

CAMINO-701

[AIS CLASS A]

OPERATIONAL MANUAL



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1 OPERATION

1.1 Panel Description

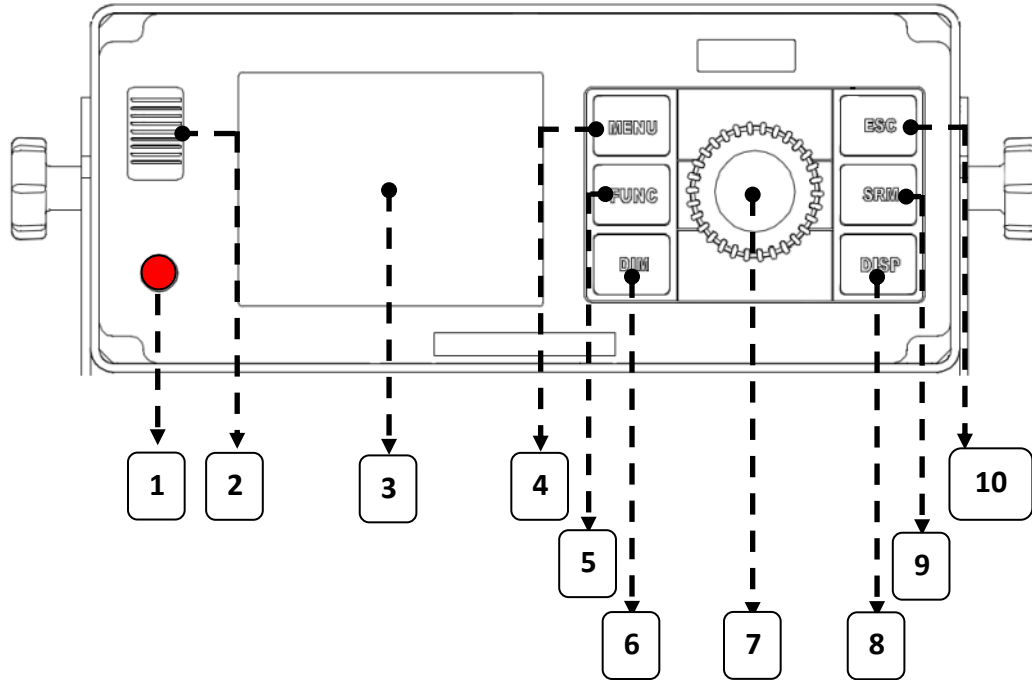


Figure 1 Panel Description

Item Number	Name	Descriptions
1	Power Switch	Power On/Off (push button over 5 seconds)
2	Beeper	Sound for when buttons are pushed
3	Display	3.5" LCD color screen
4	MENU	Return to main menu / detail menu select
5	FUNC	Different function on display mode (Zoom In/Out, etc)
6	DIM	Adjust dim degree (refer to 4.2.7)
7	Knob	Rotate to select, press to confirm
8	DISP	Change to different display mode: 1 Coastal View 2 Radar View 3. AIS Target List 4. Dangerous Target list 5. Own Ship Detail 6. GPS satellite information 7. Region Setting List
9	SRM	Emergency SRM broadcast
10	ESC	Cancel / Back to Main MENU

1.1.1 Status Bar

The status bar constantly indicates Date (YYYY/MM/DD), Time, GPS status, ALR, and SRM.

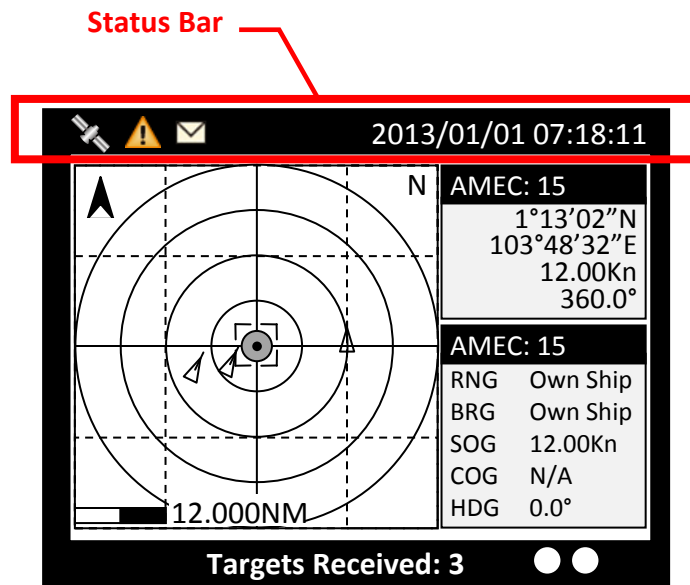







Figure 2 Status Bar

	GPS Status : Position fixed
	GPS Status : Non-fixed
	ALR Status : Alarm messages occurs
	Inbox SRM : Unread coming SRM message
	SART/MOB : SART or MOB message received

1.1.2 Transmission and Reception Bar

The Transmission & Reception bar constantly displays real time status of transmissions and receptions on any display modes.

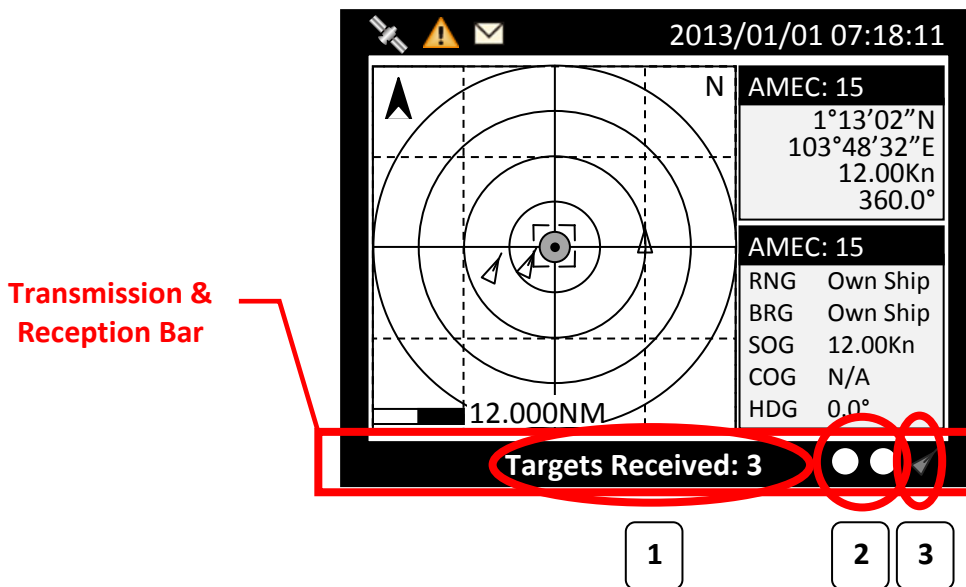













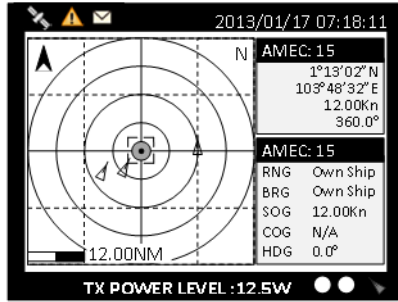
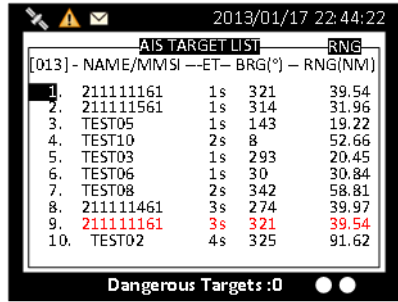
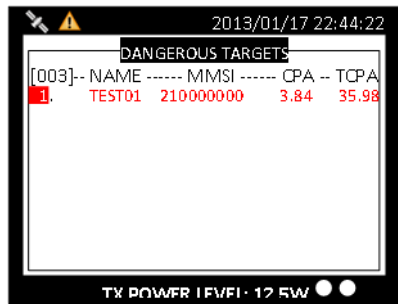
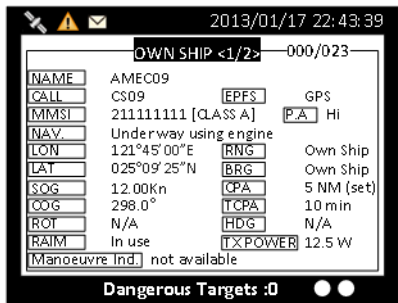


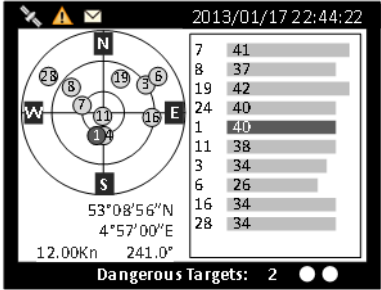

Figure 3 Transmission and Reception Bar

Item Number	Name	Function	
1	Text Banner	Shows the numbers of "Targets Received" and "Dangerous Targets" automatically.	
2	Indicators  Ch.87 Ch.88		No transmissions & receptions: No flash
			Reception of AIS message: Flash green color
			Transmission of AIS message: Flash red color
3	Function Icon (Coastal view only)  Zoom In/Out  Up/Down  Left/Right  Target Selected  SART/MOB	The function icon indicates the knob's action differently in operations. Push FUNC enables the knob to operate different actions	
	Function Icon (Radar view only)  Zoom In/Out  Target Selected  SART/MOB		

1.2 Display Modes







For quick access, users can rotate display modes by simply pressing the **DISP** button.








Display Mode	Screen Shot	Purpose
Coastal View		Display all targets on basic coastline map
Radar View		Displays all targets on radar view
AIS Target List		Shows all received ship data (Refer to section 4.6.2 AIS Targets)
Dangerous Target List		Shows all dangerous AIS targets presently (Refer to section 4.6.7 Dangerous List)
Own Ship Detail		Shows all the details of own ship (Refer to section 4.2.5 Own Ship Detail)

<p>GPS Satellite Information</p>		<p>Shows the GPS satellite current usage status (Refer to section 4.2.5 GPS Satellite Information)</p>
<p>Region Setting List</p>		<p>Show all the Region of own ship (Refer to section 4.6.3 Own Ship Detail)</p>

1.2.1 Target Symbol Descriptions

Symbols for each AIS target displayed on the radar view is as described below:

<p>Own Ship</p> 	<p>GPS Reception: Normal / Color: Black and Gray Under normal GPS reception, own ship is located in the center of the radar view.</p>
<p>Own Ship</p> 	<p>GPS Reception: No GPS / Color: Blue Without GPS reception, own ship needs to be located manually.</p>
<p>AIS Target</p> 	<p>Color: Black Ship equipped with AIS system in the surrounding sea will appear on the radar view as an AIS target.</p>
<p>Selected Target</p> 	<p>Color: Black / Flashing Colored Frame Use the arrow keys to select any target on the radar view. After selected, press <ENT> and the detailed information on each target can be viewed.</p>
<p>Dangerous Target</p> 	<p>Color: Red / Circled Frame When distance to a ship is smaller than CPA/TCPA, the target will be circled in RED. Use the arrow keys to select the dangerous target and to view its detailed information.</p>
<p>Friend Ship</p> 	<p>Color: Magenta If any pre-stored Friend Ship is nearby, the Friend Ship will appear in Magenta on the radar view.</p>

Lost Signal Target 	Color: Black / Red Cross If reception of an AIS target has ceased over 10 minutes, a “X” will be displayed over it. The target will disappear from the Radar View after its reception has ceased for one hour.
AtoN (Real) 	Color: Black / Plus Sign The icon will be displayed if any AIS AtoN (Aids to Navigation) Real is in the range of reception.
AtoN (Virtual) 	Color: Black / Plus Sign and Undercut The icon will be displayed if any AIS AtoN (Aids to Navigation) Virtual is in the range of reception.
AtoN(Off position) 	Color: Red / Plus Sign The icon will be displayed if any AIS AtoN (Aids to Navigation) is in off position status.
SAR 	Color: Black The icon will be displayed if any air plane is in the range of reception.
SART 	Color: Red / Cross The icon will be displayed if any SART message is sent out.
Base Station 	Color: Green The icon will be displayed when any base station is in the reception range.

1.2.2 Coastal View

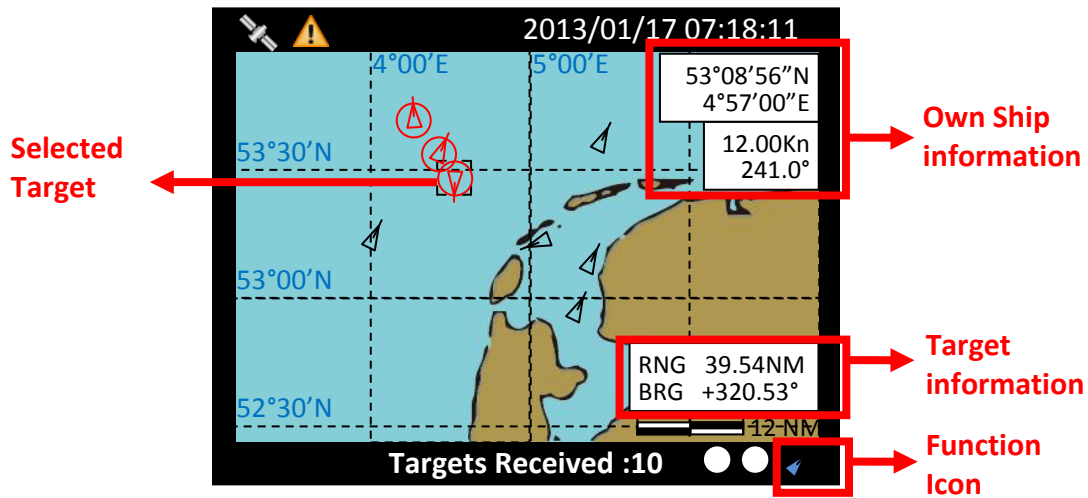


Figure 4 Coastal View

Item	Function	
Own Ship information	Own-ship information for latitude, longitude, SOG and COG	
Target information	Display the target information such as range and rearing relatively to the own ship	
Function Icon (Coastal View)	<ul style="list-style-type: none"> Zoom In/Out Up/Down Left/Right Target Selected SART/MOB 	Function icon (Coastal View)



The coastline map in this transponder is neither verified nor approved by Hydrographic Authorities. It is not an Electronic Chart System and therefore should not be used for navigation. The information provided by the coastline map is for reference only and should be used together with other navigation sources and devices.

1.2.3 Radar View

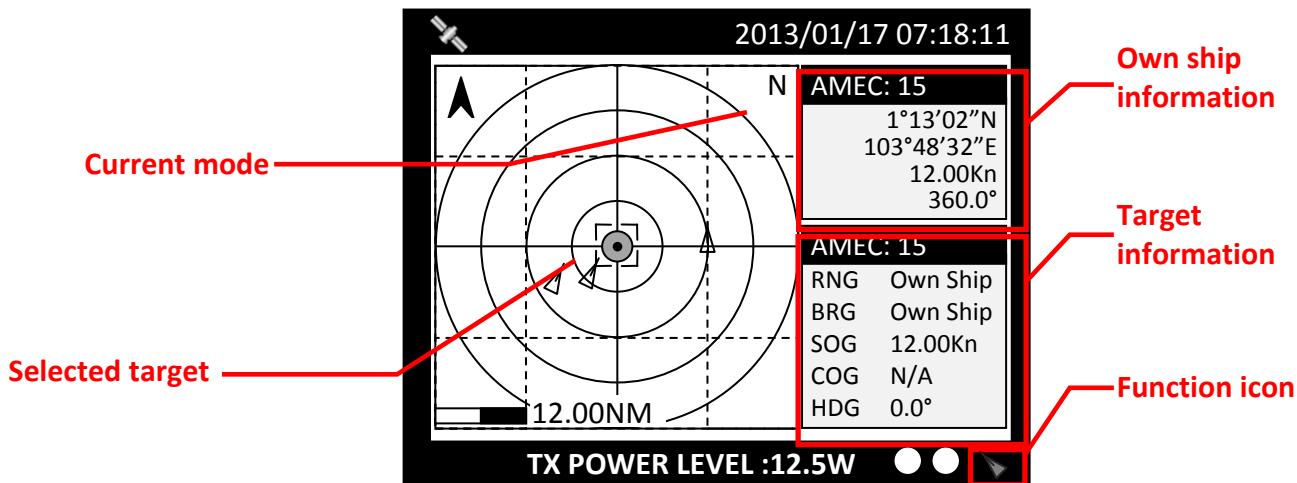


Figure 5 Radar View

Radar View displays own ship and target ships' statuses, and their correlations.

On this view, the vertical grid lines are the longitudinal lines and the horizontal grid lines are the latitudinal lines. Underneath the radar view is a proportional chart scale showing the current ratio displayed.

Radar View supports three ship orientation modes, North up, Head up, and Course up. Each orientation mode is indicated by the uppercase letter (N, H, or C) on the right upper corner. The left upper corner is the north arrow indicating the direction of north.

N	NORTH UP	The chart orientation is fixed and true north is always pointing up.
C	COURSE UP	The orientation is determined by the own ship's traveling course.
H	HEAD UP	The orientation is determined by the direction of own ship's bow.

1.2.4 Dangerous Target List

Please refer Section 4.6.7 DANGEROUS LIST

1.2.5 Own Ship Detail

Please refer Section 4.6.1 OWN SHIP

1.2.6 GPS Satellite Information

Please refer Section 4.10.6 GPS STATUS

1.2.7 Dimmer Setting

Press the button “DIM” to enter the dimmer setting page.

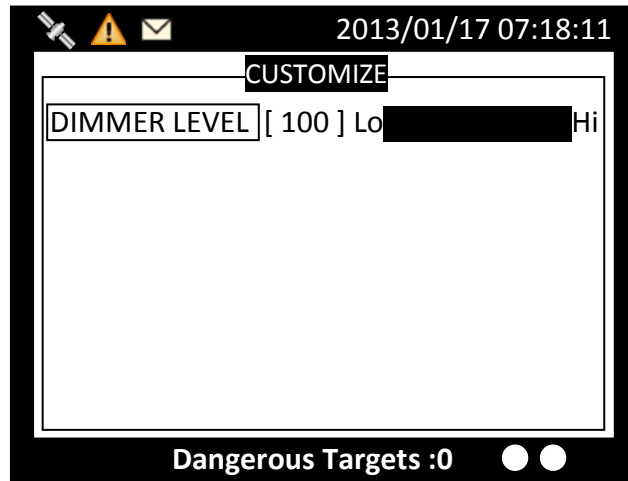


Figure 6 Dimmer Setting

Button	Description
Knob (Turn left/right)	Adjust screen brightness (decrease/increase)
Knob (Press)	Save and leave the page
DIM	Restore screen brightness to default setting (100)
MENU · ESC	Leave the page without saving

1.3 Entering Text

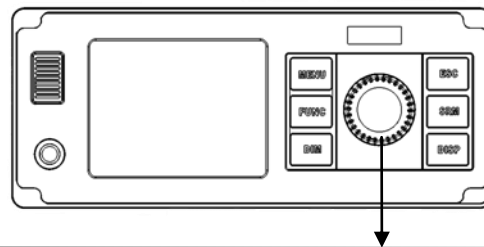
The knob on the front control panel is used for entering and editing text. The figures below show the text entering procedures.

- Turn the knob to traverse the menu items up or down. Once selected, press the knob to select the item for text entering.
- Select a character position to edit. Turn the knob to move the cursor left or right and press the knob to confirm the position.
- System is now in character selection mode as the cursor position is highlighted. Turn the knob to pick an available character and press the knob for character selection.

	A	B	C	D	E	F	G
H	I	J	K	L	M	N	O
P	Q	R	S	T	U	V	W
X	Y	Z	0	1	2	3	4
5	6	7	8	9	[\]
^	_	!	“	#	\$	÷	&
‘	()	*	+	,	-	.
/	:	;	<	=	>	?	@

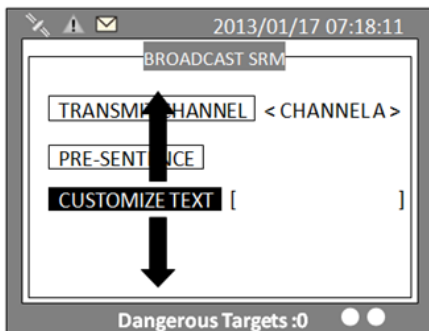
Info Space is first character for selection

- Use steps B and C to finish entering all needed characters. To confirm and save, press down the knob and hold for 2 seconds.



Traverse menu

A

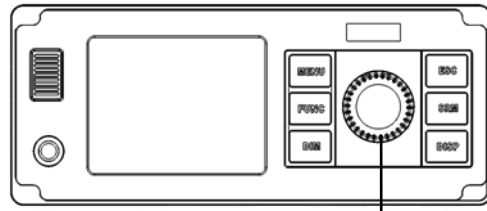


Turn knob to move up or down



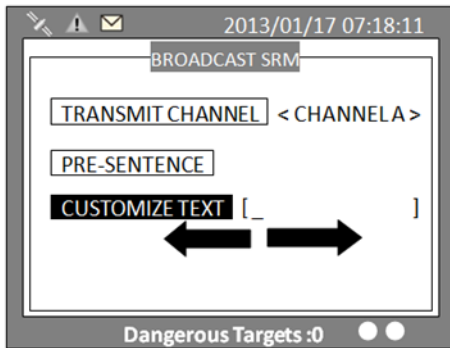
Press to enter





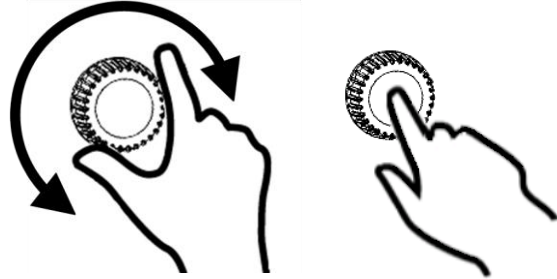
Select a character position

B



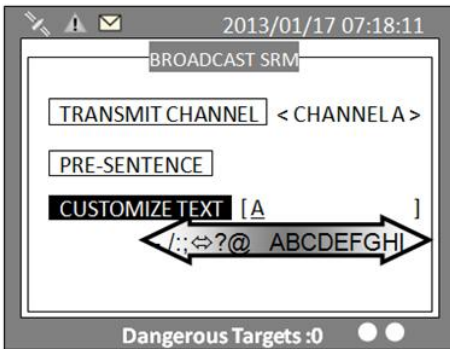
Turn knob to move left or right

Press to start editing



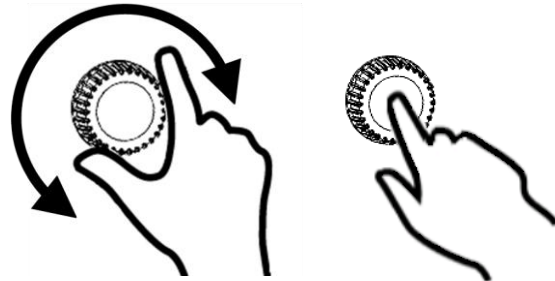
Pick character

C



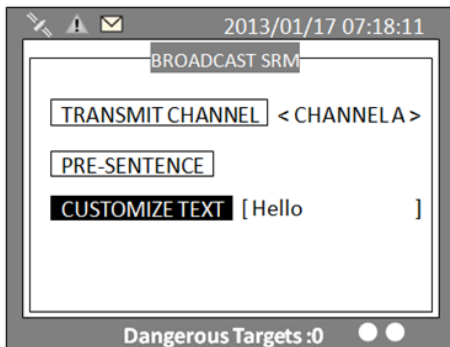
Turn knob to select character

Press knob to confirm



Confirm and save

D



To save entered text, long press the knob for 2 seconds

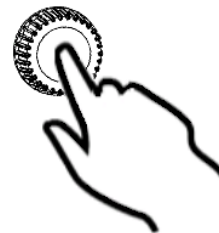
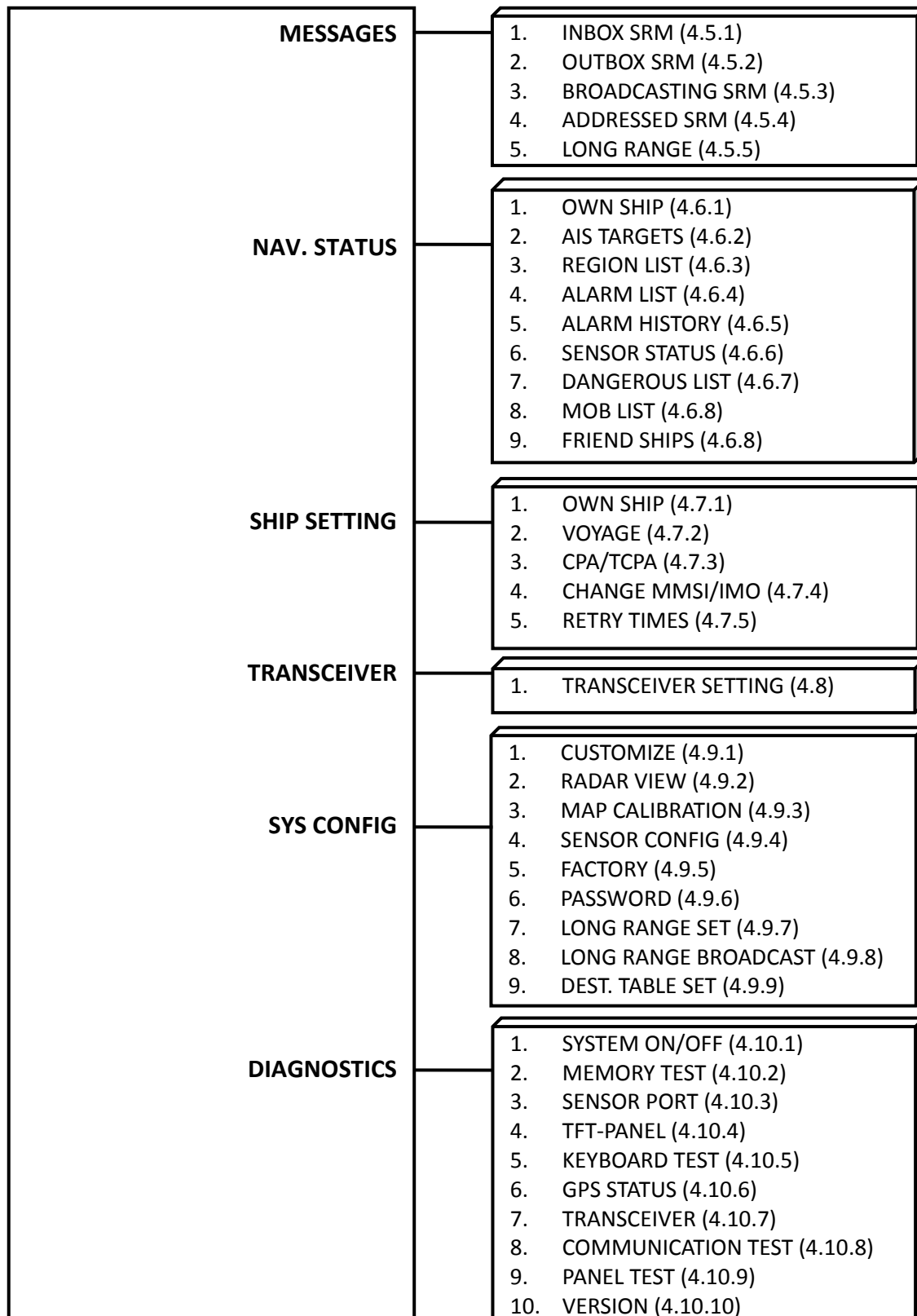


Figure 7 Entering Text

1.4 Menu Tree Overview

Press **MENU** button to enter **MAIN MENU**. There are 6 menu choices and each holds a sub-menu. See table below.



1.4.1 How to access and use MAIN MENU

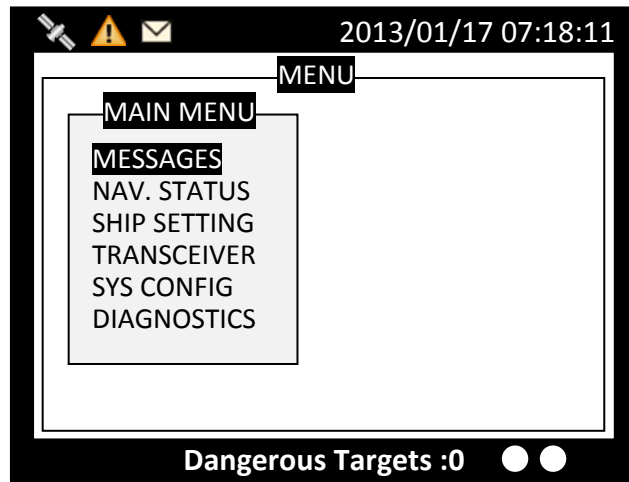


Figure 8 MAIN MENU

Rotate knob to select **MAIN MENU** items and push the knob to select sub-menu items.

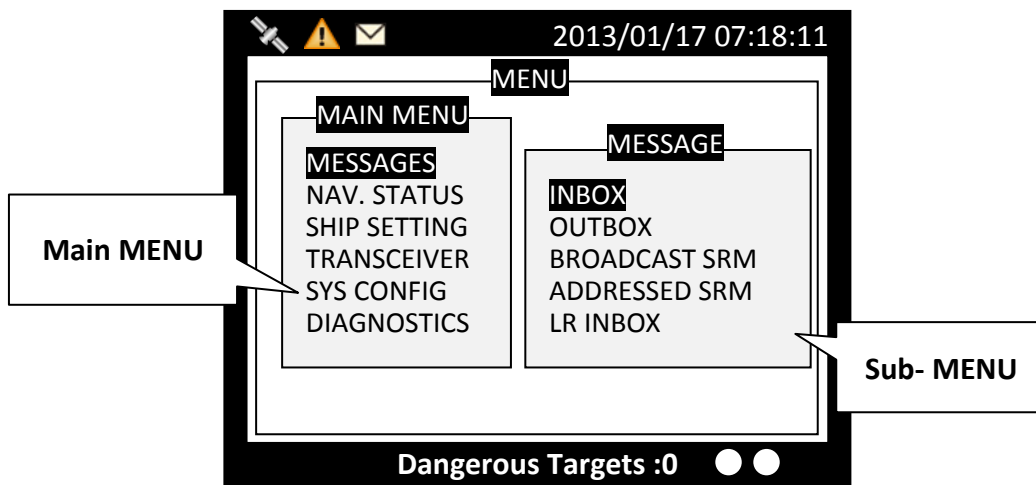


Figure 9 Sub-menu

1.4.2 Menu Item Brief Description

MESSAGES	
INBOX	Log of safety related messages (SRM) received
OUTBOX	Log of safety related messages (SRM) sent
BROADCAST SRM	Send SRM.
ADDRESSED SRM	Send specified targeted SRM.
LR INBOX	Log of received inquiry messages from others.
NAVIGATION STATUS (Display a variety of navigation information)	
OWN SHIP	Your vessel information
AIS TARGETS	Navigation status and boat information of other AIS-equipped vessels.
REGION LIST	Regional information status
ALARM LIST	Alarm information
ALARM HISTORY	Alarm history record
SENSOR STATUS	Display sensor statuses
DANGEROUS LIST	Dangerous ship list
MOB LIST	MOB list of registered MOB users
FRIEND SHIPS	Friend ship list
SHIP SETTING (Basic vessel information setting)	
OWN SHIP	Your vessel setting (password required, default is 0000)
VOYAGE	Navigation setting
CPA / TCPA	CPA / TCPA
CHANGE MMSI / IMO	Change MMSI / IMO
RETRY TIMES	Times to resend messages.
TRANSCEIVER (Settings for AIS receiving and sending)	
AIS TX	Transceiver status: turn on or off AIS message transmitting
DSC RX	DSC Monitor: turn on or off DSC monitoring function
GPS ANT. VOLTAGE	GPS antenna feeding voltage: set to 3.3V or 5V

SYSTEM CONFIGURATION	
CUSTOMIZE	Personalization settings
RADAR VIEW	Radar configuration
MAP CALIBRATION	Map offset setting
SENSOR CONFIGURATION	Port configuration
FACTORY	Default factory setting
PASSWORD	Password change (default password: 0000)
LONG RANGE SETTING	Remote inquiry setting
LONG RANGE BROADCAST	Enable/Disable Long Range Broadcast
DESTINATION TABLE SETTING	Table storing destinations
DIAGNOSTICS	
SYSTEM ON/OFF	Device activated log
MEMORY TEST	Memory test
SENSOR PORT	Transmission port test
TFT-PANEL	Screen panel
KEYBOARD TEST	Button test
GPS STATUS	GPS positioning status
TRANSCEIVER	Transponder status
COMMUN. TEST	Test communication
PANEL TEST	Test Panel
VERSION	Firmware version

1.5 Messages

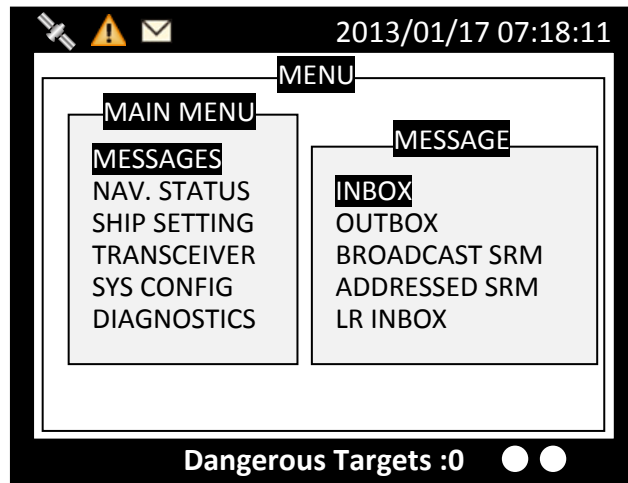



Figure 10 Message

1.5.1 Inbox SRM

You can read received SRM messages under Inbox. If there is any unread message, the upper left corner will display , the new message icon.

Traversing list

Turn the knob to traverse the message list.

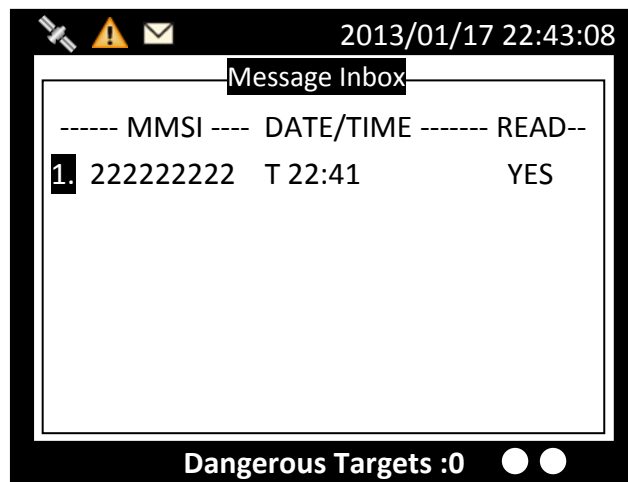


Figure 11 Traversing List

Highlight your choice and pressing down the knob to read message content.



Figure 12 Message Text

Message deletion

Pressing the **MENU** button will ask whether to delete the highlighted message. Turn knob to choose and press knob to confirm your choice.

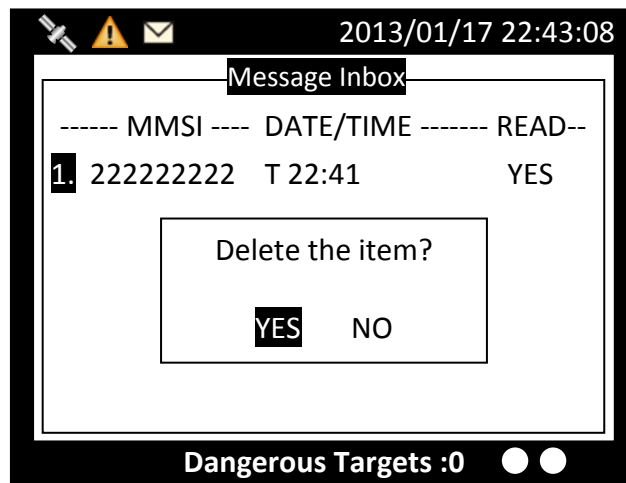


Figure 13 Message Deletion

1.5.2 Outbox SRM

You can read sent **SRM** messages under **OUTBOX**. Below are key functions under **OUTBOX**.

Traversing List

Turn the knob to traverse the message list.



Figure 14 Traversing List

View message

Highlight your choice and pressing down the knob to view message content.



Figure 15 View Message

Message deletion

Pressing the MENU button will ask whether to delete the highlighted message. Turn knob to choose and press MENU to confirm the decision.

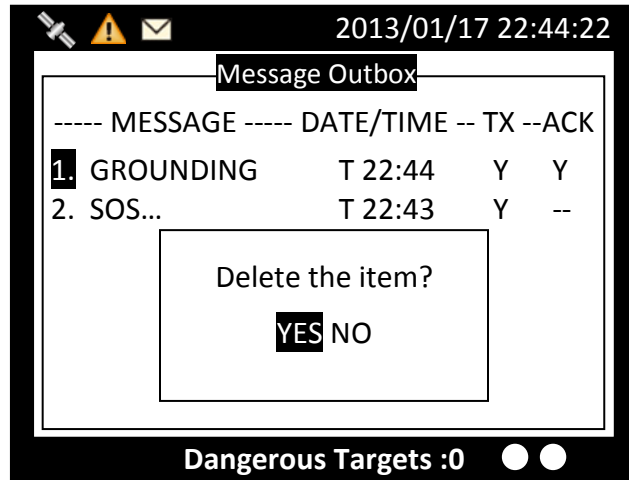


Figure 16 Message Deletion

1.5.3 Broadcast SRM

Use this menu to send a Pre-defined or custom message. Turn the knob to traverse all available option. Maximum length for the customized message is 90 characters.

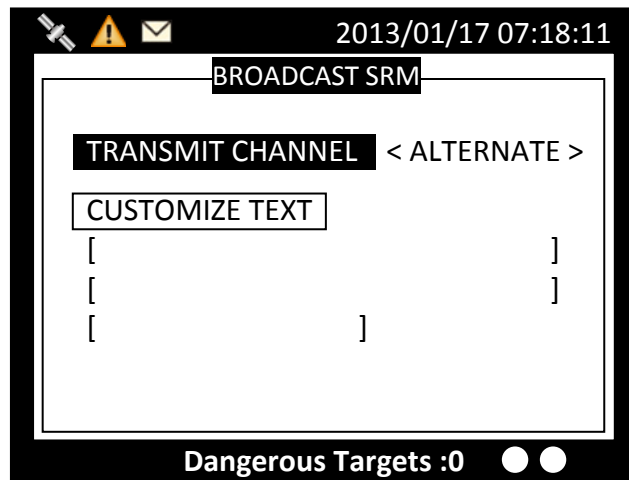


Figure 17 Broadcast SRM

Selecting SRM channel

SRM channel selection is the first option in the screen. Highlight it and press the knob to enter the option. Turn the knob to change the setting.

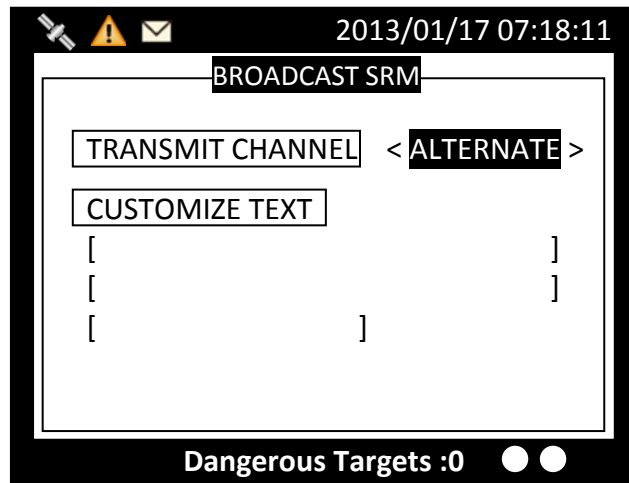


Figure 18 Select SRM Channel

Once finish the settings, press the knob again to return.

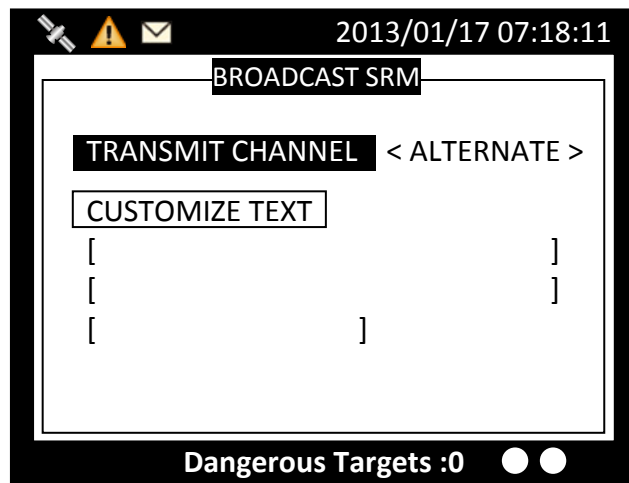


Figure 19 Finish Setting

Using Predefined-Sentence

You may use **PRE-SENTENCE** option to select a pre-defined message sentences or a customized text. Press the knob to enter and turn the knob to switch sentence selections, and then press the knob to confirm. To use a customized sentence, turn selection to **<Other>**, and remember to enter you customized text at the **CUSTOMIZE TEXT** option.

Entering SRM customized text

Press the knob to enter text input mode, then turn the knob to traverse character position on the text.

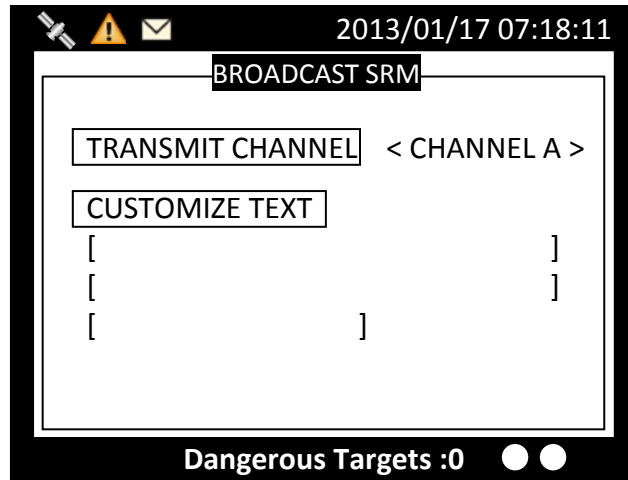


Figure 20 SRM Customized Text

Choose a text location, and then press the knob to enter text input mode. Turn the knob to select a character, and then press the knob to confirm and to return. Repeat these steps till all desired characters are entered.

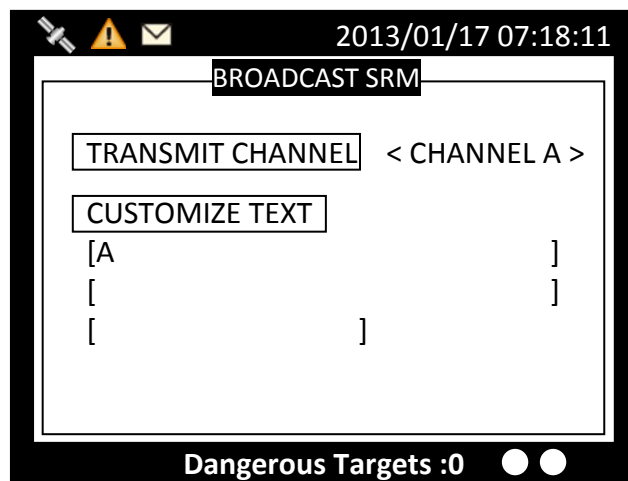


Figure 21 Enter Customized Text

When finished, press ESC to return to **BROADCAST SRM** menu.

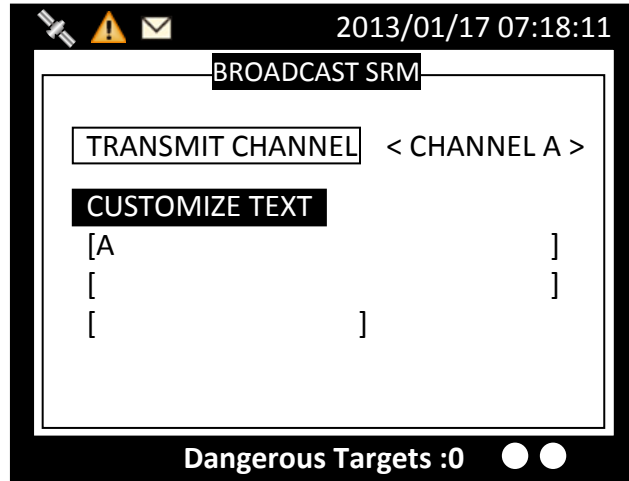


Figure 22 Finish Customized Text

When done with all settings, pressing **MENU** or **ESC** to leave and the system will ask whether to send the message. Select **OK** to send, **CANCEL** to cancel and return to main menu.

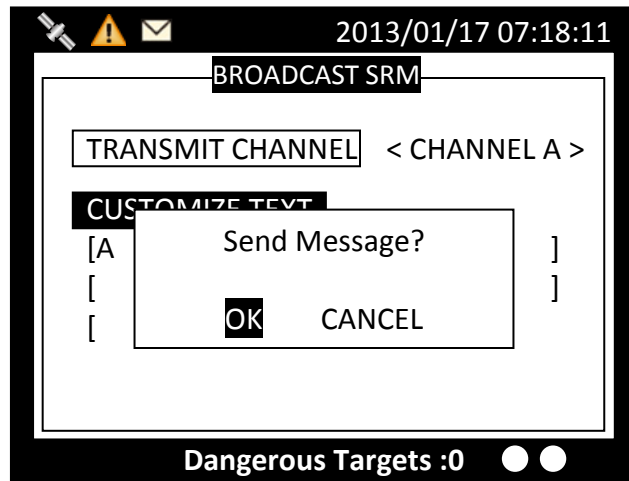


Figure 23 Send Message

1.5.4 Addressed SRM

Press the knob button on **ADDRESSED SRM** will remind to select a target to send.

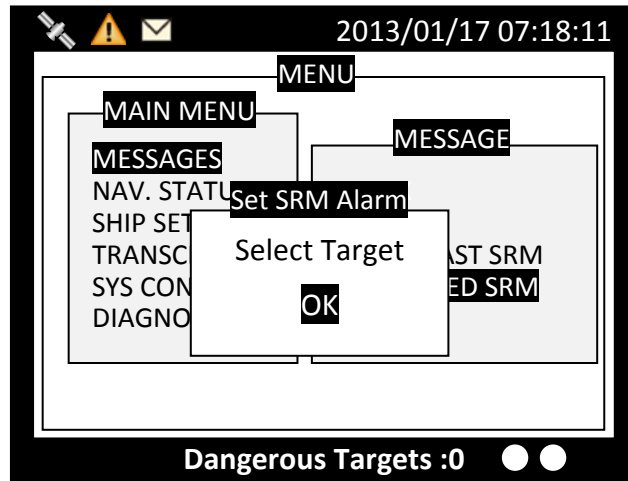


Figure 24 Addressed SRM

Pressing the knob will bring up the vessel list.

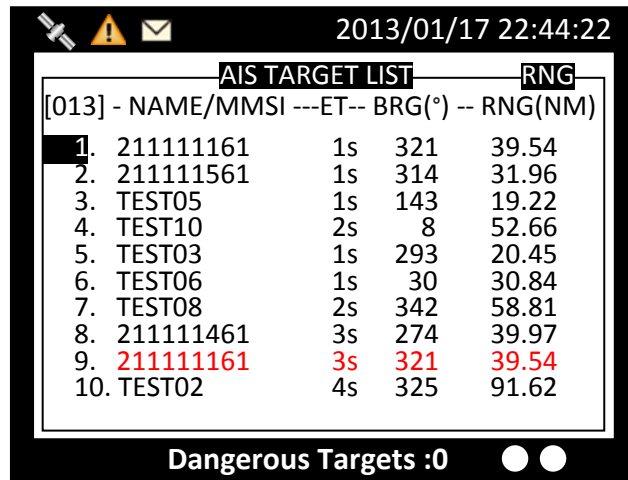


Figure 25 AIS Target List

Select the target vessel by pressing the knob to customize **SRM** sending. Maximum length for the customized message is 85 characters.

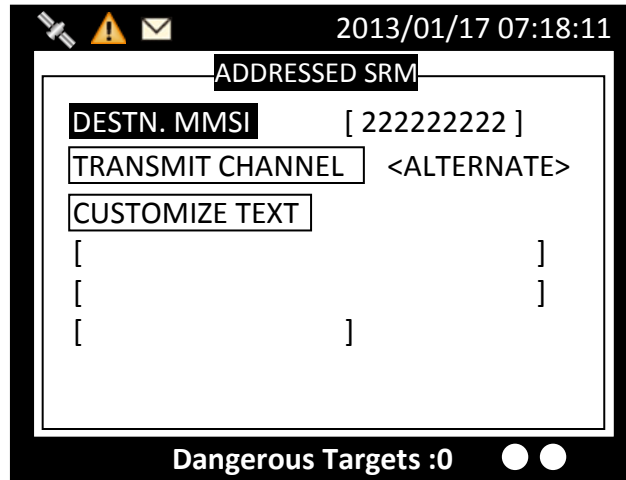


Figure 26 Customize SRM

When changing Destination **MMSI**, choose a text location, and then press the knob to enter text input mode. Turn the knob to select a character, and then press the knob to confirm and to return. Repeat these steps till all desired characters are entered.

When done with all settings, press **MENU** or **ESC** to leave. The system will ask whether to send the message. Select **OK** to send, **CANCEL** to cancel and return to main menu.

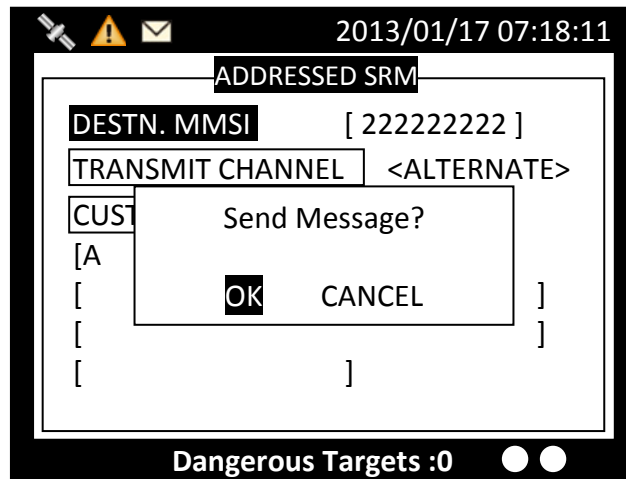


Figure 27 Send Message

1.5.5 Long Range SRM

LONG RANGE SRM holds all received Long Range Interrogation messages. Turn the knob to traverse the message list.

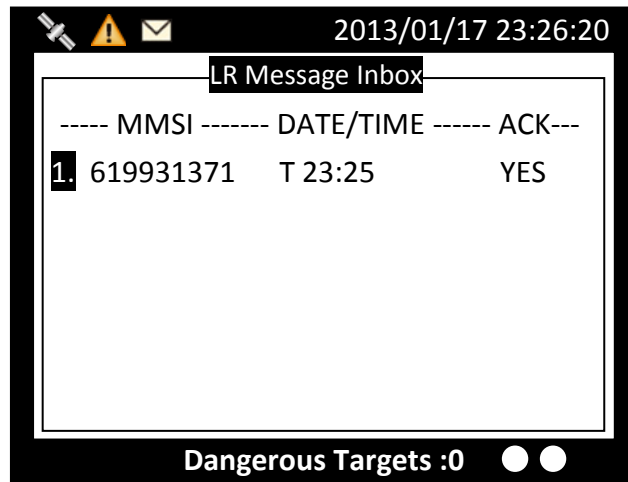


Figure 28 Long Range SRM

Reading message

Press the knob to read the interrogation message content. When finished reading, press **ESC** to leave the page.

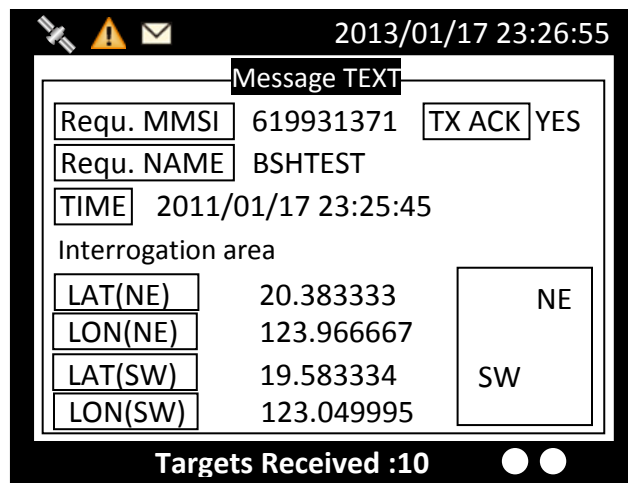


Figure 29 Reading Message

Message deletion

Under the message list, pressing **MENU** will ask whether to delete the message. Turn knob to choose and press knob to confirm your choice.

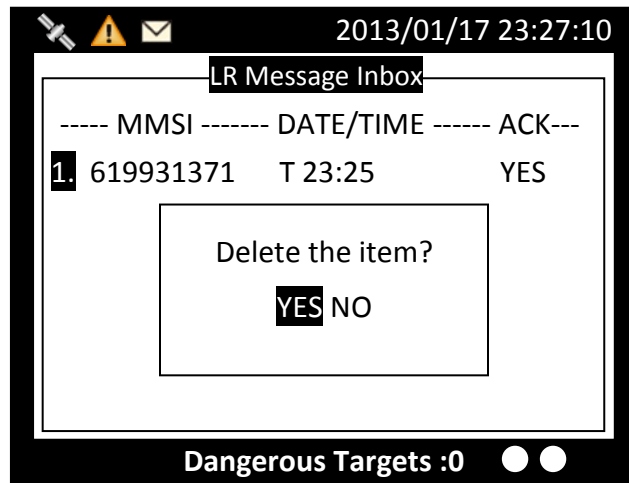


Figure 30 Message Deletion

1.6 Navigation Status

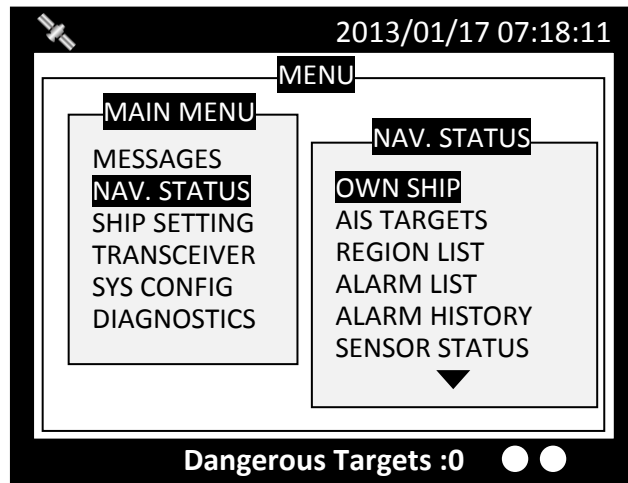


Figure 31 Navigation Status

1.6.1 Own Ship

This option displays the full information on your ship, including both dynamic and static data. Turning the knob, can view dynamic and static information alternatively.

■ Static data

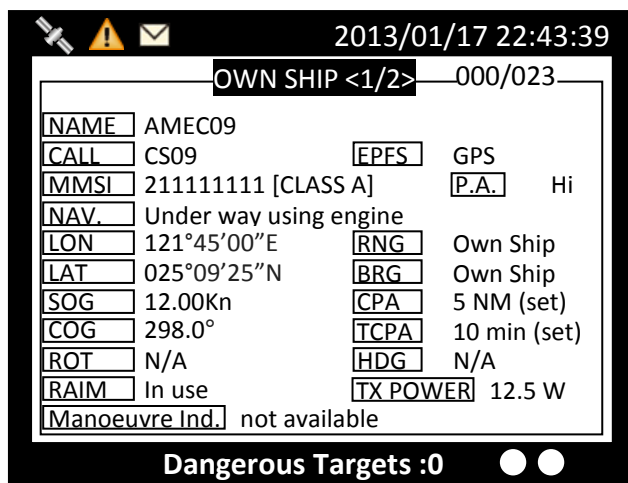


Figure 32 Static Data

■ Dynamic data



Figure 33 Dynamic Data

1.6.2 AIS Targets

This option displays all receive AIS messages of other boats. It can show their dynamic or static information. Turn the knob to select an AIS target.

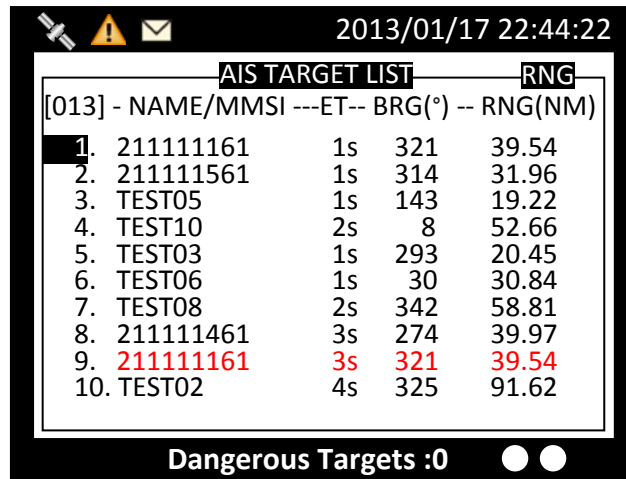


Figure 34 AIS Targets

Press the knob, to read the selected vessel dynamic information.

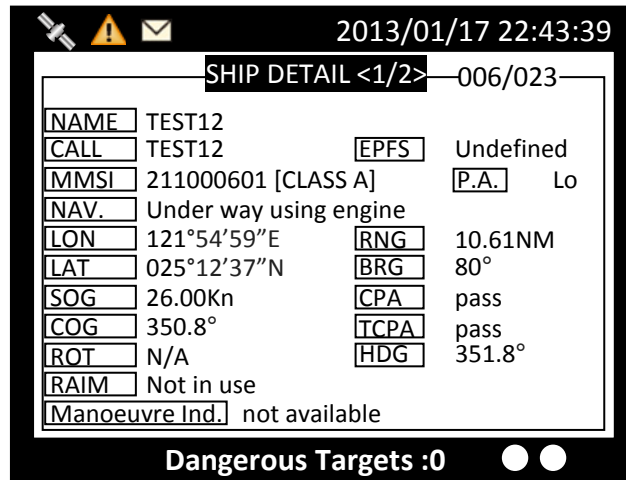


Figure 35 Ship Information

Press the knob again to read static information.

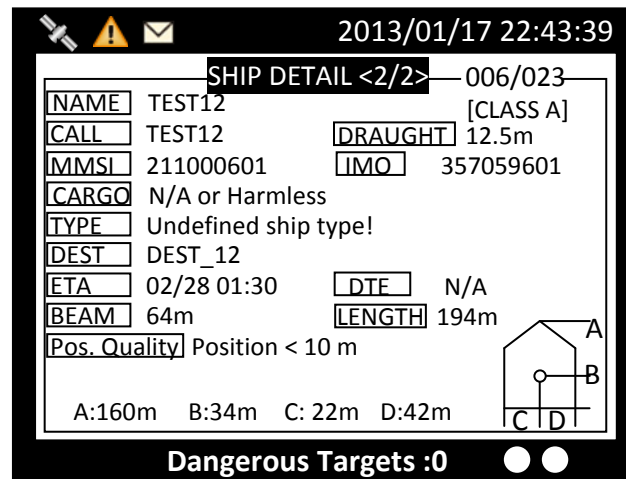


Figure 36 Static Information

Adding Friend Ship

In the list, pressing **MENU** button will ask whether to add this vessel to your **FRIEND SHIP** list.

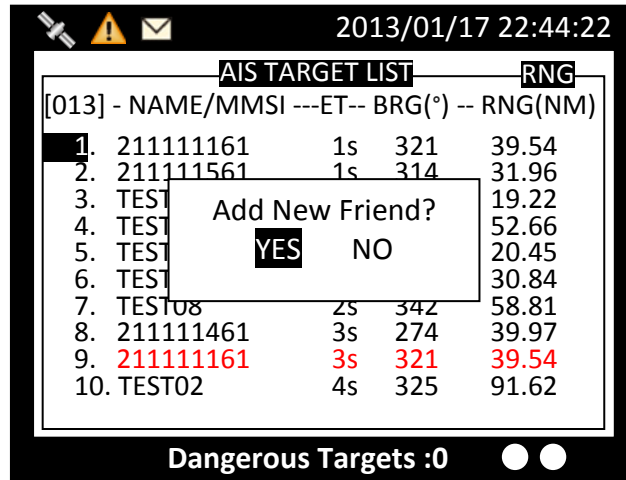


Figure 37 Adding Friend Ship

Sorting AIS Target List

Pressing the **FUNC** button can sort the list according to vessels' **MMSI**, distance, or direction.

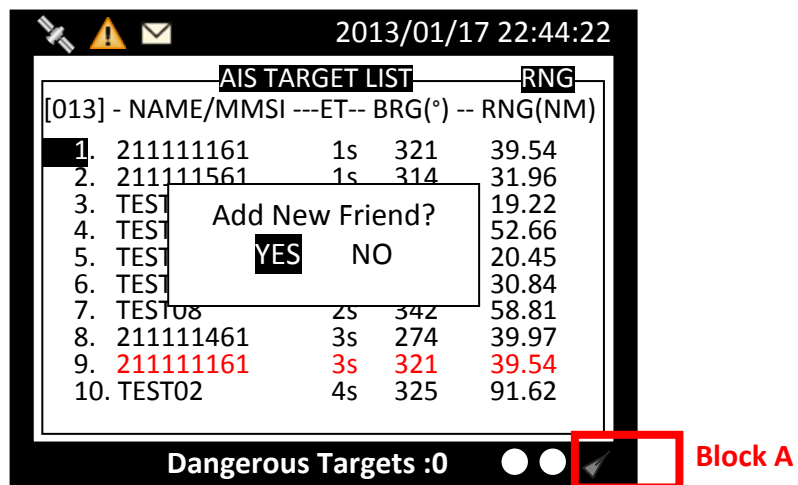


Figure 38 Sorting AIS Target List

In the screenshot above, the block A indicates the current sorting method.

	By MMSI, in ascending order
	By direction, in ascending order
	By distance, in ascending order

1.6.3 Region List

This option list all saved region information.

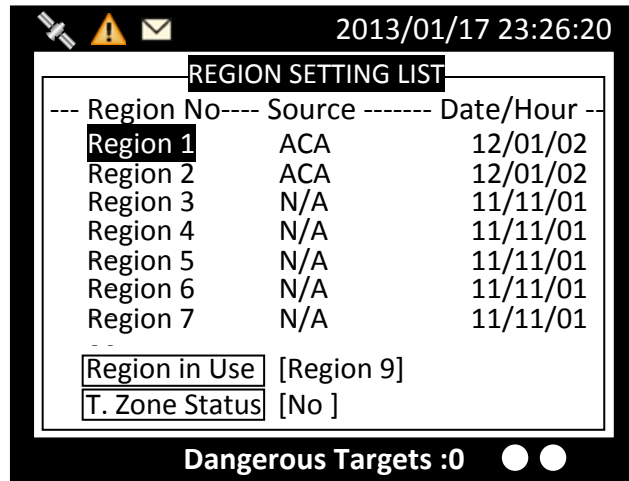


Figure 39 Region List

Turn the knob to traverse the list. Press the knob enables you to read the highlighted region information.

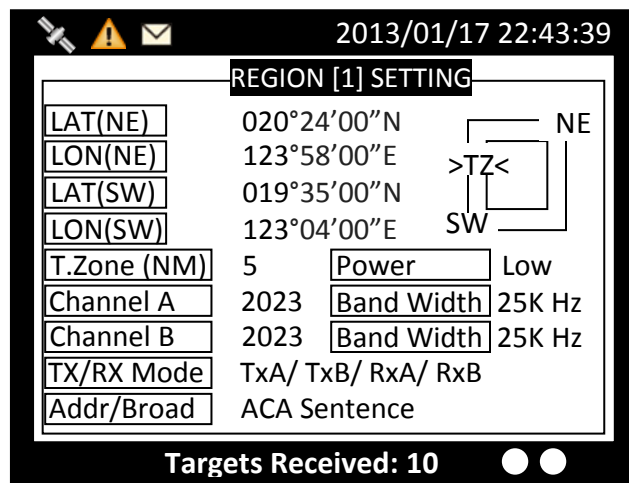


Figure 40 Region Setting

Modify region content

Press **MENU** at the region information page, enables you to modify the region information.

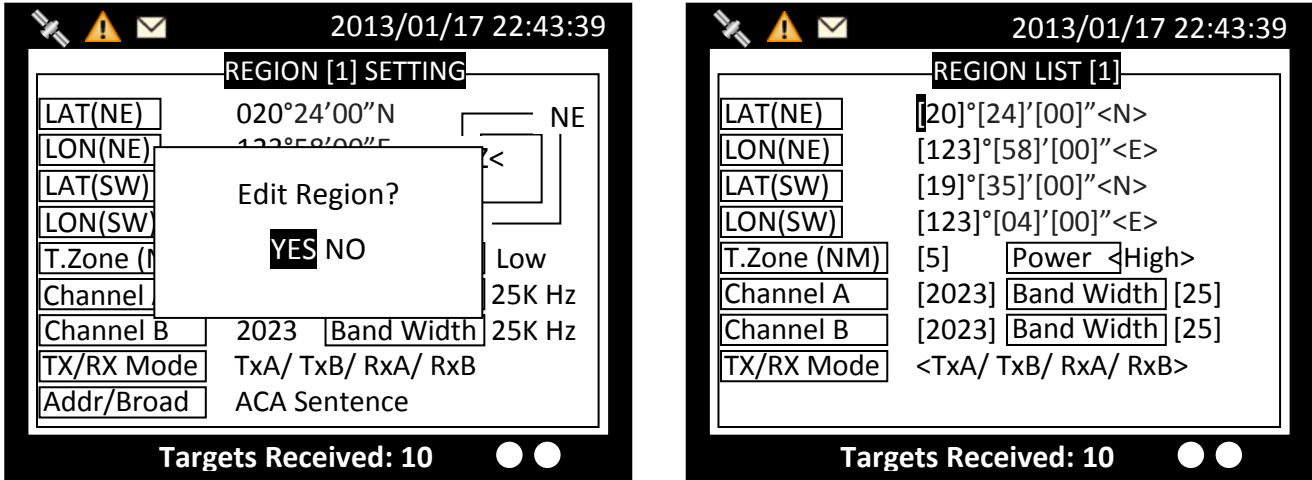


Figure 41 Modify Region Content

To save, pressing MENU or ESC will ask whether to save the changes.

If the region information is un-modifiable, saving does not change the original information.

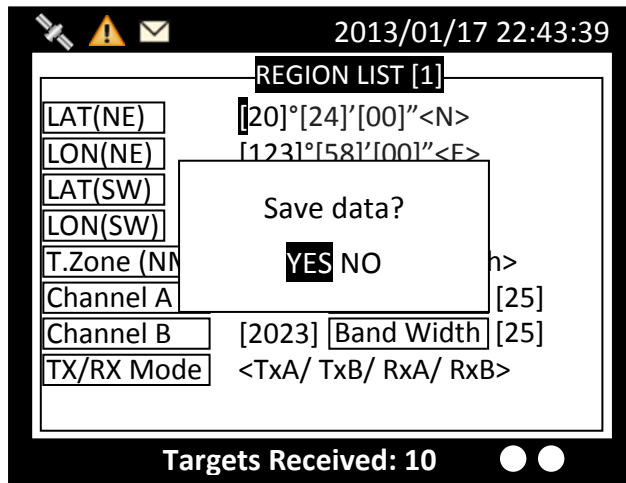


Figure 42 Save Data

1.6.4 Alarm List

This command lists all current AIS ALR statuses.

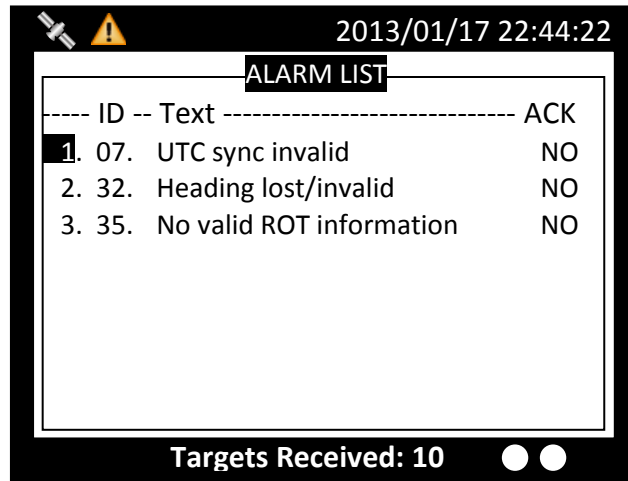



Figure 43 Alarm List

By pressing **MENU**, enables you to send **ACK** message to **AIS**. If the **ALR** information has not yet responded, an indication icon  will appear on left upper corner till all **ARL** information is received.

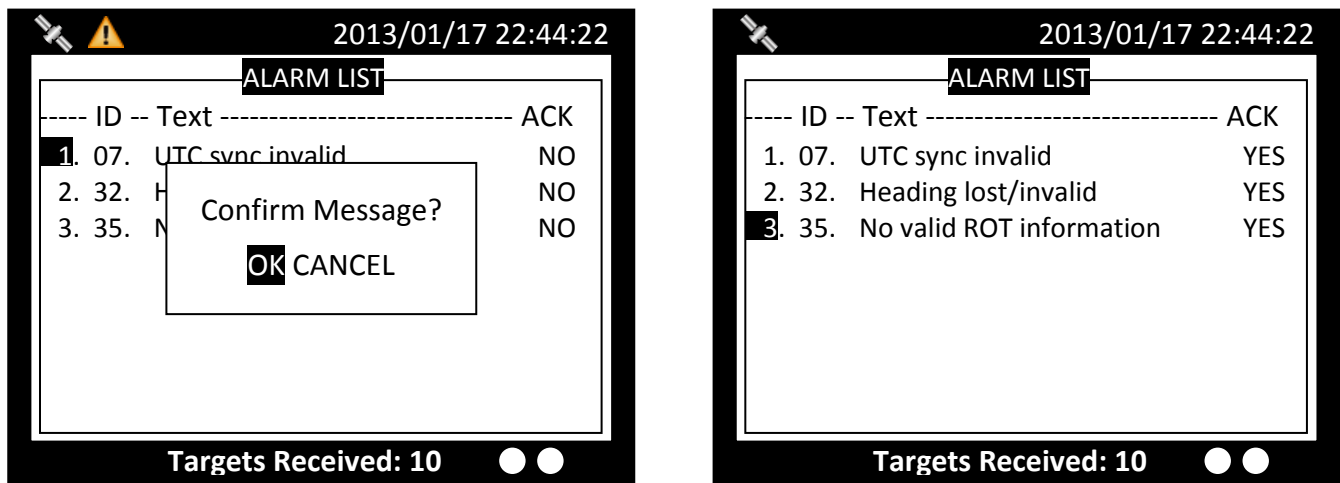


Figure 44 Send Message

1.6.5 Alarm History

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

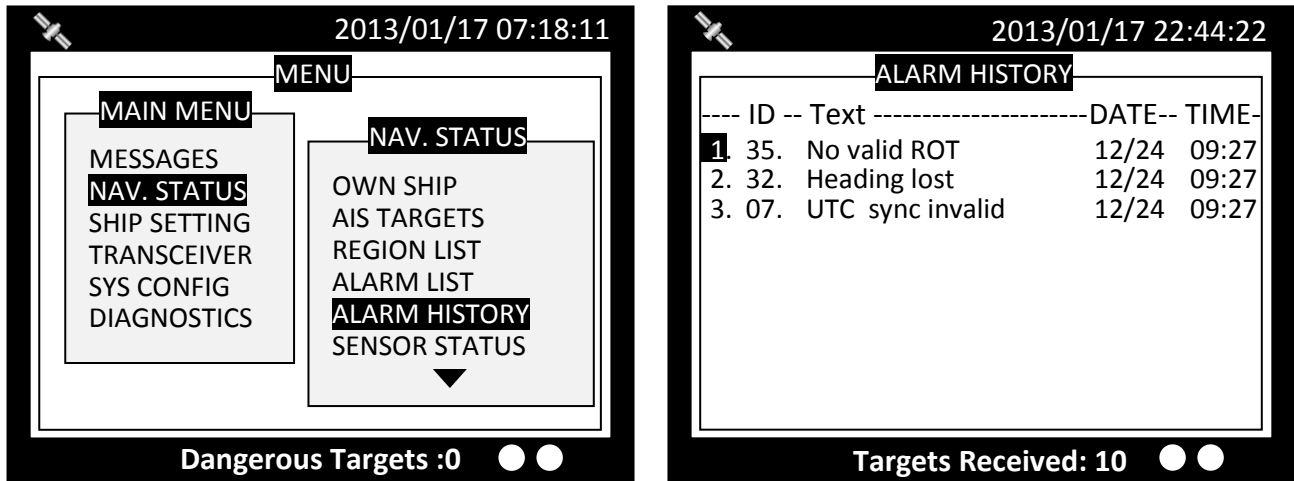


Figure 45 Alarm History

1.6.6 Sensor Status

Display sensor statuses:

SENSOR	STATUS
POSITION STATUS	EXT. DGNSS / INT. DGNSS MSG.17 / EXT. GNSS / INT. GNSS / NO GPS
POSITION QUALITY	No position Manual position Dead reckoning position valid position with no time stamp Position > 10m Position with RAIM > 10 m Position <= 10 m Position with RAIM <= 10 m Outdated position > 200 m
UTC STATUS	VALID / LOST
COG STATUS	INT. COG / EXT. COG / LOST
SOG STATUS	INT. SOG / EXT. SOG / LOST
HEADING STATUS	VALID / LOST
ROT STATUS	VALID / OTHER ROT / LOST

The channel status below records TXT message received times.
AIS: Channel management parameters changed.

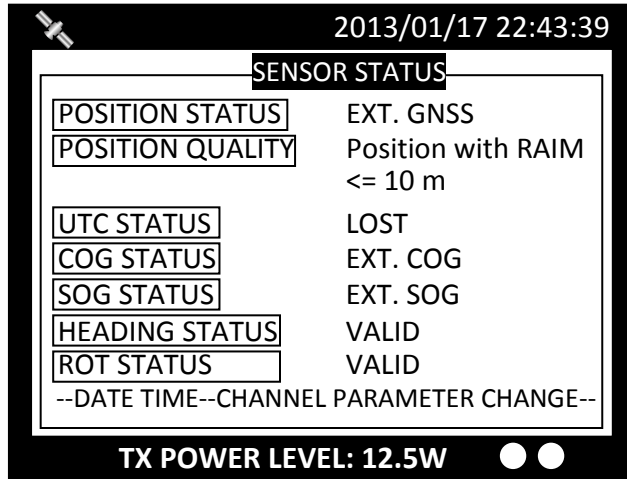


Figure 46 Sensor Status

1.6.7 Dangerous List

Any vessel with less than the safe encountering time (TCPA) and distance (CPA) will be listed in **DANGEROUS LIST** for navigation purposes and safety references.

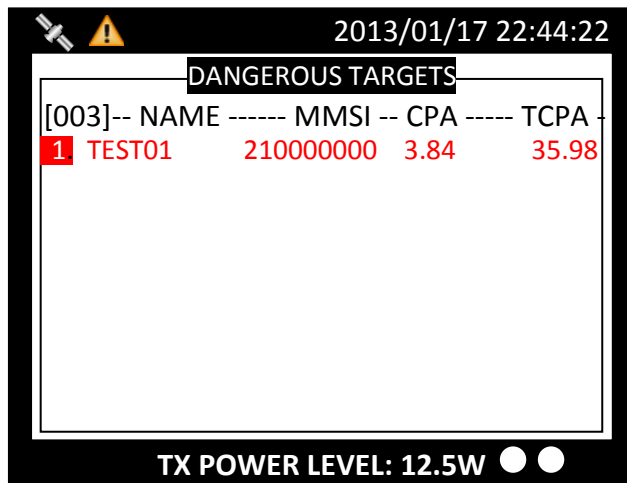


Figure 47 Dangerous List

Turn the **knob** to select a vessel and press to read its information.

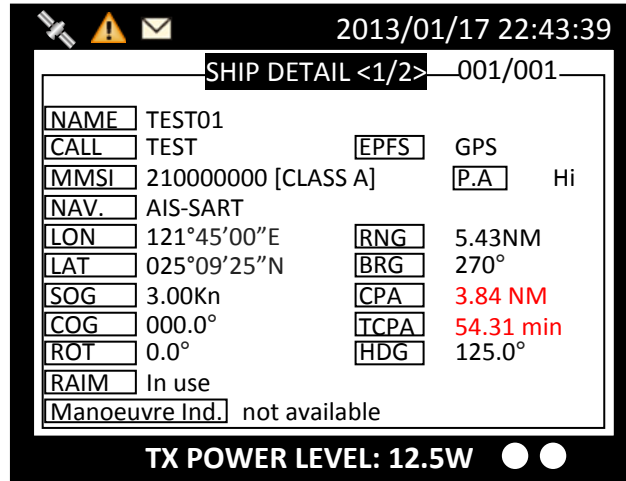


Figure 48 Ship Detail (1)

Press the **knob** again to go the second page for more detail.

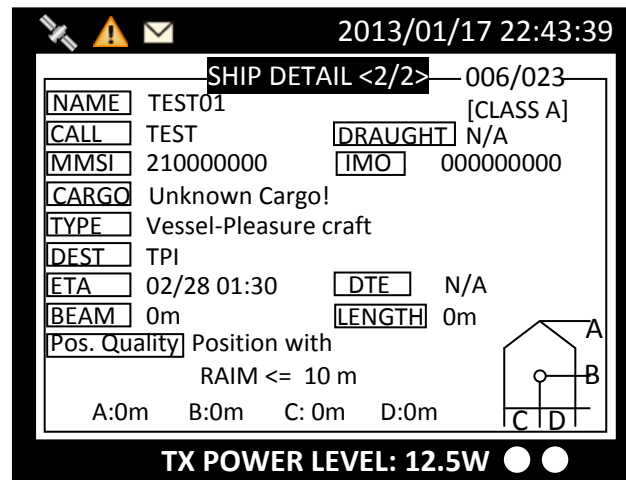


Figure 49 Ship Detail (2)

1.6.8 MOB List

This command enables adding, removing, or modifying of MOB list entries.

Button	Action
MENU	Add, Remove entry
Knob Button	Modify a selected entry

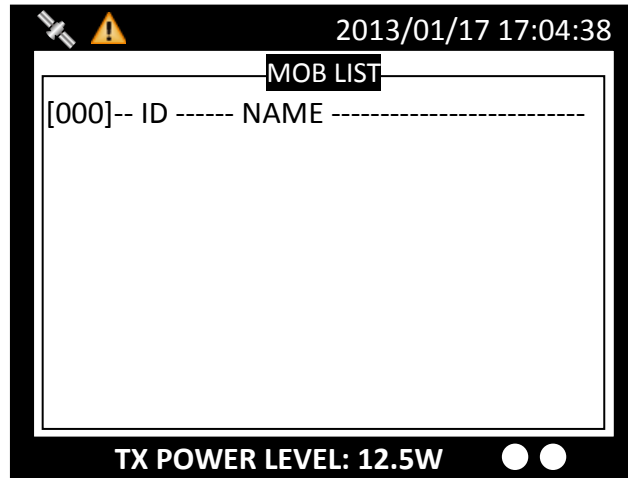


Figure 50 MOB List (1)

After pressing the Menu button, a prompt appears.

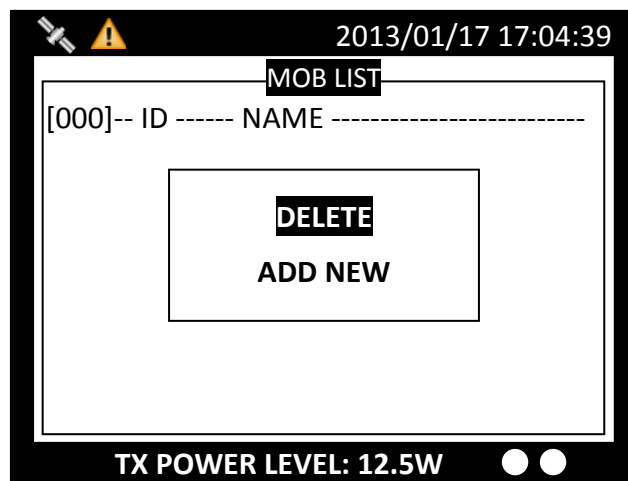


Figure 51 MOB List (2)

Select ADD NEW to enter edit mode.

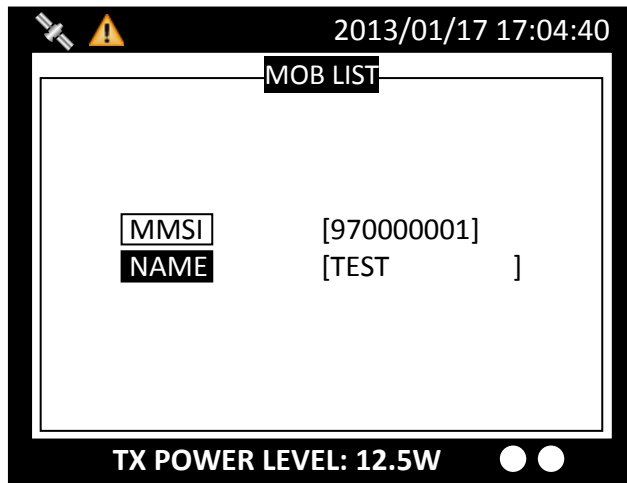


Figure 52 MOB List (3)

When finished entering MMSI and the assigned name, press MENU or ESC to save or leave without saving.

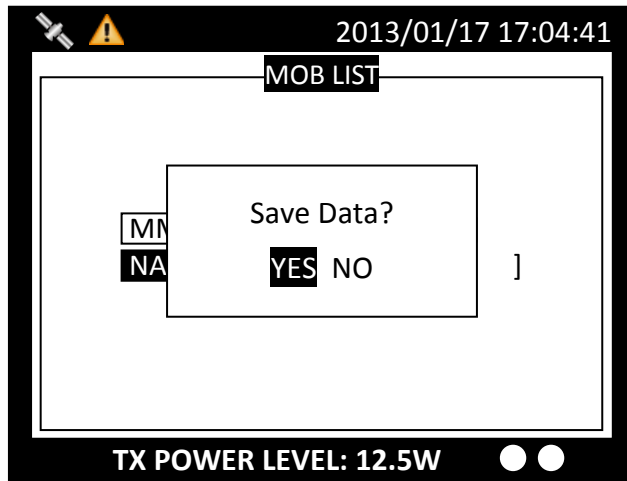


Figure 53 MOB List (4)

After finished adding, the list now has the new MMSI. To modify an entry, only need to press the knob to enter edit mode.

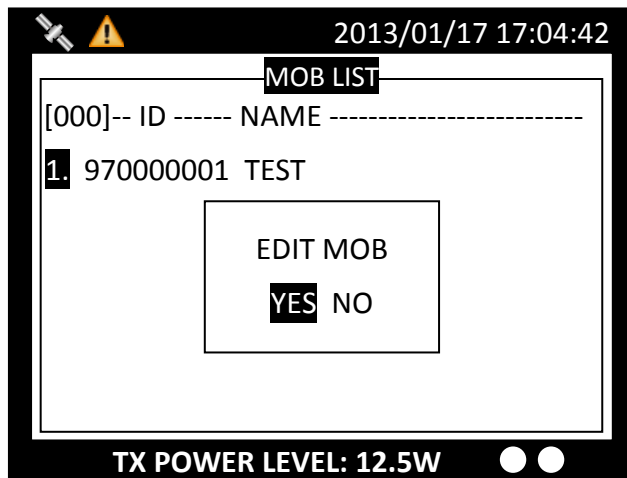


Figure 54 MOB List (5)

1.6.9 Friend Ships

This command displays the list of all registered friend ships.

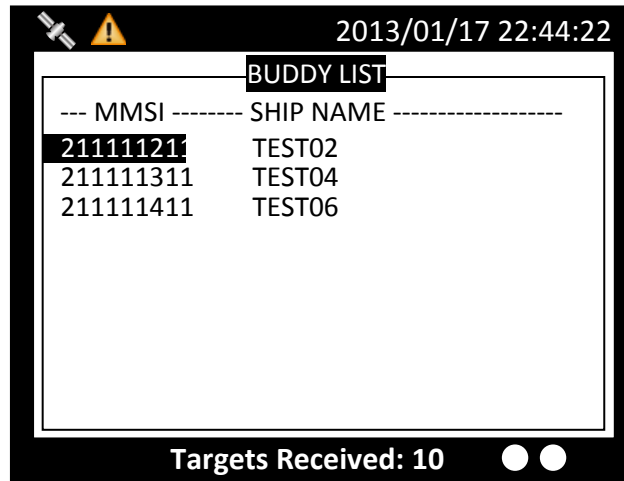


Figure 55 Buddy List

Turn the **knob** to traverse the message list.

Press the **MENU** button for deletion on the highlighted ship. Turn **knob** to choose and press **knob** to confirm your choice.

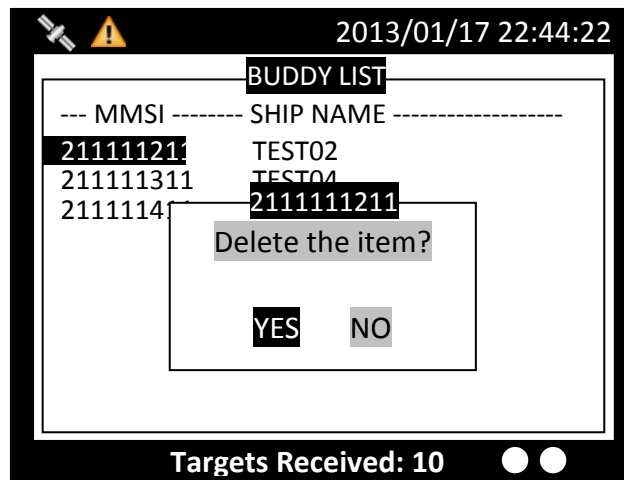


Figure 56 Delete the Item

1.7 Ship Setting

This sub-menu lists all the ship information settings of your ship. There are a total of 4 setting commands.

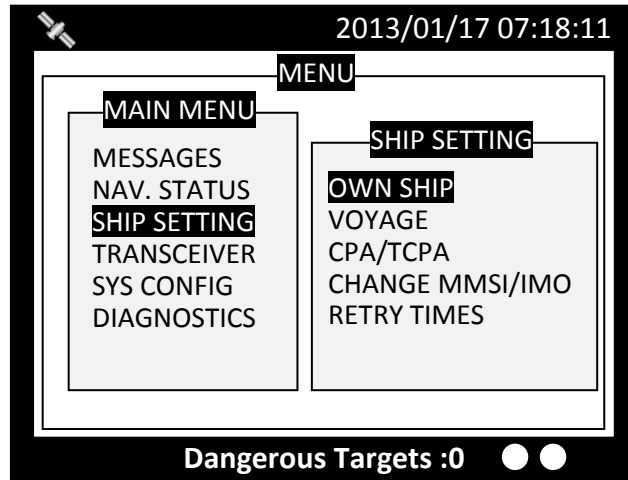


Figure 57 Ship Setting

1.7.1 Own Ship

To access **OWN SHIP** setting, you are required to enter your password (The default password is **0000**).

Choose a text location, and then press the **knob** to enter text input mode. Turn the **knob** to select a character, and then press the **knob** to confirm and to return. Repeat these steps till all desired characters are entered.

After entering the password, press down the knob for 3 seconds to confirm.

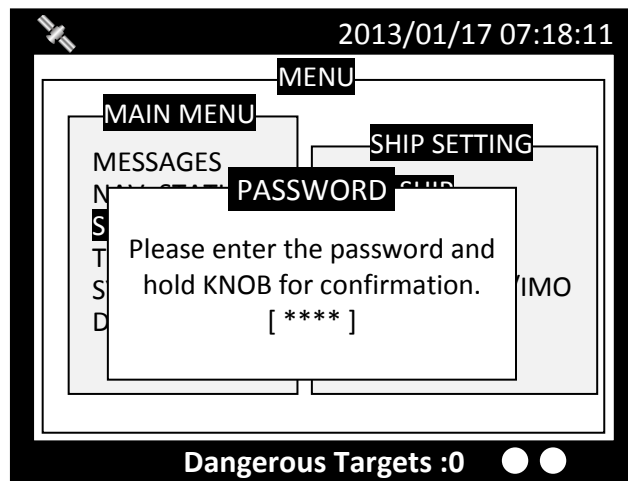


Figure 58 Own Ship

If the password is correct, the system will proceed to the settings page, else a system message will indicate that the password is wrong.

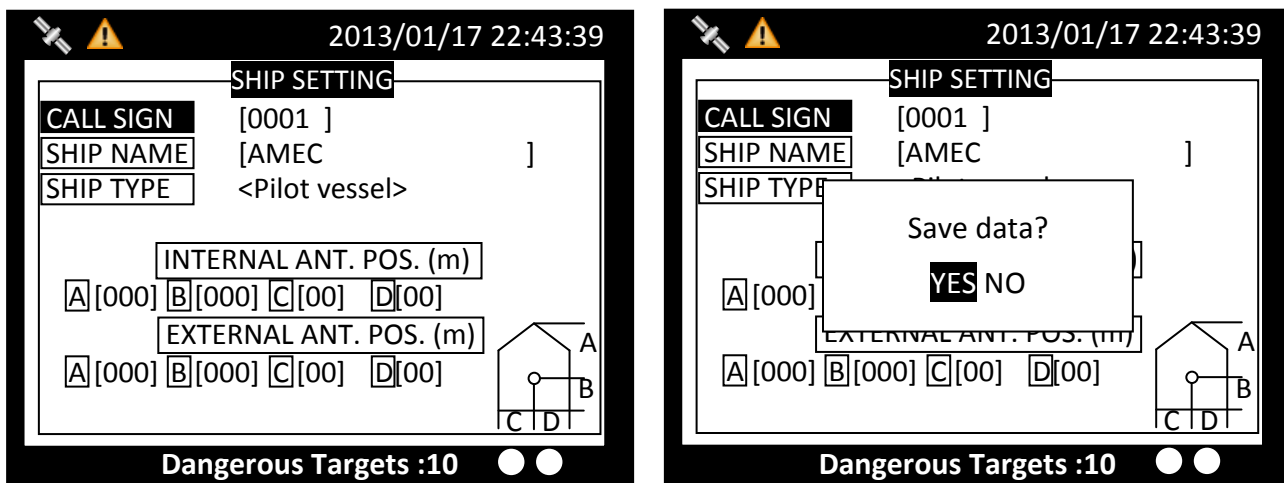


Figure 59 Own Ship Setting

Pressing **MENU** or **ESC** button will ask whether to save data. Turn **knob** to choose and press **knob** to confirm your choice.

1.7.2 Voyage

VOYAGE provides navigation functionalities, such as navigation destination, time of arrival, navigation status, etc.

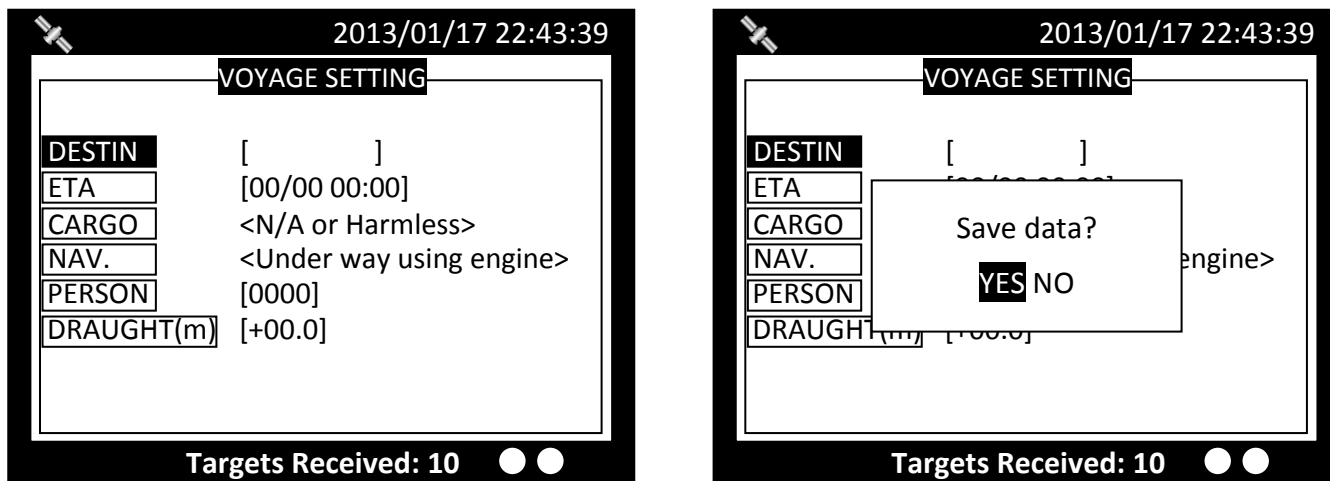


Figure 60 Voyage Setting

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.7.3 CPA/TCPA

This command holds the settings to configure dangerous ship criteria (**TCPA** and **CPA**) and the alarm.

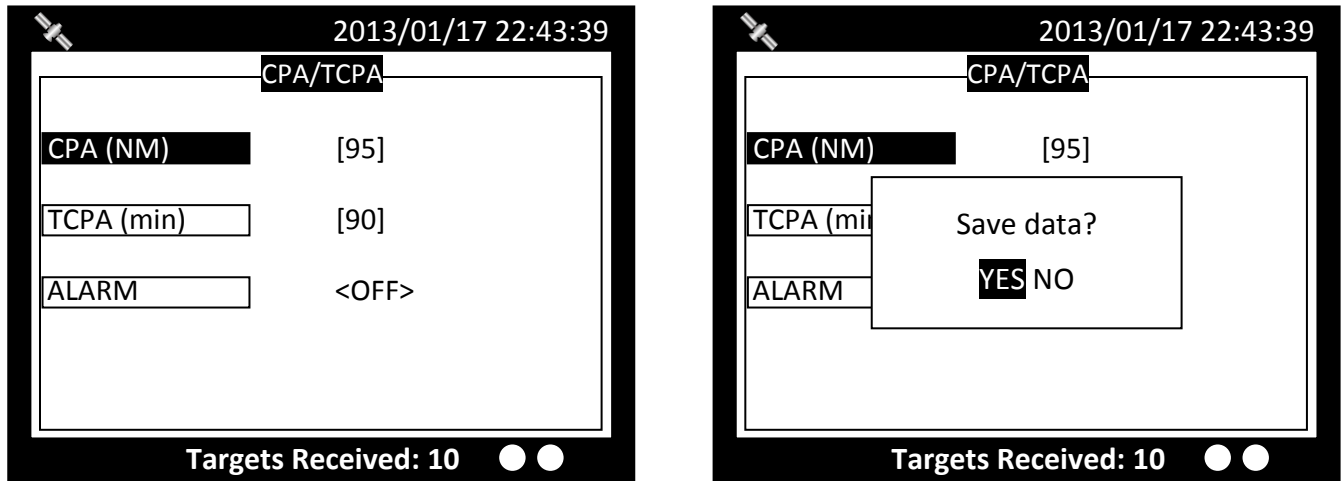


Figure 61 CPA/TCPA

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.7.4 Change MMSI/IMO

Before entering Change MMSI/IMO page, please enter the password (Default password: "0000"). Press and hold the knob for 3 seconds as confirmation.

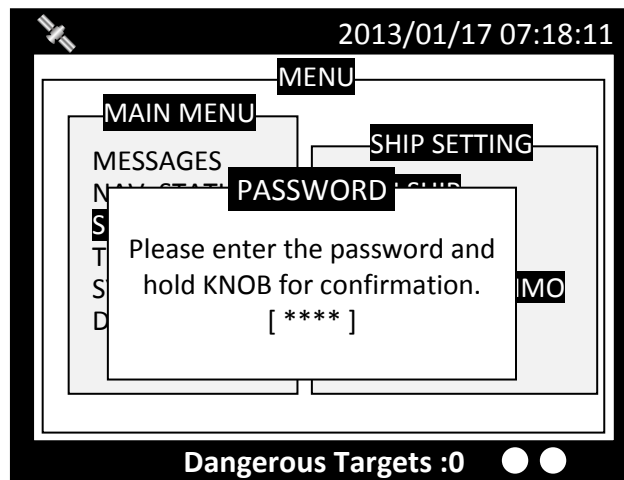


Figure 62 Change MMSI/IMO (1)

This command provides settings to enter **MMSI** and **IMO**.

Turn **knob** to traverse the items and press to enter the setting screen.

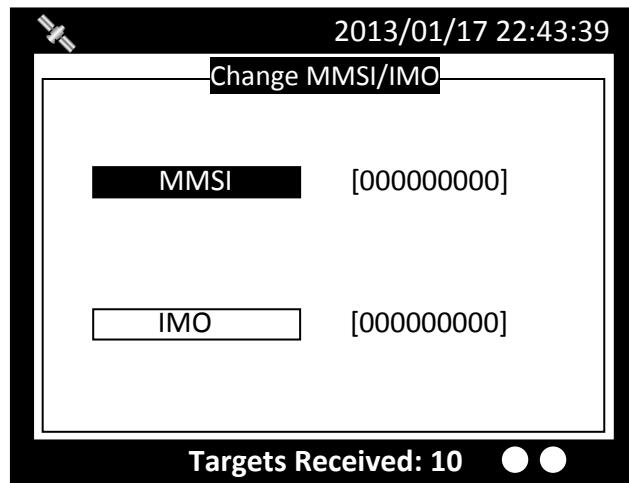


Figure 63 Change MMSI/IMO (2)

Turn the **knob** to change the position and press **knob** to enter text input mode. Turn the **knob** to change value and press **knob** again to confirm. Repeat these procedures till all values are entered.

Double check to ensure value is entered correctly and press **MENU** or **ESC** to save.

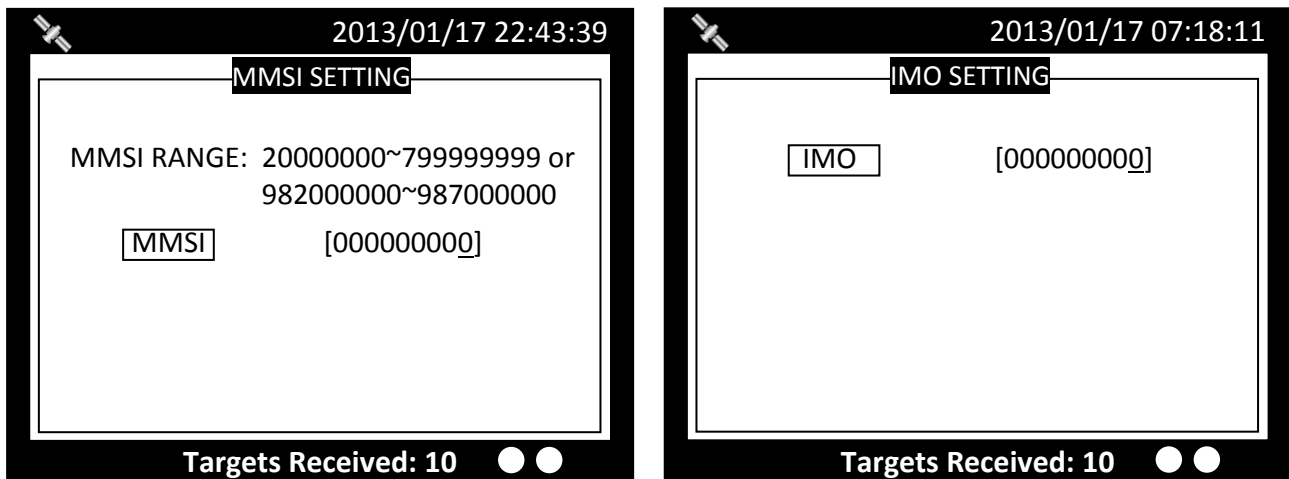


Figure 64 MMSI/IMO Setting (3)

The system will ask for your confirmation.

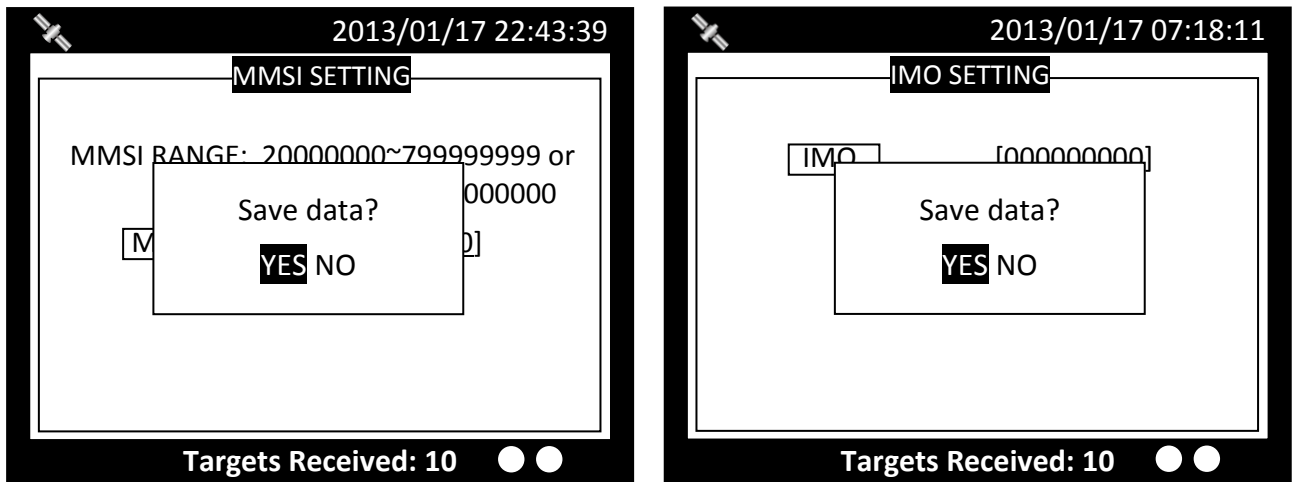


Figure 65 Save Data

1.7.5 Retry Times

In order to resend messages when the transmitted Message 6 or Message 12 receives no response of Message 7 or Message 13, set the Retry Times to set the resending times.

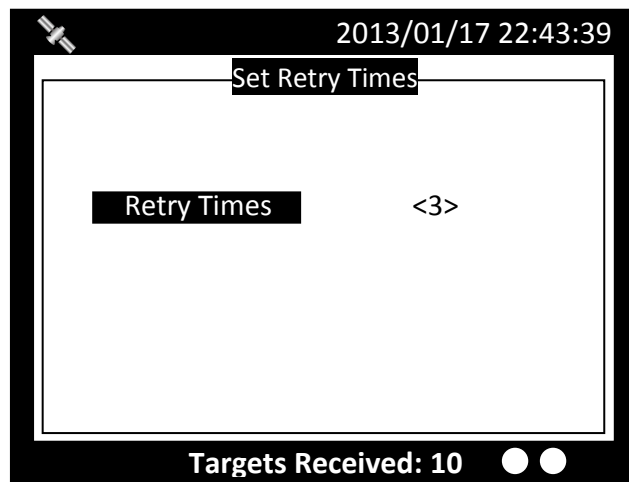


Figure 66 Retry Times

1.8 Transceiver

TRANSCIEVER setting sub-menu holds the settings of the transceiver statuses and the supplied voltage for the GPS antenna.

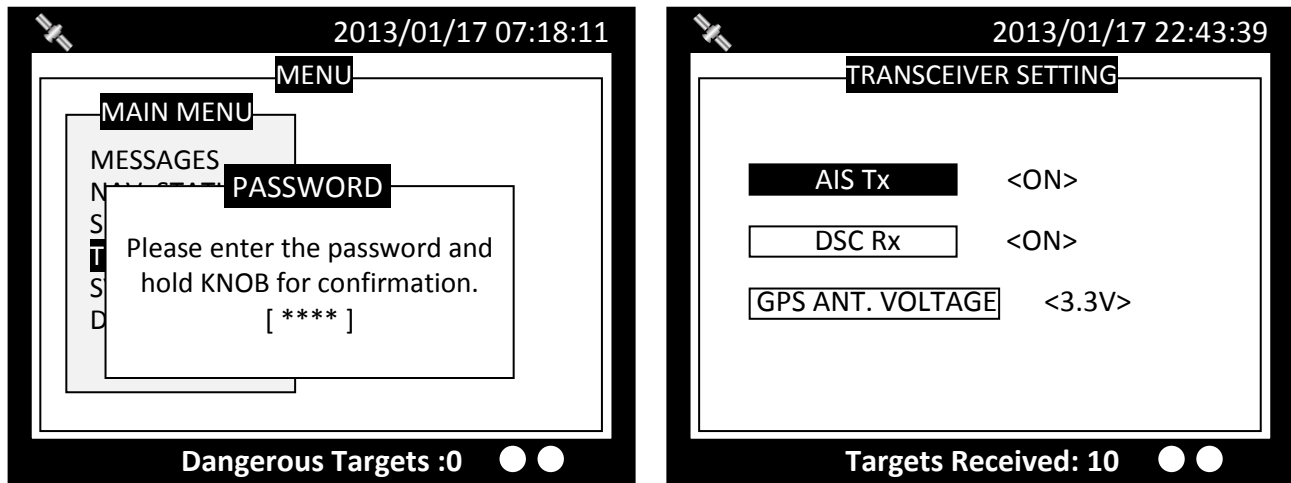


Figure 67 Transceiver

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

Added AIS TX POWER option to configure transmit power, provided with 12.5W and 1W transmit options.

1.9 Sys Config

System configuration provides the preference settings of the device.

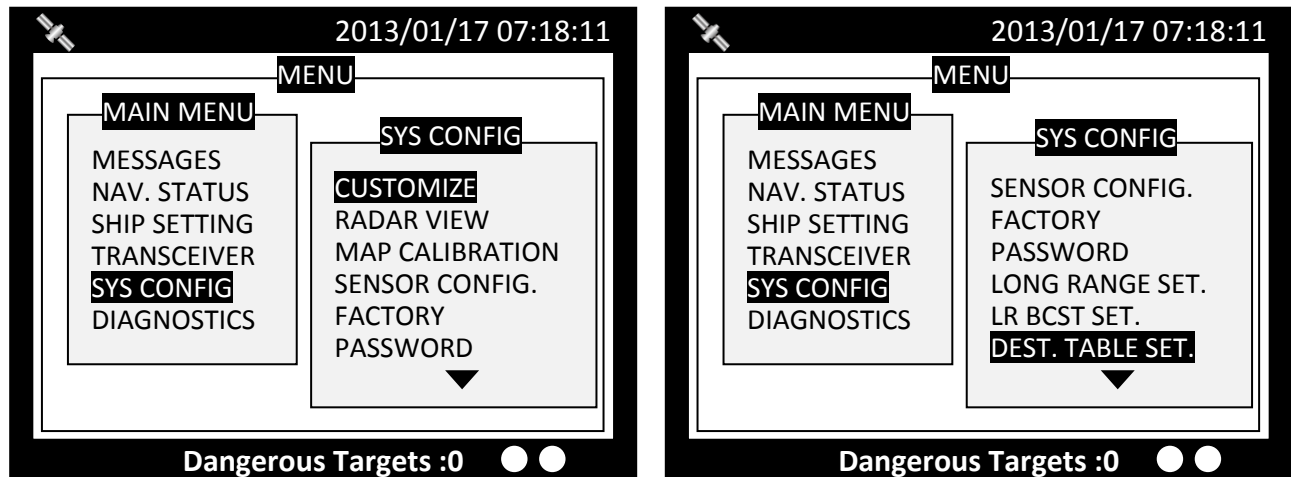


Figure 68 System configuration

1.9.1 Customize

Customize provides personalization settings.

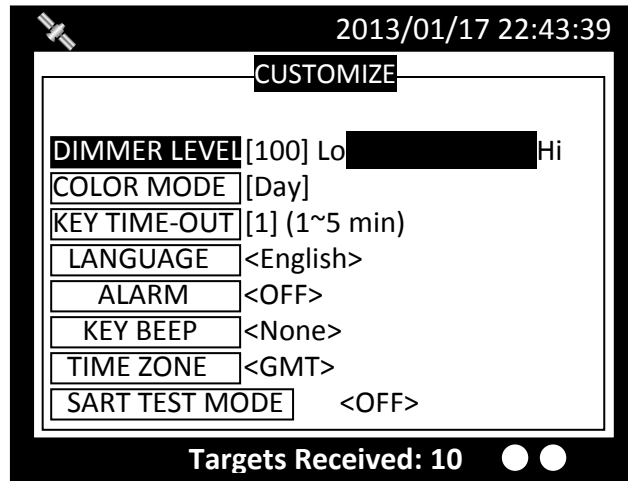


Figure 69 Customize

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.9.2 Radar View

This setting provides user the ability to center the radar map on given coordinates.

Turn **knob** to choose either latitude or longitude and press **knob** to confirm. Once pressed, turn **knob** to choose a parameter and press **knob** again to enter input mode. When finished, press **ESC** to return to the level before. Continue these procedures till all settings are set.

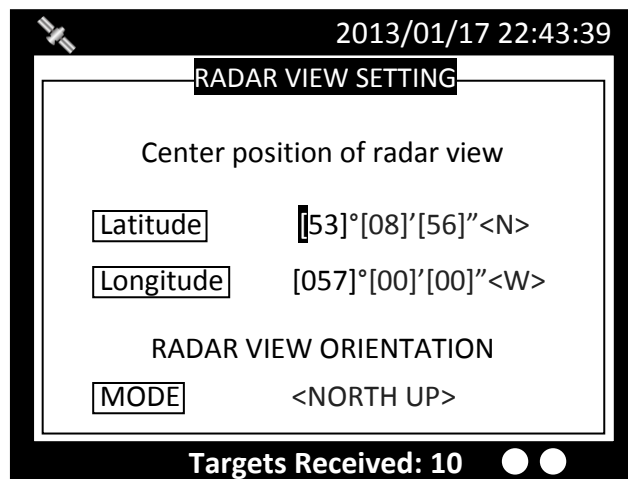


Figure 70 Radar View Setting

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving. Added with RADAR VIEW ORIENTATION mode, with NORTH UP/ COURSE UP / HEAD UP.

1.9.3 Map Calibration

This setting offers user functions to calibrate map data. Turn **knob** to select either latitude or longitude to offset. Press **knob** to enter input mode. Turn **knob** to select an offset value. Once finished press **ESC** to return to the previous level to continue the setting.

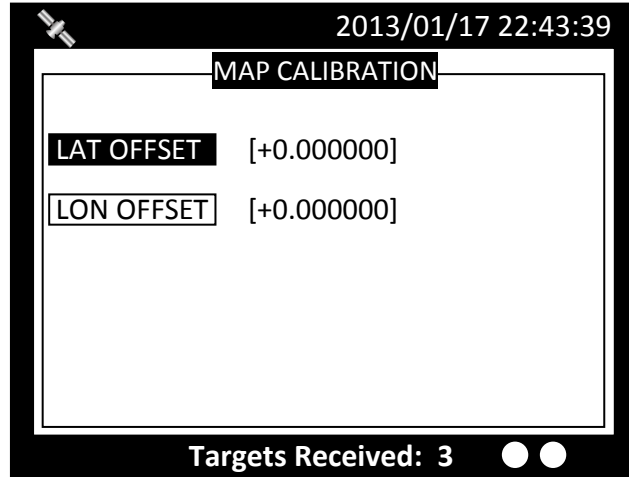


Figure 71 Map Calibration

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.9.4 Sensor Config

Sensor Configuration provides user to set port baud rates. Turn **knob** to select a port to modify and press **knob** to change the specified port baud rate. Turn **knob** to change the desired rate. When finished, press **knob** again to return to the previous level.

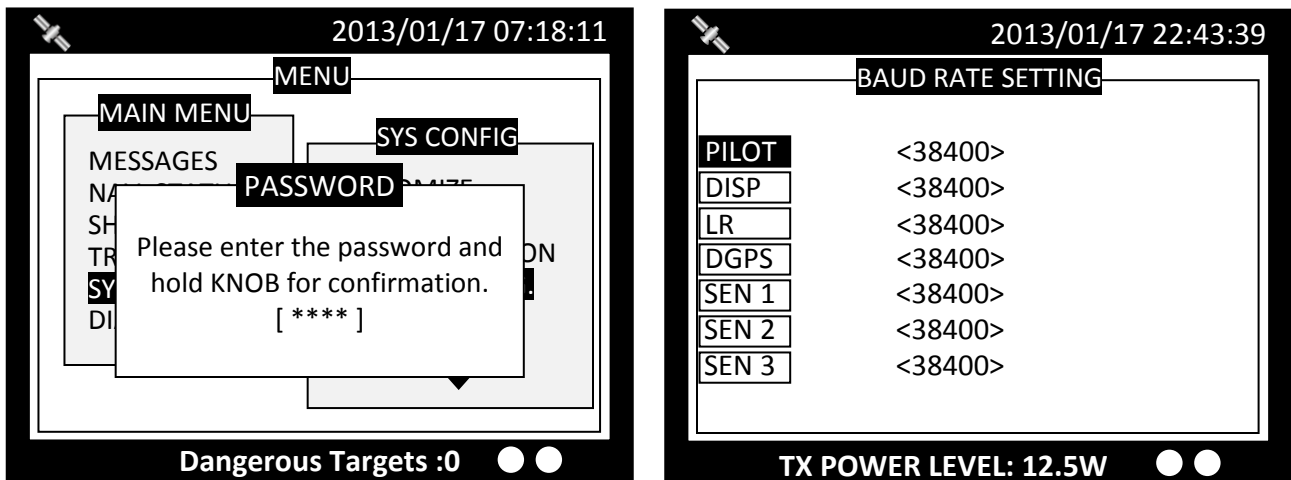


Figure 72 Baud Rate Setting

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.9.5 Factory

FACTORY option enables user restore default factory setting. It restores system preference settings and **CPA/TCPA** values.

Choose a password text location, and then press the **knob** to enter text input mode. Turn the **knob** to select a character, and then press the **knob** to confirm and to return. Repeat these steps till all desired characters are entered.

After entering the password, press down the knob for 3 seconds to confirm.

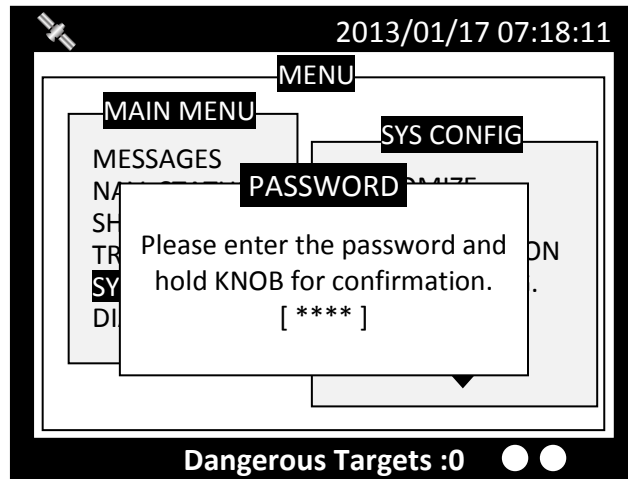


Figure 73 Factory

After entering the password, the system will ask for your confirmation. Turn **knob** to choose and press **knob** to confirm your choice.



Figure 74 Factory Setting

1.9.6 Password

This option enables changing user password. (Default password: "0000")

Set the information with the order of "OLD PASSWORD", "NEW PASSWORD", "CONFIRM NEW PASSWORD". Turn **knob** to traverse the items and press **knob** to enter input mode. Under input mode, turn **knob** to select text position and press **knob** to confirm. Repeat till all four values are entered.

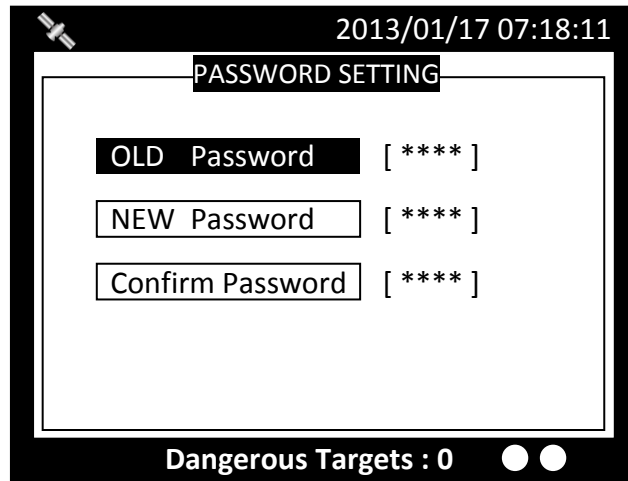


Figure 75 Password

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.9.6.1 Changing the Password

The password is required in some menu items due to information security. (Default password: "0000") Please go to **Main MENU** item **Sys Config** and select sub-menu item **Password** to change it. For password setting, please refer to **4.5.6 PASSWORD**.

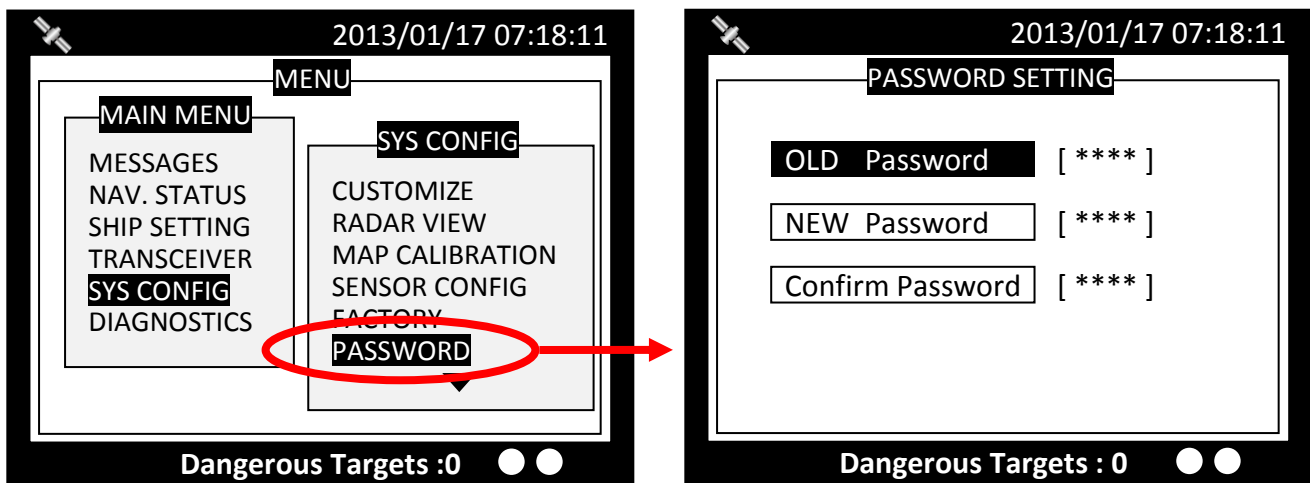


Figure 76 Changing Password

1.9.7 Long Range Setting

This option provides user choices to auto-response remote interrogation and settings of the response information.

You can either set **MODE** to either **AUTO** or **MANUAL**. The setting for the rest of information is either **SUPPLY** or **REJECT**.

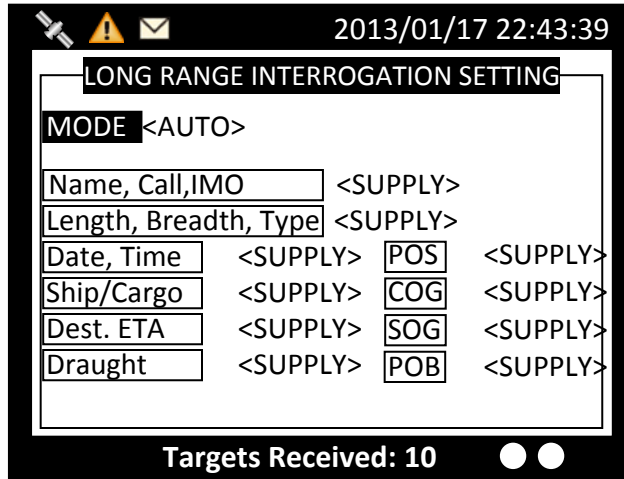


Figure 77 Long Range Setting

Pressing **MENU** or **ESC** button will ask whether to save data. Select **YES** to save and exit, or **NO** to exit without saving.

1.9.8 Long Range Broadcast

Class A transmits Message 27 every 3 minutes through the channels alternately. Provided here are the options to enable or disable Long Range Broadcast and the transmitting channel for Message 27.

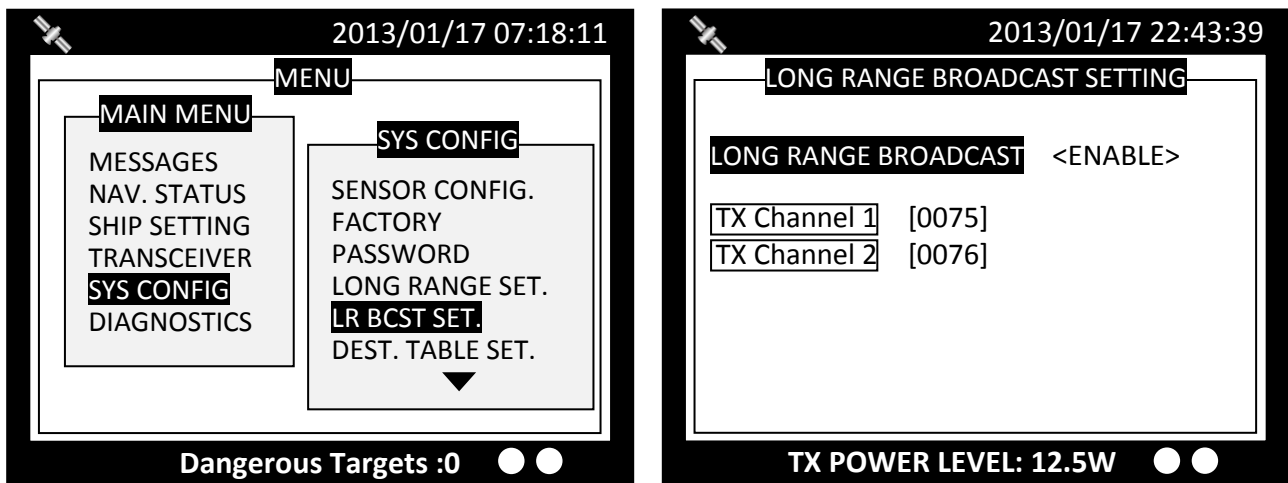


Figure 78 Long Range Broadcast



Only AIS channel numbers can be entered for TX channel. Channel 2078, 2088, and the current channel used in the region cannot be used.

1.9.9 Destination Table Setting

Save up to 10 destinations. Use rotary knob to traverse text and to modify. Press Menu to save changes.

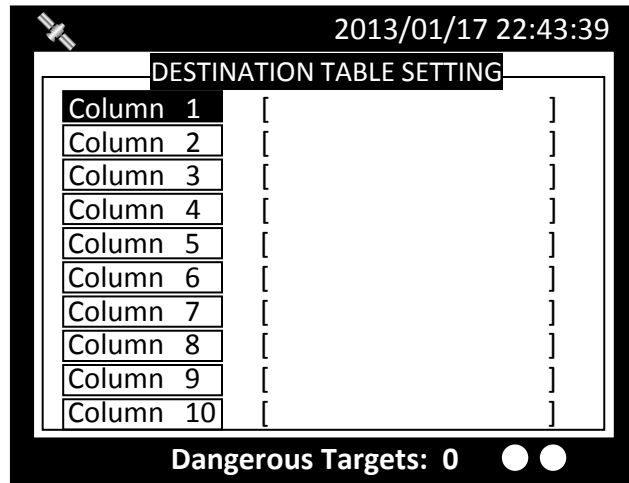


Figure 79 Destination Table Setting

1.10 Diagnostics

DIAGNOSTICS sub-menu provides users to check system statuses. There are a total of 8 check options.

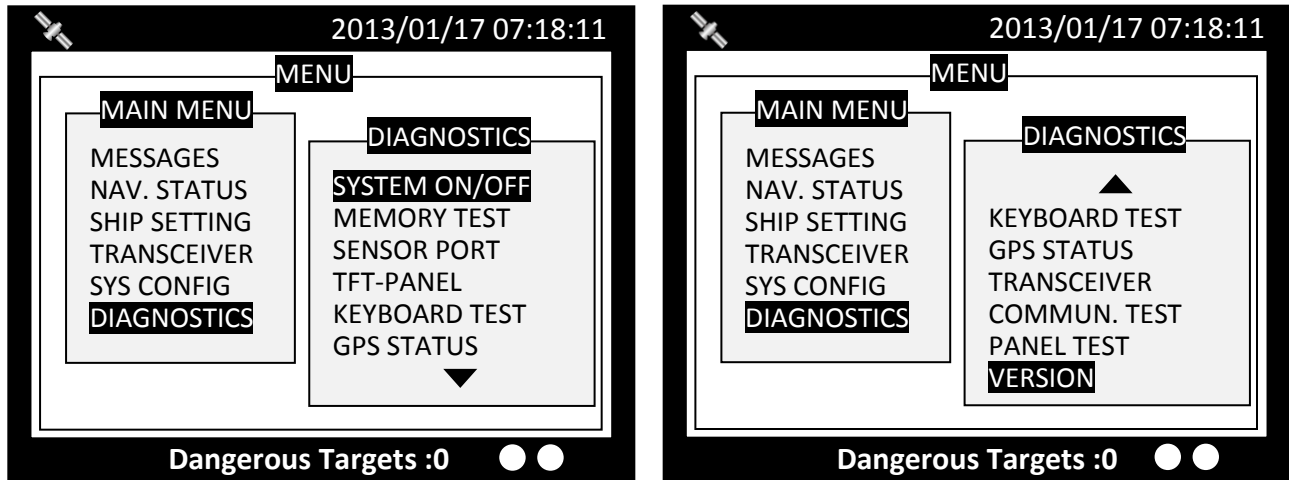


Figure 80 Diagnostic

1.10.1 System On/Off

This option provides activation history. (when a power-off session is less than 15 minutes, the session would not be registered in the history)



Figure 81 System On/Off

When finished viewing, press **MENU** or **ESC** to exit.

1.10.2 Memory Test

This option provides memory testing on the unit.

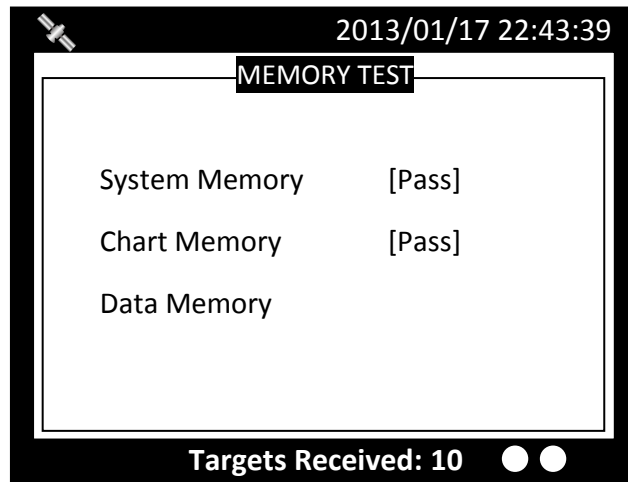


Figure 82 Memory Test

When finished, press **ESC** to exit.

1.10.3 Sensor Port

This option provides an overview on all port baud rates and information.

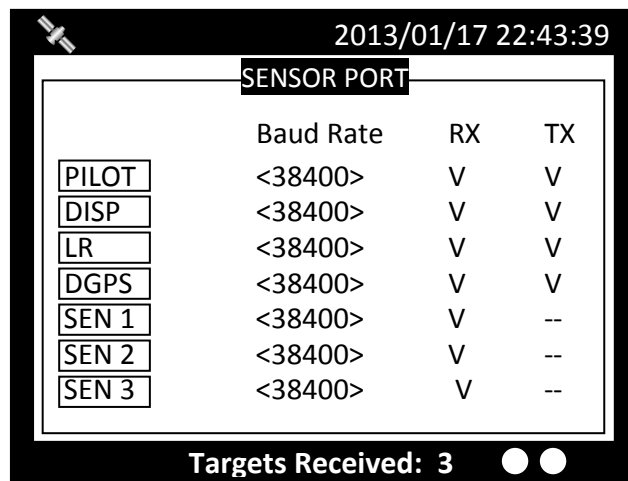


Figure 83 Sensor Port

When finished, press **ESC** to exit.

1.10.4 TFT-Panel

This option provides color information on the monitor. When finished, press **ESC** to exit.

Black	Orchid
Red	Pink
Green	Plum
Blue	Quartz
Magenta	Salmon
Yellow	Silver
Aquamarine	Thistle
Bronze	Turquoise
Copper	Violet
Feldspar	Wheat
Gold	Aliceblue
Grey	Antiquewhite
Khaki	Azure
Maroon	Beige
Orange	White

Figure 84 TFT-Panel

1.10.5 Keyboard Test

This option provides keyboard testing.

Pressing button during testing, a corresponding button on the screen will response.

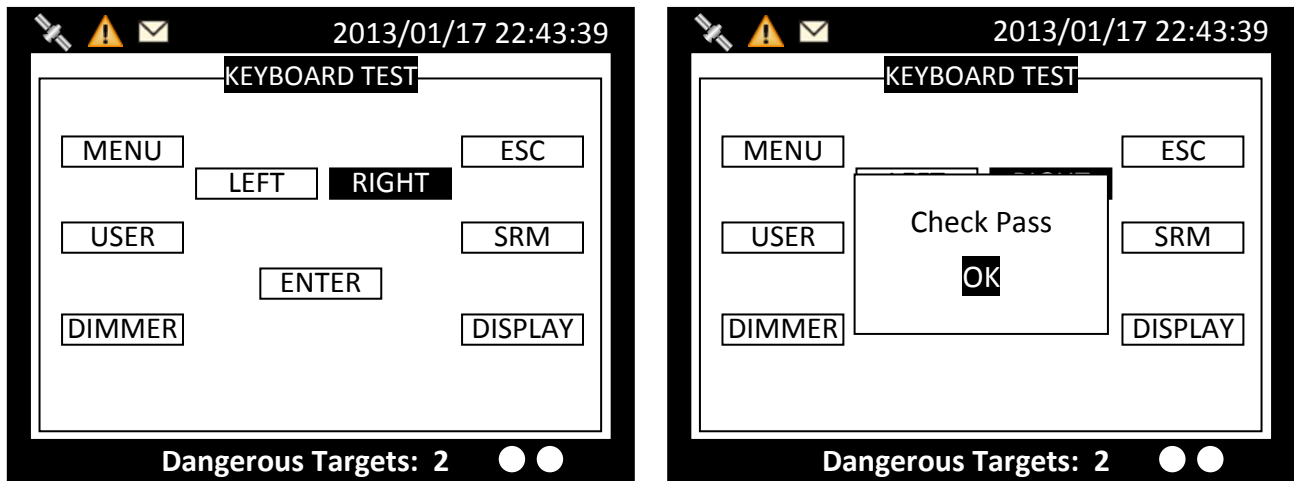


Figure 85 Keyboard Test

After all buttons are tested, a message will indicate. Press **knob** for **OK** to exit.

To quit test without completing, wait for 30 seconds and the system will return to the main menu.

1.10.6 GPS Status

This option provides **GPS** satellite status information.

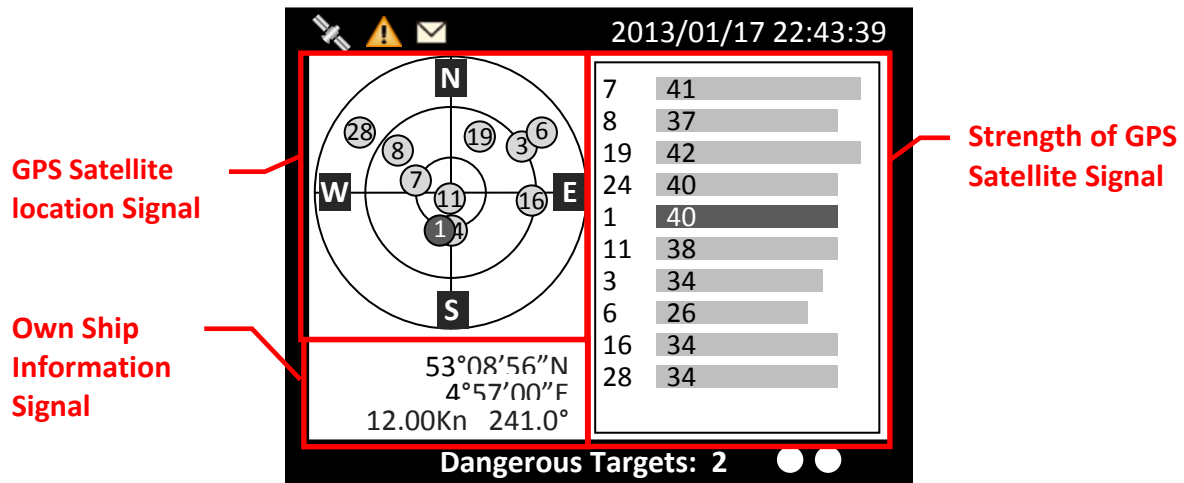


Figure 86 GPS Status

Green indicates satellite being used for GPS fix.
Red indicates satellite not being used.

1.10.7 Transceiver

The **TRANSCEIVER** command provides user to view its status. When finished, press **ESC** to exit.

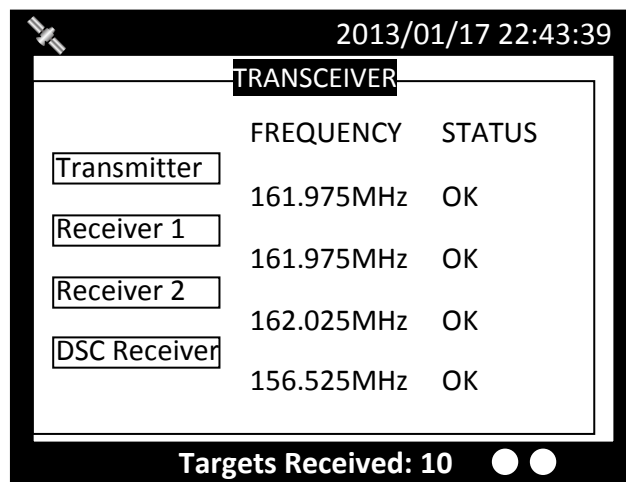


Figure 87 Transceiver

1.10.8 Communication Test

Communication can be tested. The procedure starts by having the Class A unit transmits Message 10 to an addressed Class A MMSI. The target MMSI, once received Message 10, will return Message 11. The test is complete when the Class A unit successfully receives the Message 11.

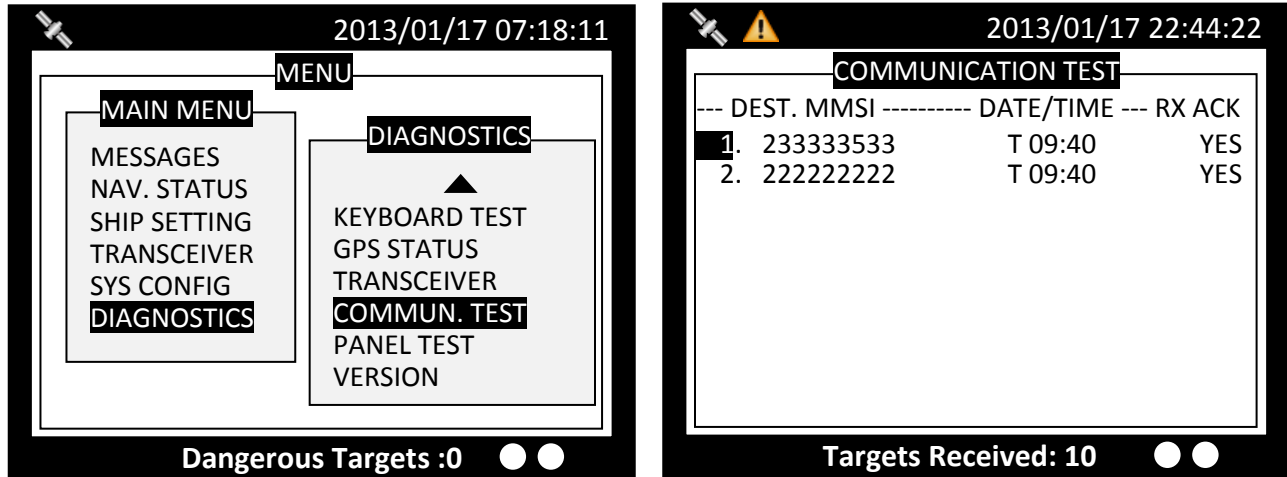


Figure 88 Communication Test

Under the communication test page, pressing the MENU button enables the transmission of Message 10. Only Class A units with GPS fix are listed and eligible for communication testing. If no valid Class A targets found in range, the screen would show as below.

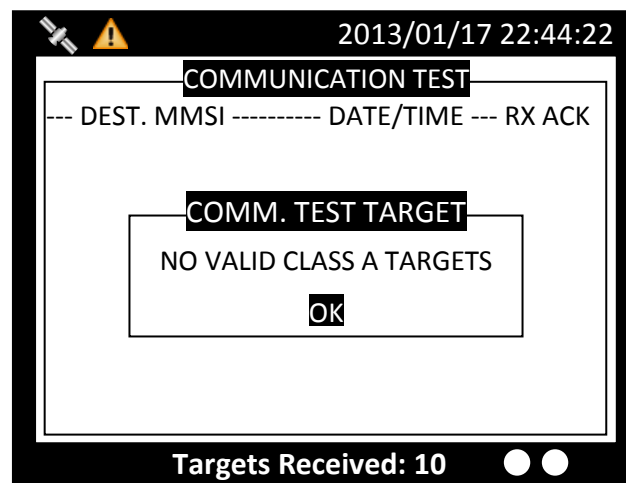


Figure 89 No Valid Targets

As a valid Class A is presence, the test procedure proceeds to the screen below.



Figure 90 Valid Target

After pressing the knob, turn the knob to selected destination MMSI for testing. The destination MMSI numbers are the nearest Class A targets found close to the Class A unit. Press ESC or MENU to pick selection and the unit will prompt to confirm message sending. Select OK to proceed testing.

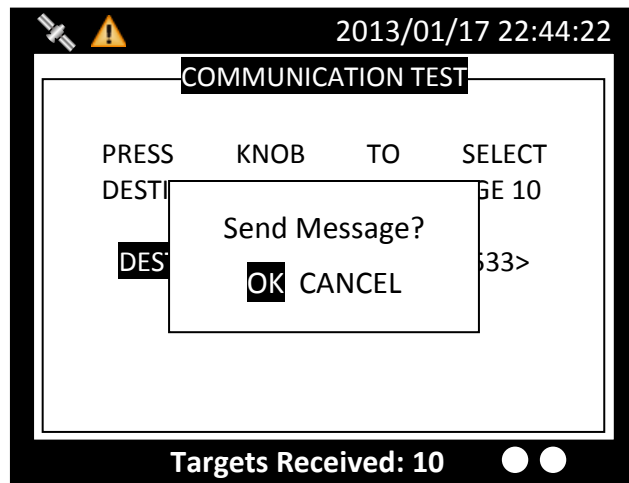


Figure 91 Send Message

1.10.9 Panel Test

Test the brightness of the screen.

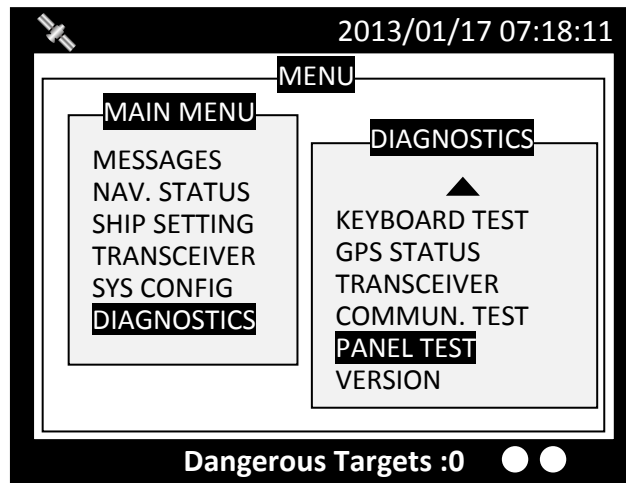


Figure 92 Panel Test

In the main function page, select “PANEL TEST”. Press “FUNC” to switch the white cube into different sizes. Rotate the knob to test in different brightness. To exit the function, press “MENU” or “ESC”.



Figure 93 Test with Size and Brightness

1.10.10 Version

Provide model name, hardware information, firmware version, etc. When finished, press **ESC** to exit.



Figure 94 Version