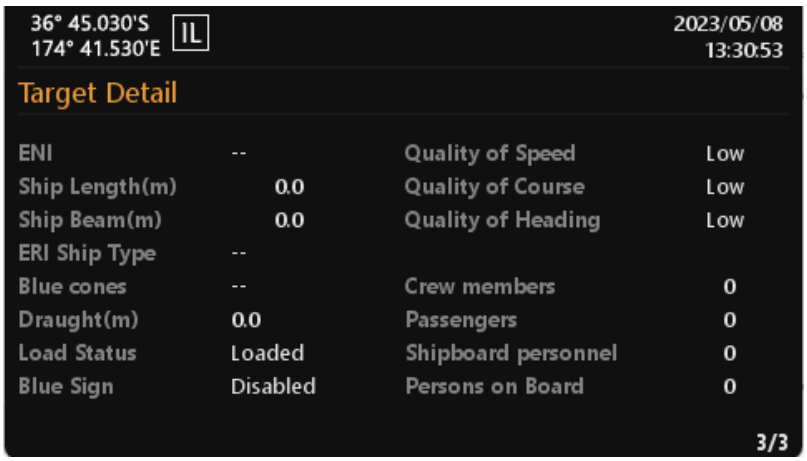
There are two pages of ship details for **SOLAS** mode and another one page for **INLAND** mode.





Use direction keys to continue reading the dynamic and static information of the selected vessel.

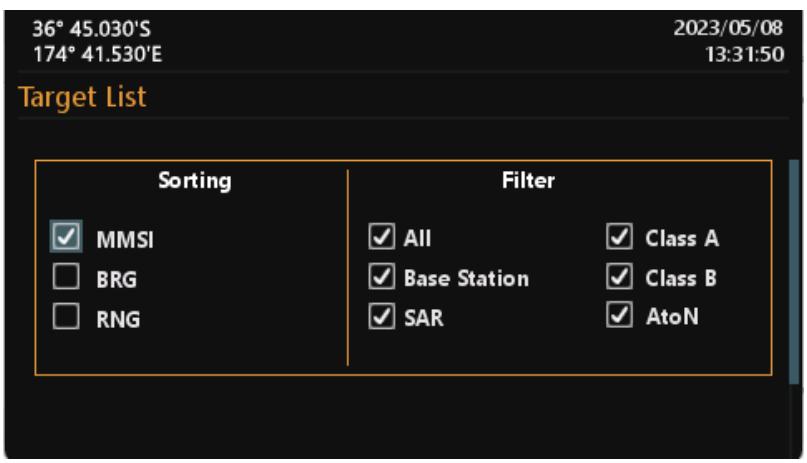
Additional inland information is available under **INLAND** mode.



Sorting vessels

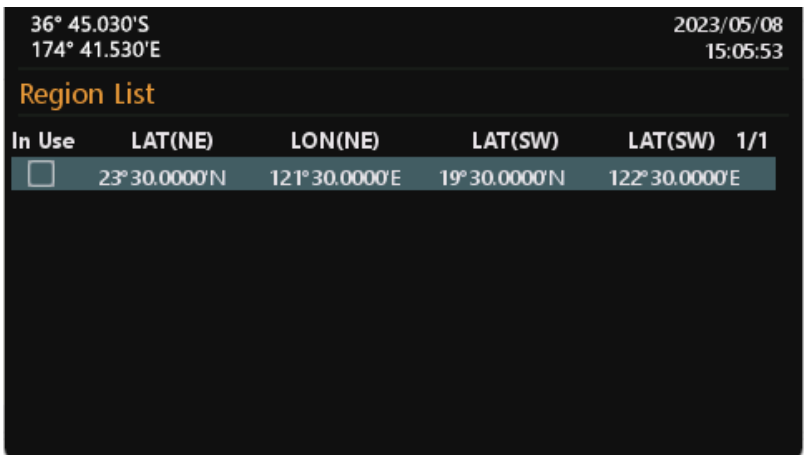
In the list, press Fn will open the pop-up window and user can sort the list according to vessels' MMSI, direction (BRG), or distance (RNG). Also user can choose what kinds of ship type whether should be displayed in the target list.

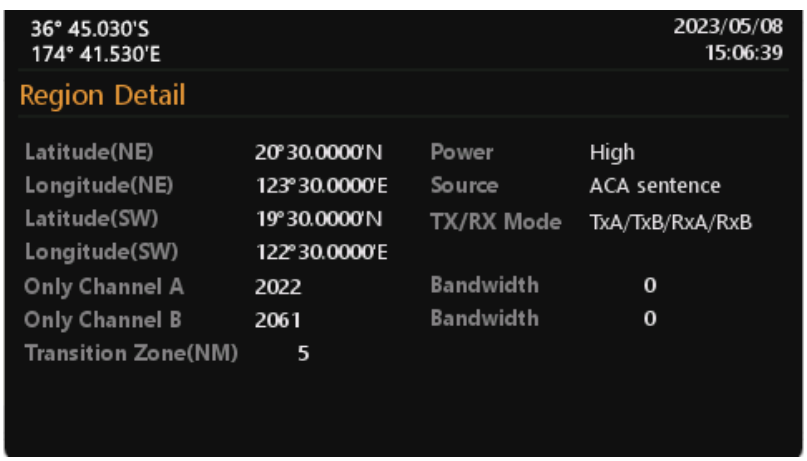
In the screenshot of the Target List, one subtitle has different color between others indicates the current sorting method.



Region List

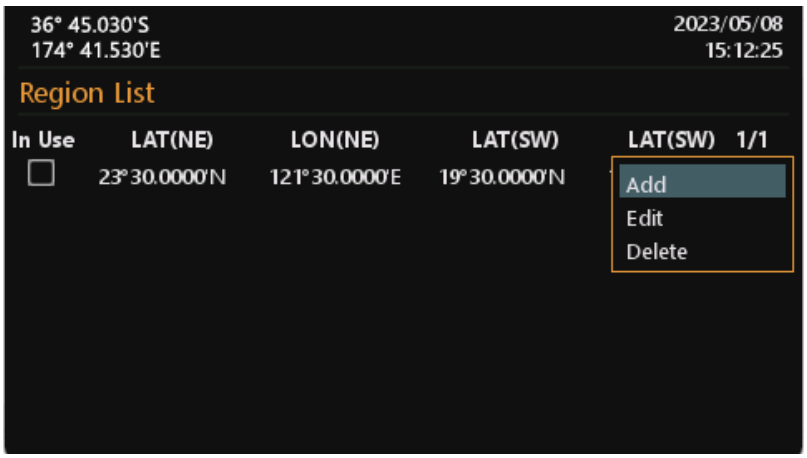
The region list displays all saved region areas. Use direction keys to traverse the list. Press ↵ enables you to read the highlighted region information.

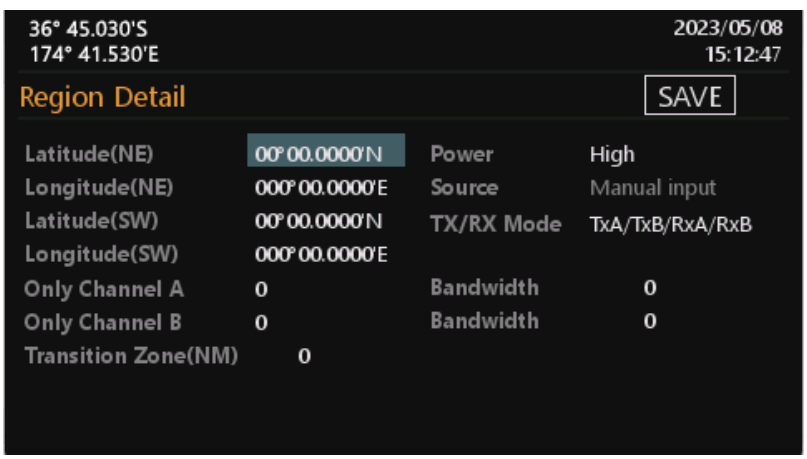




Editing or Adding region content

You can add or modify the region area setting by pressing Fn at the region list page. Use direction keys to select the field to edit, then press ↵ to enter the value.

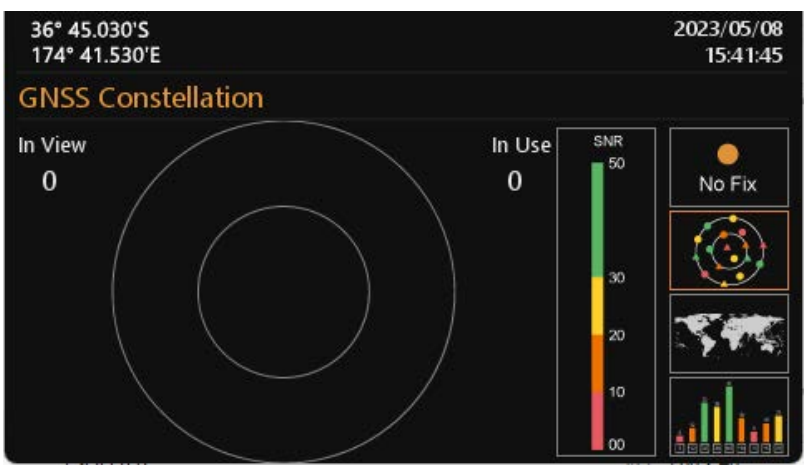




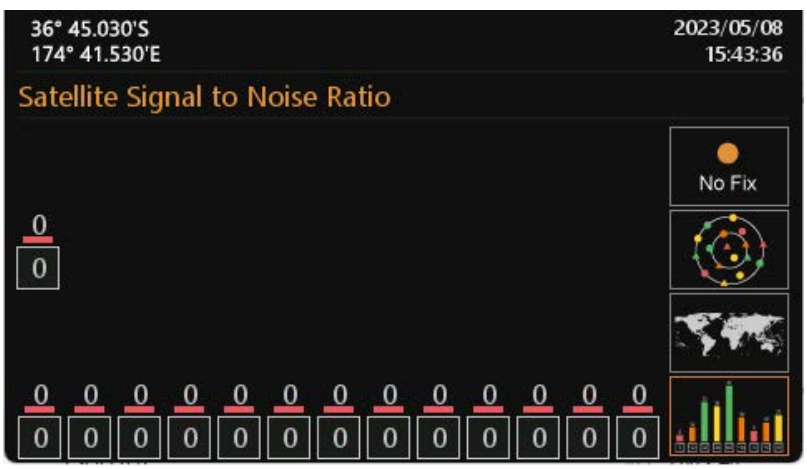
GNSS Status

In this submenu the following GNSS information is displayed:

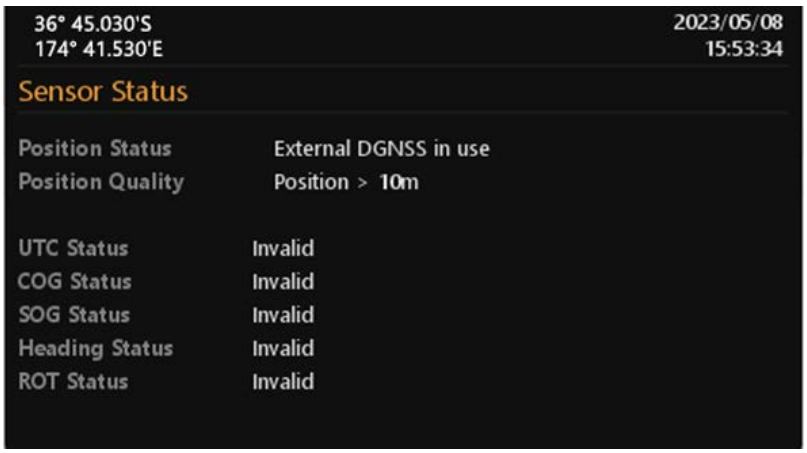
- GNSS Status — show device's GNSS data
- GNSS Constellation — GNSS source location distribution
- Ship Location
- Satellite Signal to Noise Ratio — GNSS source signal magnitude




36° 45.030'S
174° 41.530'E
2023/05/08
15:42:09
Ship Location
No Fix


36° 45.030'S
174° 41.530'E
2023/05/08
15:43:36
Satellite Signal to Noise Ratio
No Fix
0
0
0 0 0 0 0 0 0 0 0 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0

Sensor Status



Display sensor statuses:

Sensor	Status
Position Status	External position source other than GNSS Internal GNSS in use External GNSS in use Internal DGNSS in use (corrected; beacon) Internal DGNSS in use (corrected; Message 17) External DGNSS in use
Position Quality	No position Manual position Dead reckoning position Valid position with no time stamp Position > 10 m Position with RAIM > 10 m Position <= 10 m Position with RAIM <= 10 m Outdated position > 200 m
UTC Status	Valid / Invalid (see Note)
COG Status	Internal COG / External COG / Invalid
SOG Status	Internal SOG / External SOG / Invalid
Heading Status	Valid / Invalid
ROT Status	Valid / Other ROT / Invalid
→ ***Note:*** *When the AIS is not connected with internal GPS, UTC is lost and time is unsynchronized, then the V5043 will continue operation using indirect or semaphore synchronization.*	

Dangerous Target List

With the setup of closest point of approach (CPA) and time to CPA (TCPA), this submenu provides an efficient way to monitor vessels with insufficient CPA and TCPA. The dangerous targets can also be observed on radar view (with red color).

Use direction keys to traverse the list and press ↵ to read information of the selected vessel.

Alert List

V5043 features SART/MOB alarm that can appear any time during operation.

When SART/MOB message is received, the ! or icon will appear in the status bar with beeping sounds twice from the buzzer.

There are 2 ways to access the Alert List: either through Main Menu/Navigation Operation/Alert List or use the hot key by holding Esc for 3 seconds and the system will enter the **Alert List** screen.

Another hot key in the **Alert List**, by pressing Fn you can select the alert between the first and the last.

The list shows all current AIS alerts and their status. Use direction keys to navigate the list.

You can acknowledge (ACK) the alert message by pressing ↵. The system will ask for confirmation if the chosen alert should be acknowledged. If the alert has not been acknowledged, an indication icon will appear in the status bar until all acknowledgments are made.

The transponder performs a function self-check continuously. If a self-check fails an alarm will occur. The Appendix shows all possible alarm scenarios.

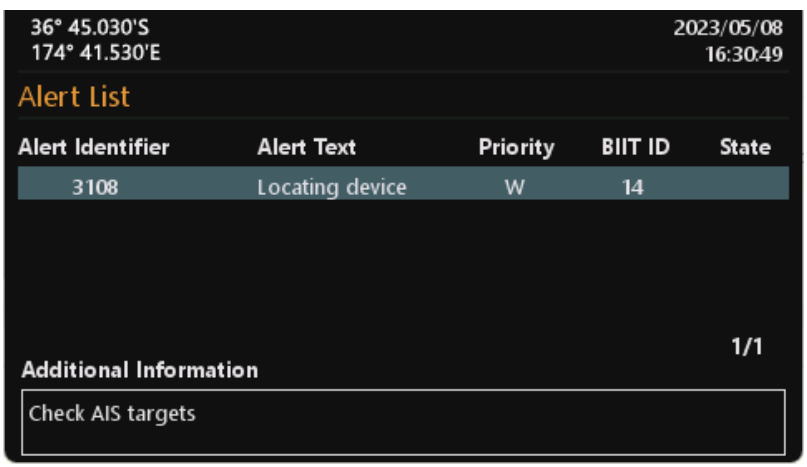


Table — BAM Alert Instance

Alert ID	Alert text	Additional information	Prio	Cat	Escal	BIIT ID
3108	Locating device	Check AIS targets	W	B	W	14
3062	General fault	Check AIS equipment	W	B	W	6
3008	Transceiver fail	Not transmitting, check AIS	W	B	W	1
		Not receiving, check AIS	W	B	W	34
3015	Lost position	Own ship position not transmitted	W	B	W	26
3116	Impaired radio	Reduced coverage (antenna VSWR)	C	B		2
		Ch1 inoperative, check AIS	C	B		3
		Ch2 inoperative, check AIS	C	B		4
		DSC inoperative	C	B		5
3113	Sync in fallback	Check AIS for UTC time synchronisation	C	B		7
3003	Lost ext EPFS	Check external position sensor	C	B		25
3119	Missing COG	Not transmitting COG	C	B		30
	Missing SOG	Not transmitting SOG	C	B		29
	Missing Heading	Not transmitting Heading	C	B		32
	Missing ROT	Not transmitting Rate of Turn	C	B		35
3013	Doubtful GNSS	Int/Ext GNSS position mismatch	C	B		9
	Doubtful heading	Difference with COG exceeds limit	C	B		11
3019	Wrong NavStatus	Check NavStatus setting	C	B		10
3009	Lost MKD	Cannot display safety related messages	C	B		8

→ *Note:*

- *Alert priority (Prio): W (Warning) C (Caution)*
- *BIIT ID 1 is generated if there is a malfunction in the transmitter hardware or the MMSI is set to "0".*

Table — Alert state and audible announcements for warnings

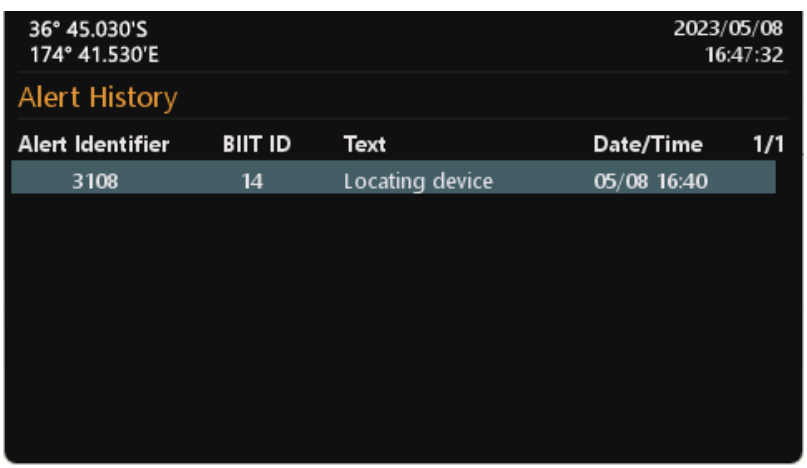
Alert state	Visual presentation	Audible announcement
V: active – unacknowledged		2 short audible signals and repeated as a warning after 3 minutes
S: active – silenced		None
A: active – acknowledged		None
U: rectified – unacknowledged		None

Table — Alert state and audible announcements for cautions

Alert state	Visual presentation	Audible announcement
A: active		None

Alert History

This submenu lists all recorded alarm and its time of occurrence.

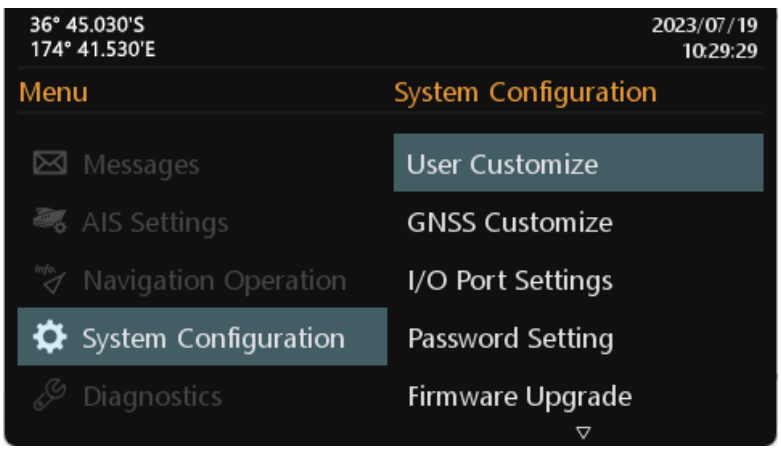


SYSTEM CONFIGURATION

System configuration provides access to user configurable preferences for V5043. All user settings are stored within the transponder and will be maintained even if the power supply is switched off.

After the setting is done, press **SAVE** button in the view and the system will ask whether the changes should be saved.

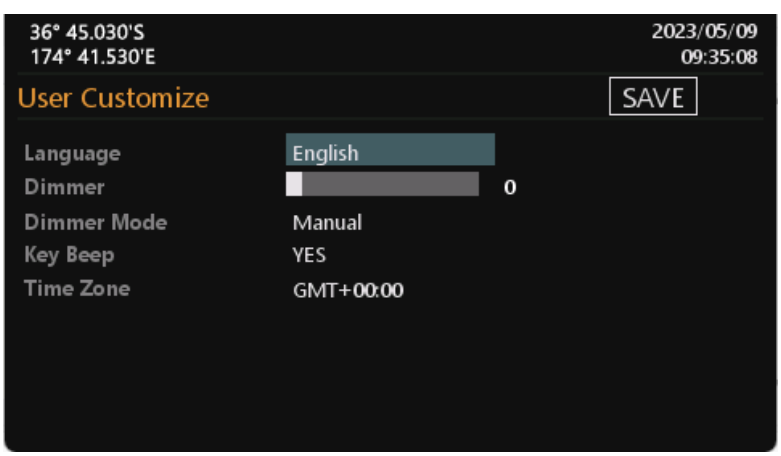
Select **YES** to save or **NO** to discard and return to the **System Configuration** submenu.



User Customize

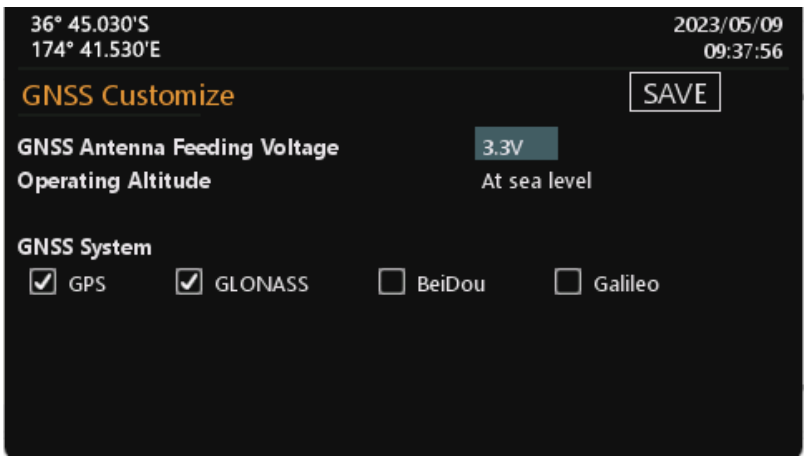
Customize provides personalization settings:

- Language — select the user interface language from the available language options
- Dimmer — brightness setting from 0 (low) to 10 (high)
- Dimmer Mode — set the mode to **Auto** or **Manual**
- Key Beep — turn on or off the key beep
- Time Zone — set the time zone



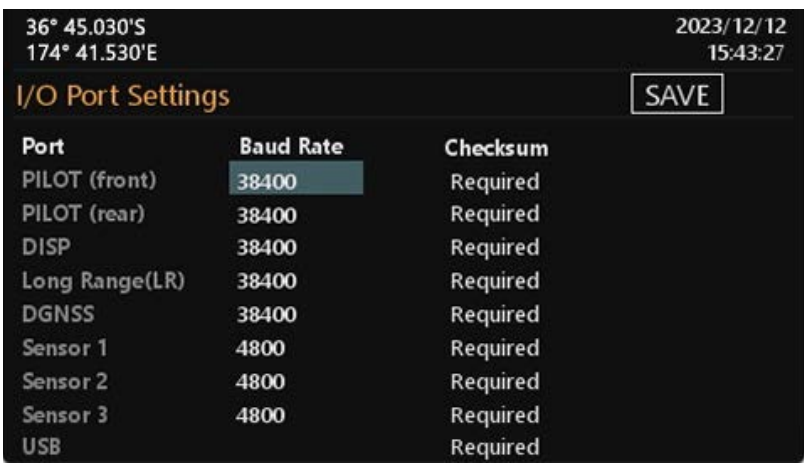
GNSS Customize

This submenu allows the user to change the supplied voltage of the GNSS antenna between 3.3 V or 5 V and choose the **GNSS system**. You can also switch the **Operating Altitude**.



I/O Port Settings

This option provides an overview of baud rates and checksum on all ports.



Password Setting

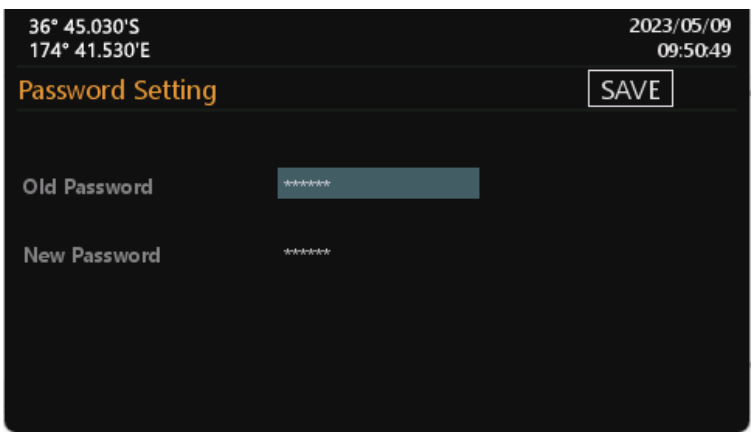
This submenu enables users to change user password. Certain important information stored within the transponder can only be changed with the password.

Password is required to access the following chapters:

- Own ship — contains information about MMSI, vessel name, IMO, call sign and dimension.
- Long Range Settings
- Long Range Broadcast
- Transceiver — enables the option to activate/deactivate AIS transmission
- I/O Port Settings — about baud rate configuration of sensors

Use direction keys to select **Old Password**, **New Password** and then press ↵ to enter value.

To save the settings, press SAVE button in the view and the system will ask whether the changes should be saved. Select YES to save or NO to discard and return to System Configuration submenu.

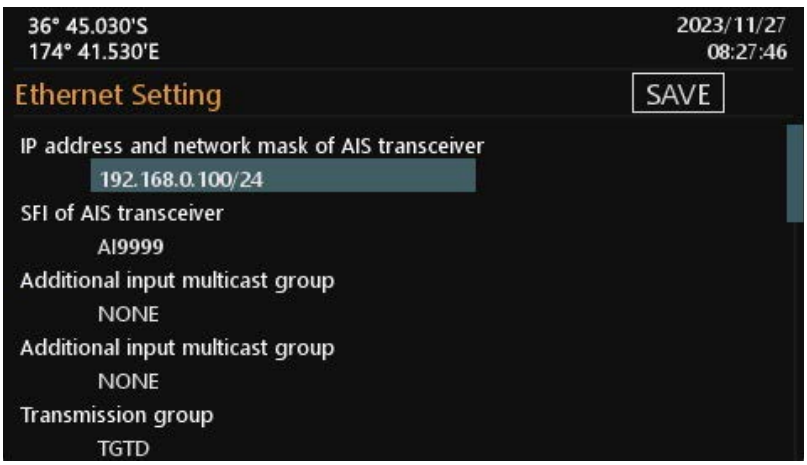


Firmware Upgrade

This option provides users to upgrade the transponder firmware version.

Ethernet Setting

The default IP address and Mask is **192.168.0.100/24**. Input groups NAVD, TGTD and SATD are always enabled.



In this submenu the following Ethernet settings can be configured:

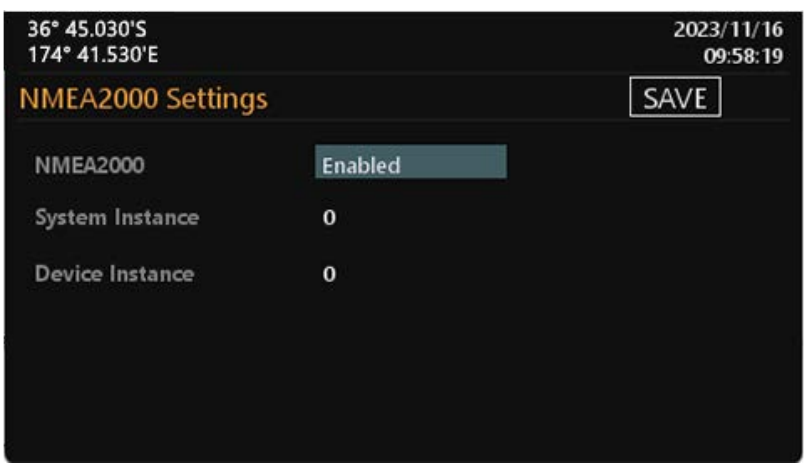
- IP address and network mask of AIS transceiver. Valid IP address ranges are shown as below:
  10.0.0.0 ~ 10.255.255.255 (10/8 prefix)
  172.16.0.0 ~ 172.31.255.255 (172.16/12 prefix)
  192.168.0.0 ~ 192.168.255.255 (192.168/16 prefix)
- SFI (System Function ID) of AIS transceiver — SFI Range for AIS is **AI0000 ~ AI9999**.
  If SFI is **AI9999** (default), V5043 will not send data to Ethernet.
- Additional input multicast group — This setting is used for additional input groups.
- Transmission group
- SFI for Primary position sensor
- SFI for Secondary position sensor
- SFI for Primary SOG/COG sensor
- SFI for Secondary SOG/COG sensor
- SFI for Primary heading sensor
- SFI for Secondary heading sensor
- SFI for Primary ROT sensor
- SFI for Secondary ROT sensor
- SFI for Primary AIS Control
- SFI for Secondary AIS Control
- SFI for Primary alert command source
- SFI for Secondary alert command source

Table – Input transmission groups with applicable sentences

Tx group	Multicast address	Port	Typical talker ID	Typical sentences	Message type
NAVD	239.192.0.4	60004	GA, GP, GN, LC, IN, HE, TI	DTM, GBS, GNS, RMC, VBW, VTG, GGA, GLL HDT, THS, ROT	SBM
NAVD	239.192.0.4	60004	EC, EI, IN	ABM, ACA, AIR, BBM, SSD, VSD	CRP
TGTD	239.192.0.2	60002	RA	ABM, ACA, AIR, BBM, SSD, VSD	CRP
SATD	239.192.0.3	60003	HE	HDT, THS	SBM
PROP	239.192.0.8	60008	Proprietary	PAMC	SBM

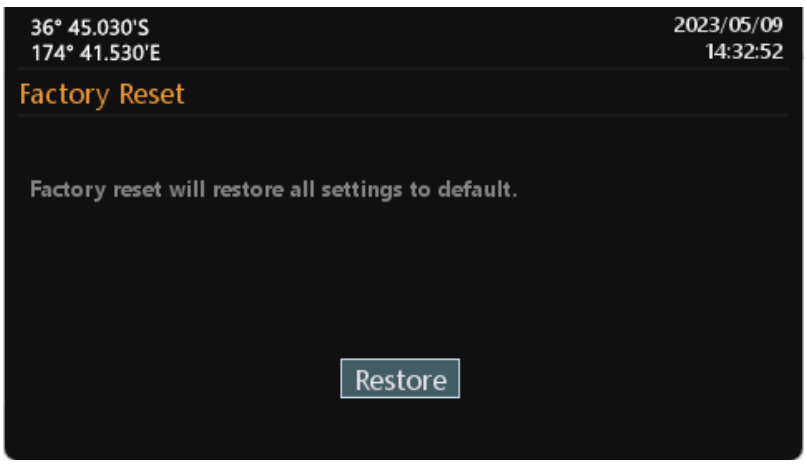
NMEA 2000® Settings

This page provides users with the option to enable or disable NMEA 2000®, as well as configure **System Instance** and **Device Instance** settings.



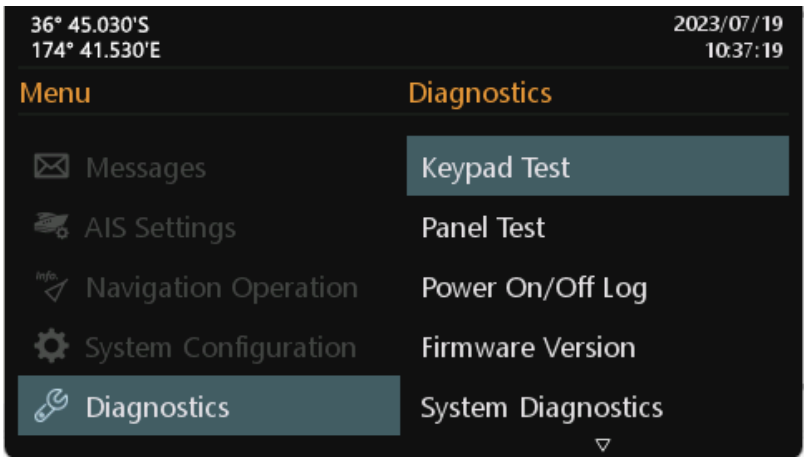
Factory Reset

This page allows the user to restore the default factory settings. It will restore the system preference settings and AIS settings.



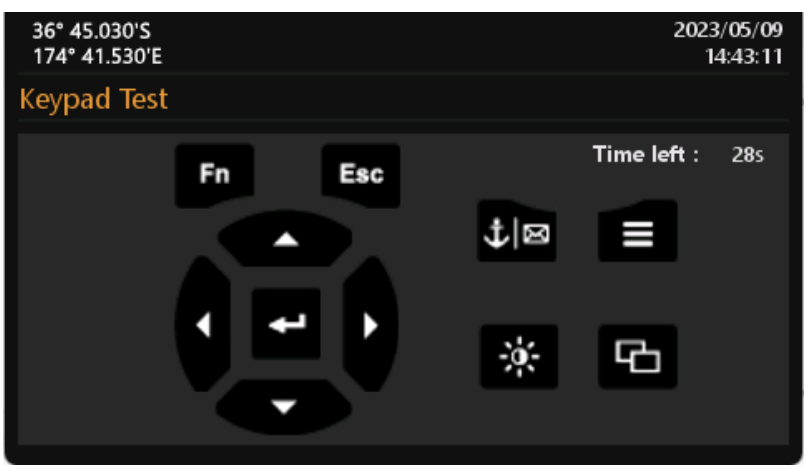
DIAGNOSTICS

This submenu provides users to check system statuses. There are a total of seven check options.



Keypad Test

This option provides keyboard testing. Pressing button during testing, a corresponding button on the screen will response. After all buttons are tested, a message will indicate. Press OK to exit. To quit test without completing, wait for 30 seconds and the system will return to the Diagnostics submenu.



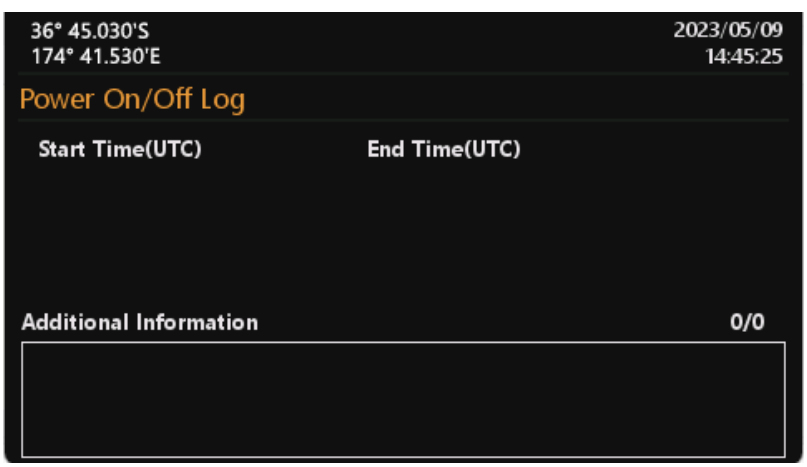
Panel Test

In the submenu, users can test the brightness of the screen.

Use to switch the white cube between different sizes. Use to test different stages of brightness. To exit the function, press Esc.

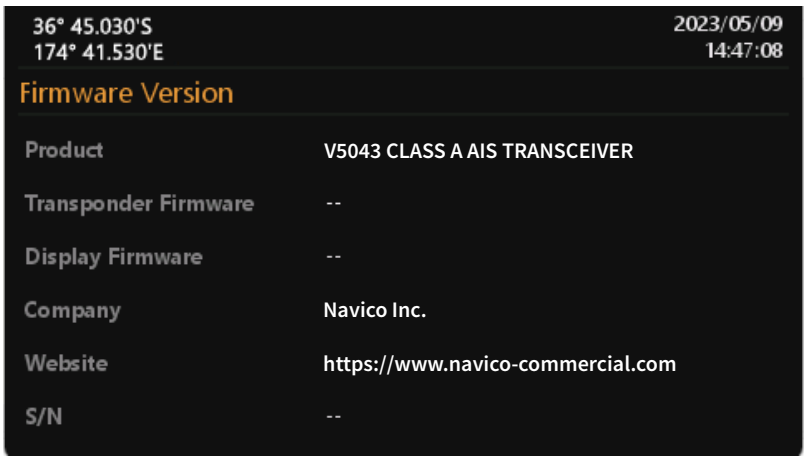
Power On/Off Log

This option provides activation and silent mode history. (Any event less than 15 minutes would not be recorded in the history)



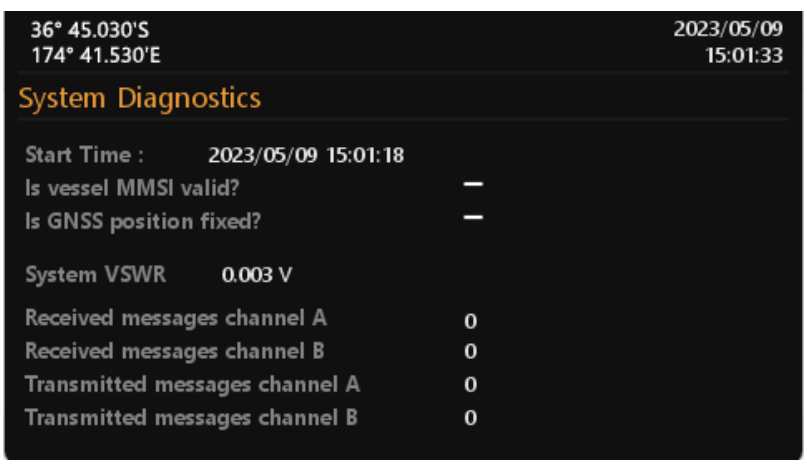
Firmware Version

Provide model name, transponder firmware, display firmware, etc.



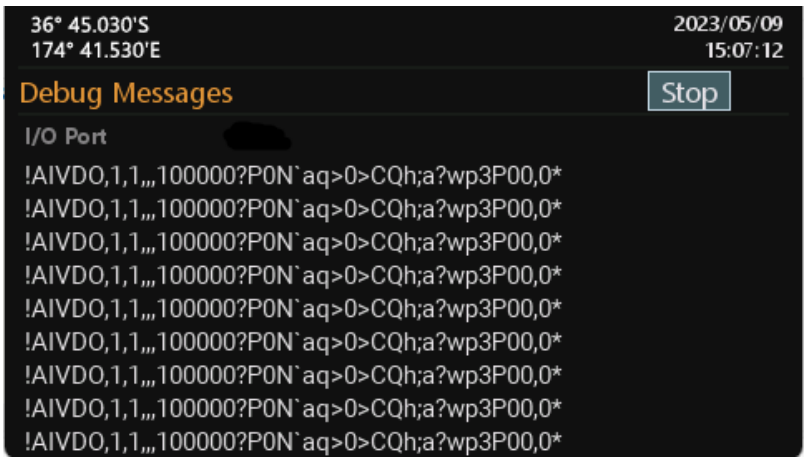
System Diagnostics

This option provides users to simply check the transponder condition. Press Fn the system will reset the time and count value.



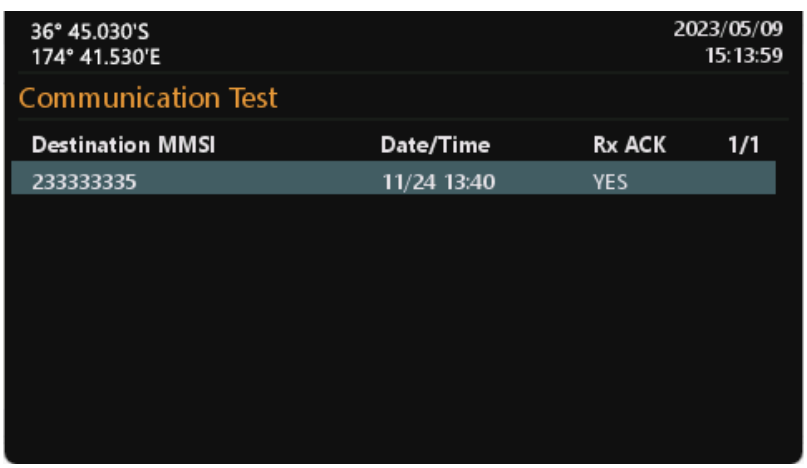
Debug Messages

This page displays NMEA 0183 sentences output by AIS.



Communication Test

Communication between V5043 and other Class A device can be tested. The procedure starts by transmitting Message 10 to an addressed Class A MMSI. The addressed MMSI, once received Message 10, will return Message 11. The test is then complete when the transponder successfully receives the Message 11.

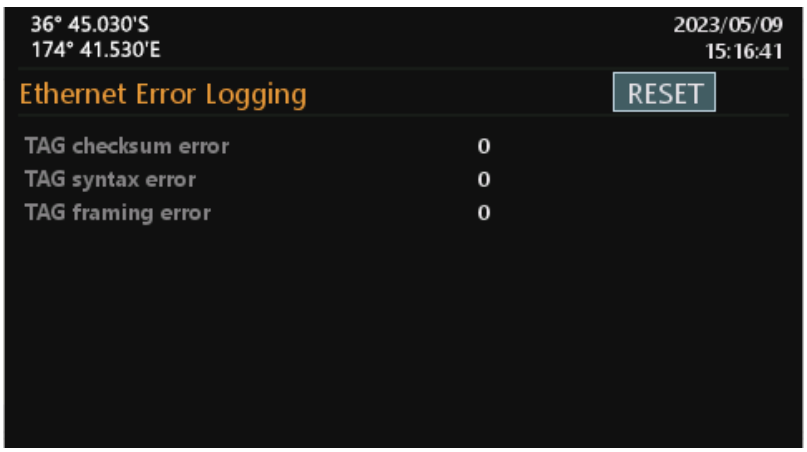


Press Fn to start the communication test. The system will show a target list that only has targets with Class A type. Use direction keys to select a target and then press ↵ to start the transmission of Message 10.

Ethernet Error Logging

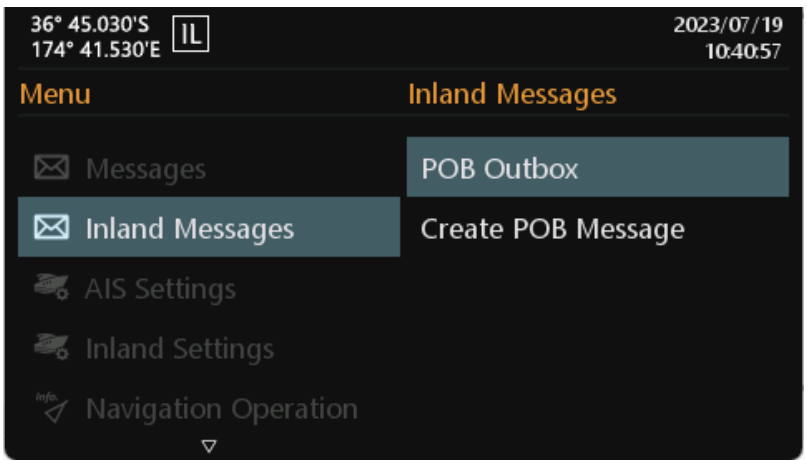
This option provides users to check the counts of errors detected in processing datagrams containing IEC 61162-1 sentences from Ethernet.

- TAG checksum error;
- TAG syntax error (line length, use of delimiters, invalid characters);
- TAG framing error (incorrect start or termination of TAG block);



INLAND AIS OPERATION

Inland Messages

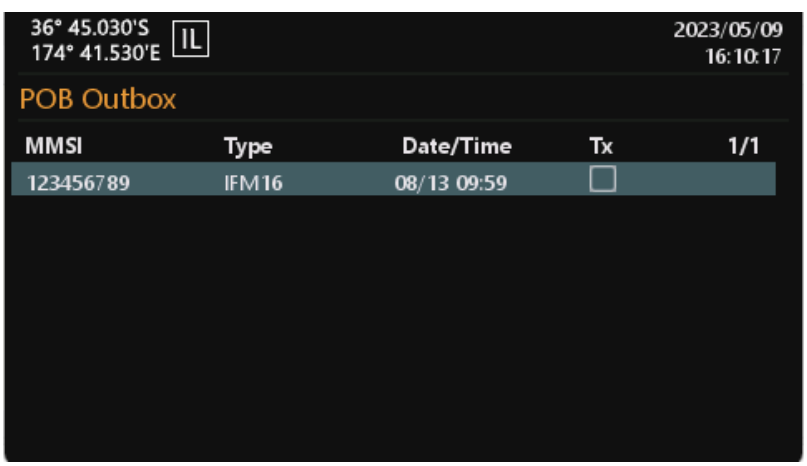


POB Outbox

The submenu displays log of sent Number of person on board (RFM55/IFM16) messages. The SOLAS Mode sends the total number of persons on board as a binary message with international IFM16.

The INLAND Mode (IWW) version sends a message with number of crew, personnel and passengers as a binary message with inland branch RFM55 or IFM16.

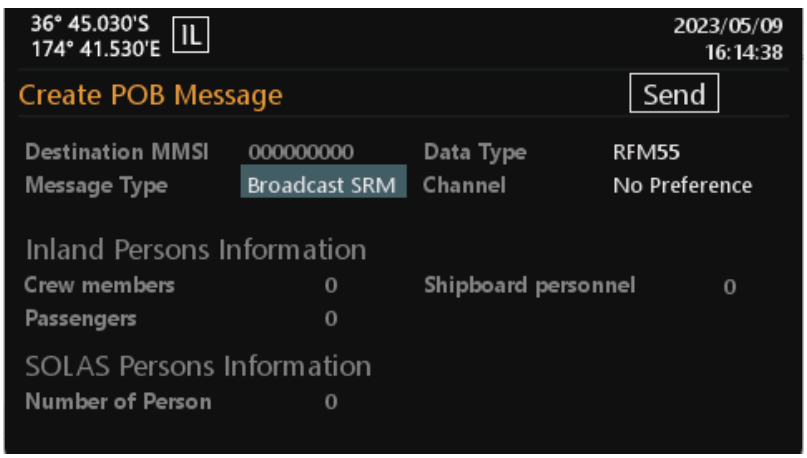
Use direction keys to select a message and press ↵ to display message content.



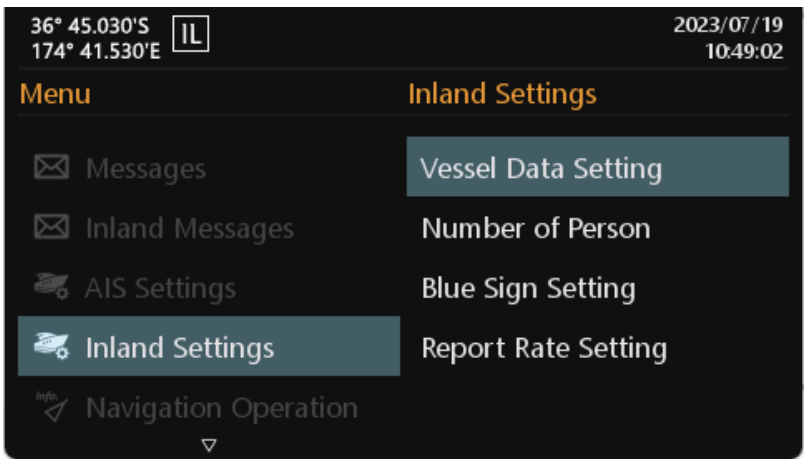
Create POB Message

In this submenu users can compose number of person on board (RFM55/IFM16) messages. Number of person onboard can be configured in Inland Settings.

When “Broadcast SRM” is selected, just omit the Destination MMSI. The Data Type provides the option either to send the data in RFM55 or IFM16. Channel gives you the option to send the message through channel A, B, A&B, or No Preference. By No Preference, which is the default option, the system will select the channel automatically.



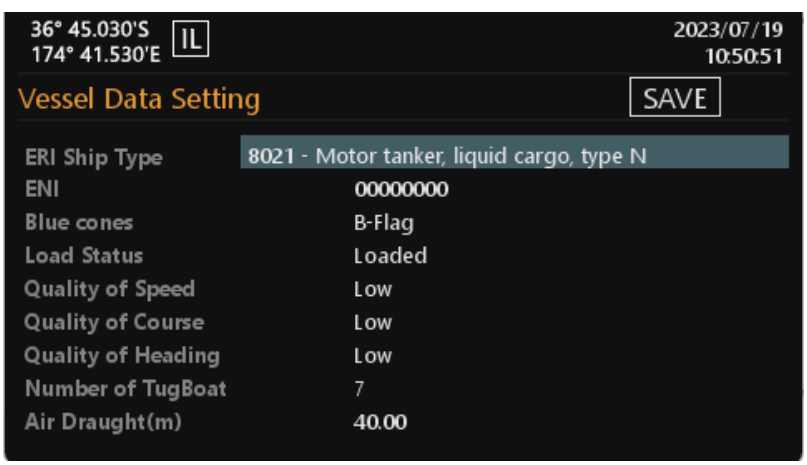
INLAND SETTINGS



Vessel Data Setting

Inland related vessel data can be set in this submenu:

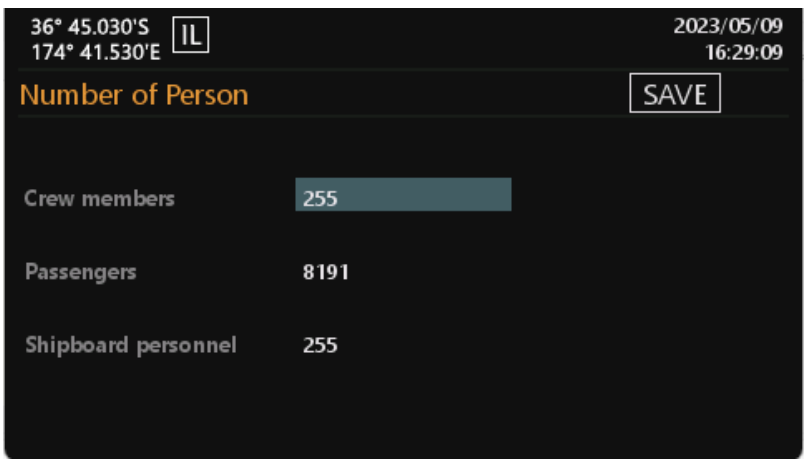
- ERI Ship Type — ERI classification code and description.
- ENI — European Number of Identification or European Vessel Identification Number
- Blue cones — The number of blue cones or blue flag status for the cargo (1, 2 or 3 blue cones, or B-Flag (blue flag)).
- Load Status — **Loaded**, **Unloaded**, **Unknown**
- Quality of Speed, Course, Heading — will be shown as **High** when the target vessel is using an approved sensor to generate this data, or **Low** if the data is derived from internal GNSS only.
- Number of Tugboat — The number of assisting tugboats (from 0 to 6 or unknown).
- Air Draught (m) — The air draught of the vessel (vessel's highest point to waterline).



Number of Person

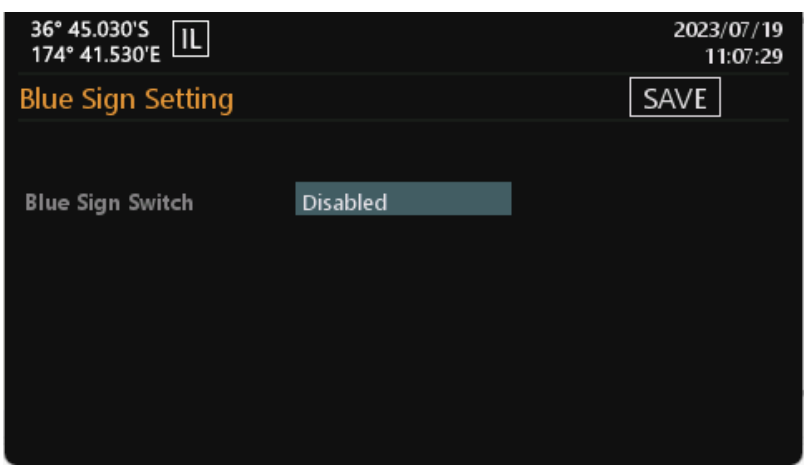
This submenu provides Number of Person (RFM55) setting.

The number of crew (0 to 254 or unknown), passengers (0 to 8190 or unknown) and other shipboard personnel (0 to 254 or unknown).



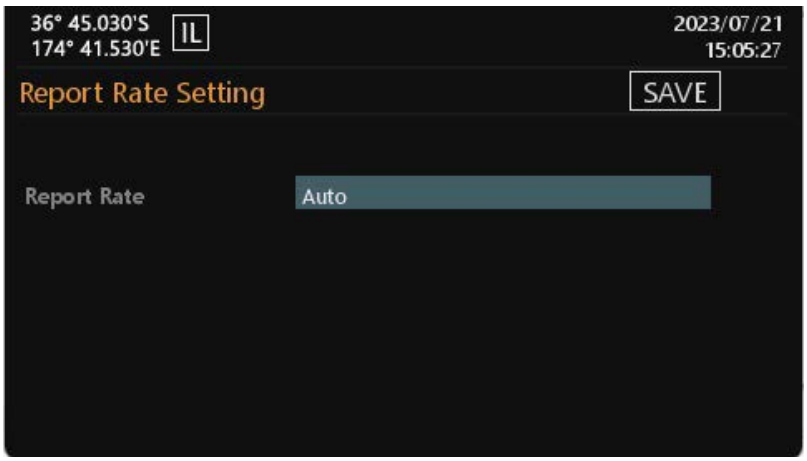
Blue Sign Setting

Blue Sign information helps you recognize the approaching vessels in your inland waterway area. A “blue sign” switch may optionally be connected to the AIS transceiver during installation. This setting enables or disables the blue sign switch on the Junction Box.



Report Rate Setting

Set V5043's report rate. Selectable report rates are Auto/ 30 SEC./ 15 SEC./ 10 SEC. etc.



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