



C100M GMDSS

Intellian Certus® GMDSS System

Operation Guide



C100M GMDSS Operation Guide

Serial number of the product

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This serial number will be required for all troubleshooting or service inquiries.



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Disclaimer

The information in this user guide is subject to change without prior notice throughout the product life cycle. The printed version of the guide is periodically updated, but it may contain inaccuracies or omissions compared to the most recent product information. The most up-to-date information is always available on our website at www.intelliantech.com.

Document Information (HW/SW Version)

This manual applies to the following HW and SW versions. Please note that the contents may be updated without notice and could differ from the actual product.

HW Version

SCU	V0.7	Handset	V0.4
Alarm Box	V0.6	SSAS Box Alert/Test	V0.5
Junction Box	V0.4	Alarm Unit*	V5.0

* The Alarm Unit's version is the main control version because the alarm unit has four types of PCBAs inside.

SW Version

SCU	1.0.0	SSAS Box Alert/Test	1.1.1
Alarm Box #1, #2, #3	1.0.0	Alarm Unit	1.0.2
ADU	1.0.0		

Precautions

Warnings, Cautions, and Notes

WARNING, CAUTION, and NOTE statements are used throughout this manual to emphasize important and critical information. You must read these statements to help ensure safety and to prevent product damage. The statements are defined below.

	WARNING WARNING indicates a potentially hazardous situation that if not avoided, could result in death or serious injury.
	CAUTION CAUTION indicates a potentially hazardous situation that if not avoided, could result in minor or moderate injury or damage to equipment. It may also be used to alert users about unsafe practices.
	NOTE A NOTE statement is used to notify people of installation, operation, programming, or maintenance information that is important, but not hazard-related.

General Precautions

Before you use the antenna, make sure that you have read and understood all safety requirements.

- * **Shock Hazard:** To minimize shock hazard and to protect against lightning, the equipment cabinets must be connected to the ship's metallic hull. Make sure the system is correctly grounded and power is off when installing, configuring, and connecting components.
- * **Do not operate in an explosive atmosphere:** Do not operate the equipment in explosive environments or in the presence of flammable gases. Operating this equipment in such an environment causes a definite safety hazard.
- * **Keep away from live circuits:** Operating personnel must at all times observe all safety regulations. Do not replace components or make adjustment inside the equipment with any power supply turned on. Under certain conditions, dangerous potentials may exist in the power supplies even with the power cable removed. To avoid injuries, always remove the power and discharge a circuit before touching it.

DISTRESS ALERT

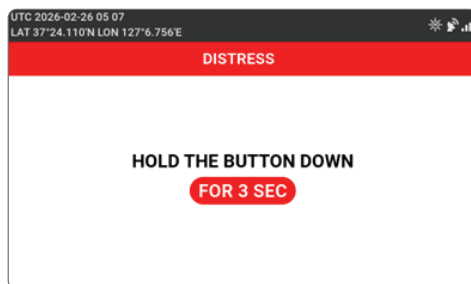
Transmitting the Distress Alert

1. Open the cover of the **DISTRESS** key and press and hold the key for 3 seconds.



NOTE

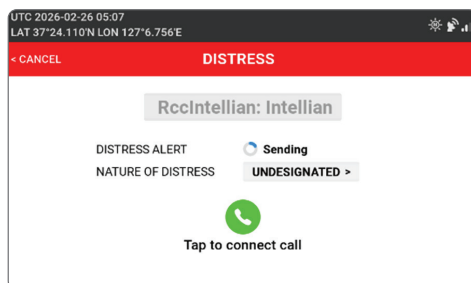
The DISTRESS key is covered to prevent accidental operation.



An intermittent audible alarm will sound, and the key will blink in red. A countdown screen (3s, 2s, 1s) will appear.

The Distress Alert will be sent when the countdown reaches 0 seconds, and both light and sound becomes steady.

When the **DISTRESS** key is released the sound will stop.

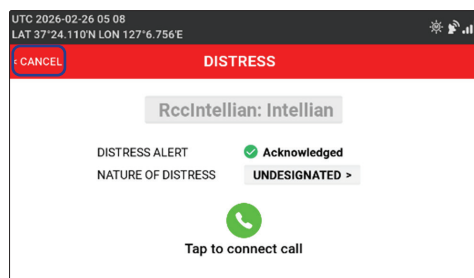


When the Distress Alert transmission starts, the screen is updated to show:

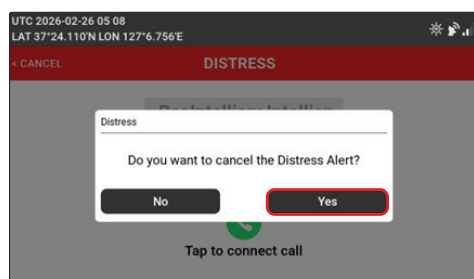
- The RCC that the Distress Alert has been sent to.
- Displays the current status of the Distress Alert (options include Sending, Sent, Delivered, Canceling, Acknowledged)
- The user can change the Nature of distress by selecting a different option from the drop down list (see section 4.1.2). The Call button can be used to initiate a Distress Voice call with the RCC. If Auto Dial is set, a Distress Voice call will automatically be initiated when the Distress Alert status changes to Delivered.

Canceling Distress Alert

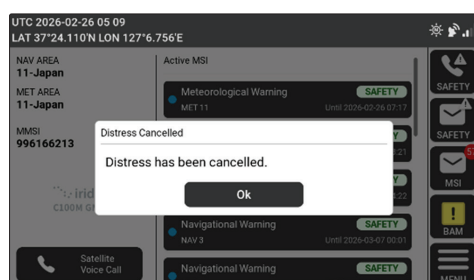
You can cancel the Distress Alert while it is being sent or while waiting for its acknowledgment as follows:



1. Select the **CANCEL** option button. A pop-up window will be displayed on the screen.



2. Press the **Yes** button to proceed with the cancellation of the Distress Alert.



3. A pop-up confirms that the Distress Alert has been cancelled.

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Chapter 1. Certifications

This device complies with Part 15 of the FCC Rules, Industry Canada licence-exempt RSS standard(s), as well as MED, MER, and other national regulatory requirements.

Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes :

- (1) L'appareil ne doit pas produire de brouillage;
- (2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Changes or modifications made to this equipment not expressly approved by Intellian Technologies, Inc. may void the FCC authorization to operate this equipment.

Radiofrequency radiation exposure Information:

This equipment complies with MED and FCC, IC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance of 1.5 m between the radiator and your body.

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

Wheelmark (MED)

The C100M GMDSS System is Wheelmark certified as stated in the MED Declaration of Conformity (DoC). The MED DoC for the C100M GMDSS System can be downloaded from the Intellian Partner Portal (ID & Password required).

Please contact Intellian for an electronic copy of the C100M GMDSS System MED DoC.

Additionally, the MED DoC is also accessible via the QR code below. (incl. MED Module B & D Certificates)

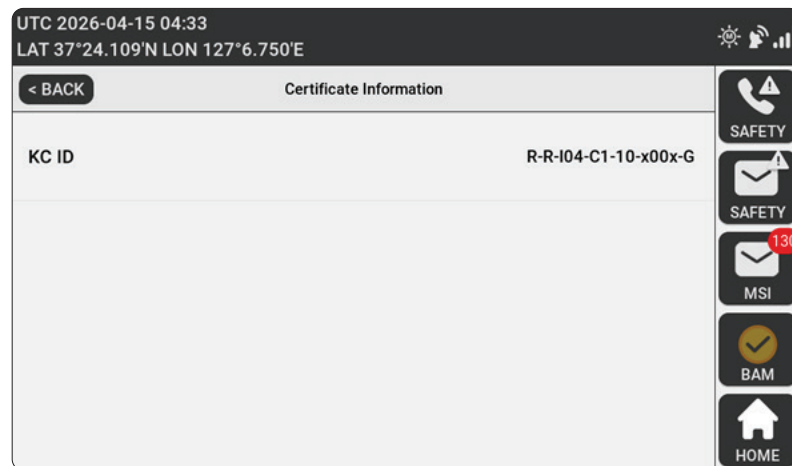


MED DoC

Regulatory Information & Certification

This product utilizes e-labelling to display regulatory information. In accordance with relevant regulations, you can access the KC certification mark, identification number, and other compliance details via the device's software menu.

- **How to Access:** Go to **[Menu]** → **[System Setting]** → **[Product Information]** → **[Certificate Information]**
- **Displayed Items:** KC ID, CCS ID, FCC ID



Disposal

Old electrical and electronic equipment marked with this symbol can contain substances hazardous to human beings and the environment. Never dispose of these items with unsorted municipal waste (household waste). To protect the environment and ensure the correct recycling of old equipment as well as the re-utilization of individual components, use either public collection or private collection by the local distributor of old electrical and electronic equipment marked with this symbol. Contact the local distributor or dealer for information about what type of return system to use



Chapter 2. Introduction

2.1 Introduction of C100M GMDSS System

Intellian's C100M GMDSS System is comprised of two core products that can be augmented with a range of accessories. The two core products are the ADU (above deck unit) that comprise the C100M Standard System and the Safety Control Unit (SCU).

The C100 Standard System is an L-band terminal designed by Intellian to connect to Iridium's constellation of 66 active LEO satellites that provide truly global coverage. The Iridium Certus® 100 service provides two high-quality voice lines with concurrent IP data. The RF architecture includes dedicated interference blocking elements, making the C100M GMDSS terminal inherently resilient against interference from terrestrial cellular equipment and other sources of radio interference off or on board the vessel.

The Safety Control Unit (SCU) includes a 7" touchscreen and a dedicated handset that ship staff can use to access the GMDSS services

Intellian offer a full range of MED certified accessories to provide additional capabilities, including:

- AC/DC Power Supply Unit: Supports inputs from the vessel's AC distribution systems (110V/220V) or from the battery backup for the bridge communication equipment.
- GMDSS Alarm Box: Using these devices, a GMDSS DISTRESS Alert can be sent using the C100M GMDSS System from locations other than the GMDSS console. Typical locations include the conning position, Ship's Office & Captain's cabin.
- GMDSS Alarm Unit: Using this device, GMDSS DISTRESS Alerts can be sent using all of the available GMDSS communications devices (VHF, MF/HF & C100M GMDSS) from a location other than the GMDSS console.
- SSAS Box Alert: Using this device an SSAS Alert can be discreetly sent to the Company Security Officer at the vessel operator's shore offices
- SSAS Box Test: This device is used to test the SSAS communication system

The C100M GMDSS System can also be used for non-emergency communications.

The Iridium network prioritizes emergency communication to ensure that GMDSS services are always available. Consequently, a single C100M GMDSS System can be used to provide both GMDSS services and also act as a companion terminal or provide OOBM, for other connected devices.

2.2 Iridium Satellite Network

The Iridium satellite network is comprised of 66 low-earth orbiting (LEO), cross-linked satellites, providing voice and data coverage over Earth's entire surface.

At only 476 miles (780 km) from the earth, the proximity of Iridium's LEO network means pole-to-pole coverage, a shorter transmission path, stronger signals, lower latency, and shorter registration time than with GEO satellites. The network is considered a meshed constellation of interconnected, cross-linked satellites so that each satellite "talks" with the other nearby satellites in front, behind, and adjacent orbits.

In space, each Iridium satellite is linked to up to four others creating a dynamic network that routes traffic among satellites to ensure global coverage, even when traditional local systems are unavailable.



The Iridium GMDSS Service provides essential maritime safety communications using the Iridium satellite network. It is the only GMDSS solution offering global satellite coverage, including the polar regions. This service integrates multiple functions, including GMDSS, the Ship Security Alert System (SSAS), Long Range Identification and Tracking (LRIT), auxiliary data services, and voice communication, within a single terminal for efficient operation.

2.3 Iridium Certus GMDSS SIM Card

The C100M GMDSS system requires a valid Iridium Certus GMDSS SIM Card to utilize GMDSS communication services via the Iridium satellite network. This SIM Card can be obtained from authorized Iridium GMDSS Service Providers. Link the Iridium website page that shows a list of their maritime Certus Service Providers: <https://www.iridium.com/services/certus-gmdss>.

During service enrollment, registration documents containing the ship's main information (Ship Name, IMO No., MMSI No., Vessel Call Sign, etc.) will be submitted to the service provider. Upon successful registration, a SIM card specifically configured for the registered ship will be issued. This SIM card is uniquely identified by its physically-assisted ICCID (Integrated Circuit Card Identifier) and MSISDN (Mobile Station International Subscriber Directory Number), which serves as the intrinsic Iridium satellite number used within the Iridium GMDSS service. The registered ship's main information will be verified during the Installation Wizard process for the C100M GMDSS.

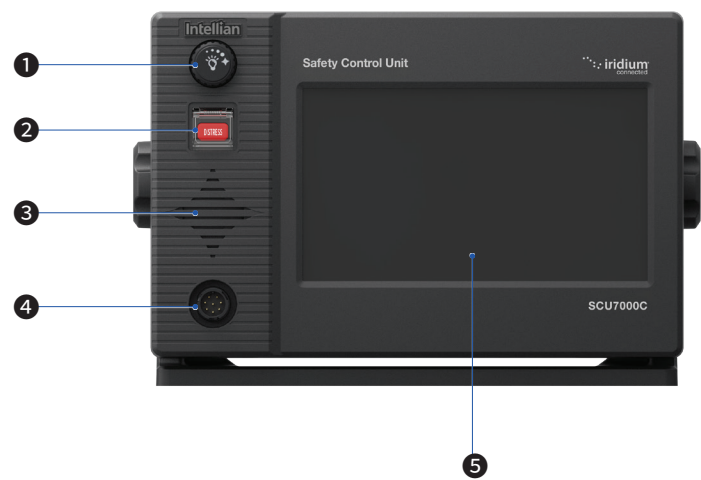
If any information contains errors, the user must contact the service provider to modify it before activating or installing the GMDSS system.

The SIM card type is Mini-SIM (dimensions: 25mm x 15mm). It will be provided attached to a plastic card. Before inserting the SIM card into the equipment, detach the Mini-SIM portion from the plastic card.



Chapter 3. Operating the SCU

3.1 Controls



No.	Key	Function
①	Dimmer knob	Control the LCD screen brightness by the dimmer knob.
②	DISTRESS key	Press and hold the button for three seconds to transmit the Distress Alert. Note: DISTRESS button is covered by transparent cover to prevent user from accidental operation.
③	Front speaker	Front speaker is located inside the housing.
④	Handset port	Connect the provided handset (HS7000).
⑤	7" LCD screen	Displays the user interface including menu, function, message, etc.

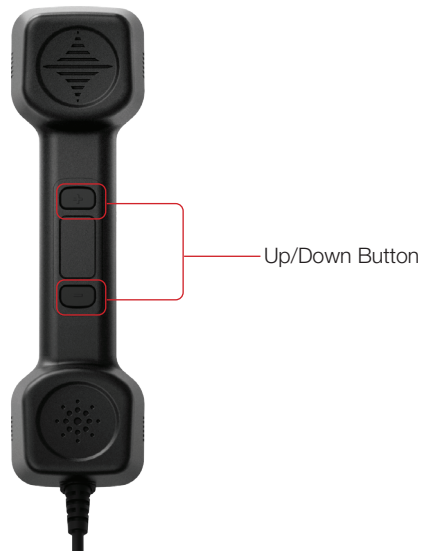


NOTE
Intellian declares that the luminance persistence (response time) of the display equipment is 25ms.

3.2 Handset

The handset controls voice communication.

- Up and Down button: To adjust the handset volume.



3.3 Turning On/Off Power

Turning On:

When the system is powered on for the first time, connect the SCU to the power supply (PSU180D). Then switch on the power supply. The bootsplash (logo) screen will appear, followed by the home screen.



Turning Off:

Switch off the power supply to power off the equipment and accessories.

3.4 Home screen

When the SCU is powered on and starts booting, it will complete the startup process and display the home screen. The screen displays the current position information, the vessel's MMSI, and active MSI messages.

3.4.1 Status Bar

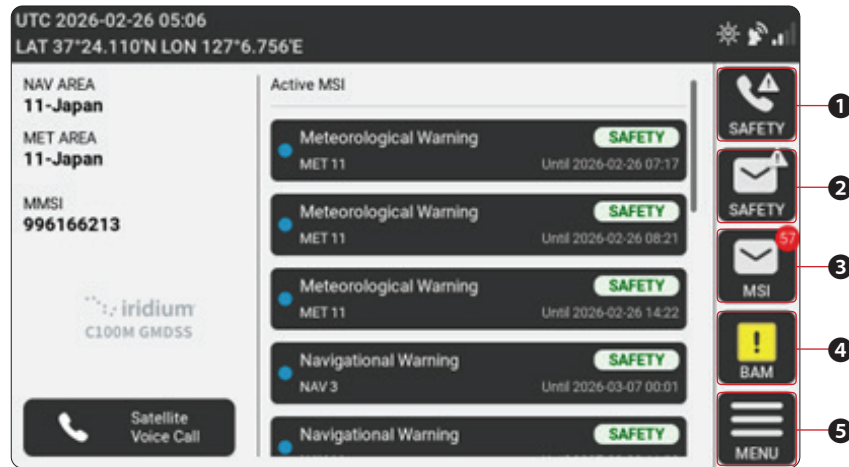
Shown at the top of the screen. Displays the current UTC time, vessel's location, and icons indicating the status of the system.



No.	Description
①	Displays current time. Terminal always displays time as UTC.
②	Displays the Latitude and Longitude of the vessel's current location. • Auto: Indicates vessel's location based on the GNSS receiver in the ADU. • Manual: Indicates manually set position information. (see section 5.4)
③	Displays current status. • : Indicates signal sensitivity. • : Indicates satellite connection. • : Indicates MSI message update. • / : Indicates Auto / Manual display dimming mode. • / : Indicates Handset off-hook / on-call status.

3.4.2 Menu Bar

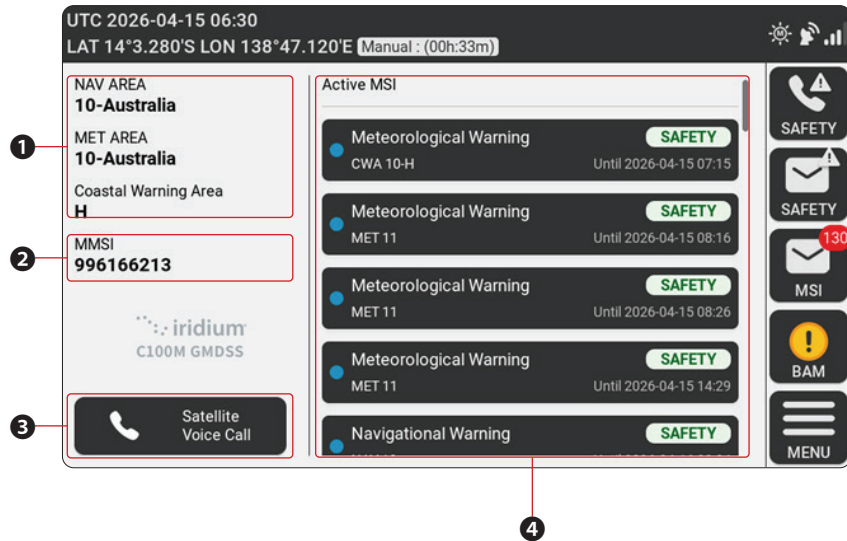
The bar of buttons down the right hand side of the screen allows the user to select pages that are used to manage specific functions. A red number in a circle at the top right corner of a button represents the number of active messages that have not yet been read.



No.	Description
①	 : Safety call page (section 4.4)
②	 : Safety message page (section 4.3)
③	 : MSI message page (section 4.2)
④	 : BAM alert page (section Chapter 7)
⑤	 : SCU other functions Menu page

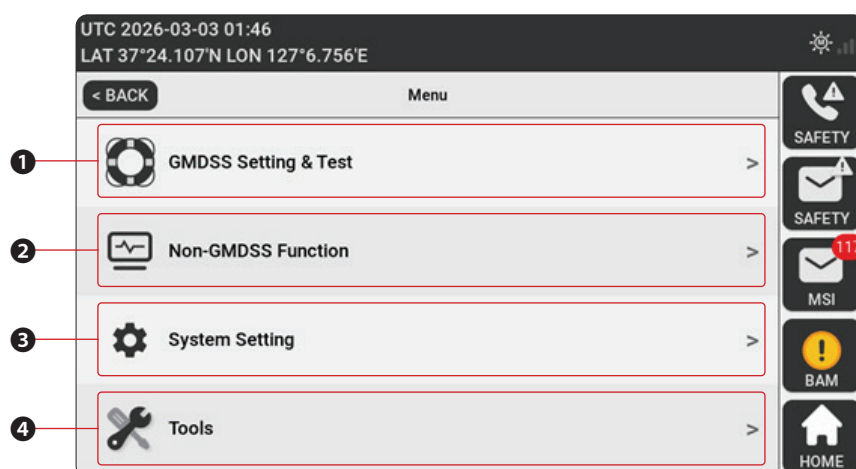
3.4.3 Content Area

Changes based on user section. Content for the Home Screen shown below.



No.	Description
①	Displays sea area based on vessel's location. • NAVAREA / METAREA MSI are received automatically for the NAVAREA and METAREA that the vessel is located in. The user is able to select to receive MSI for other NAVAREAs and METAREAs. (see section 5.2.2) • CWA (Coastal Warning Area) The Coastal Warning Area (CWA) is defined in geographical regions where the existing NAV/METAREAs are insufficiently granular. Not all NAVAREAs and METAREAs have Coastal Warning Areas. Coastal Warning Area is not shown for NAVAREAs and METAREAs that don't have Coastal Warning Areas.
②	Displays the vessel's MMSI.
③	Button for making normal (non-GMDSS) satellite voice calls.
④	Displays active MSI messages.

3.5 SCU Menu



No.	Description
①	 : GMDSS Settings & Test function (section Chapter 5)
②	 : Non-GMDSS Function settings (section Chapter 6)
③	 : System Settings (section Chapter 11)
④	 : Tools (section Chapter 12)

3.6 Display

Adjusting the brightness of the display and LEDs

Rotating the **DIMMER** knob on the left side of the front panel to adjust the brightness of the display and LEDs (1-20 levels). When the Dimmer knob is turned the brightness level pop-up window will be displayed showing the current dimming level. It is also possible to switch to Auto Dimming using the Dimming knob. Alternatively, go to **Menu** → **System Setting** → **Display** to adjust to the desired brightness level. (see section 11.1.2)

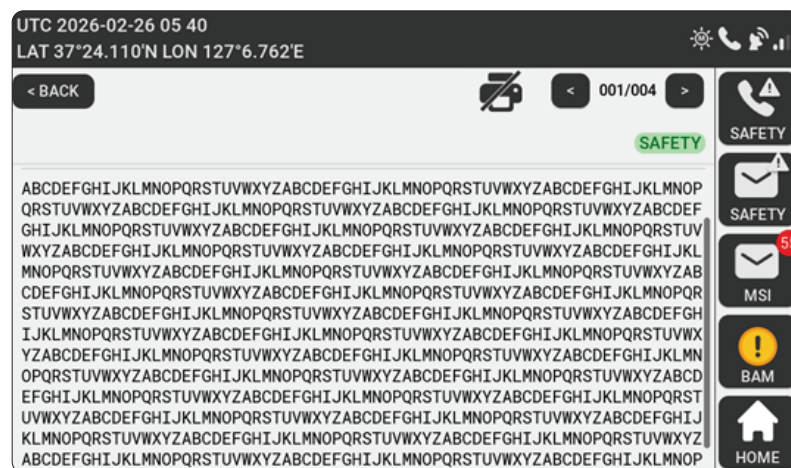


Auto Mode

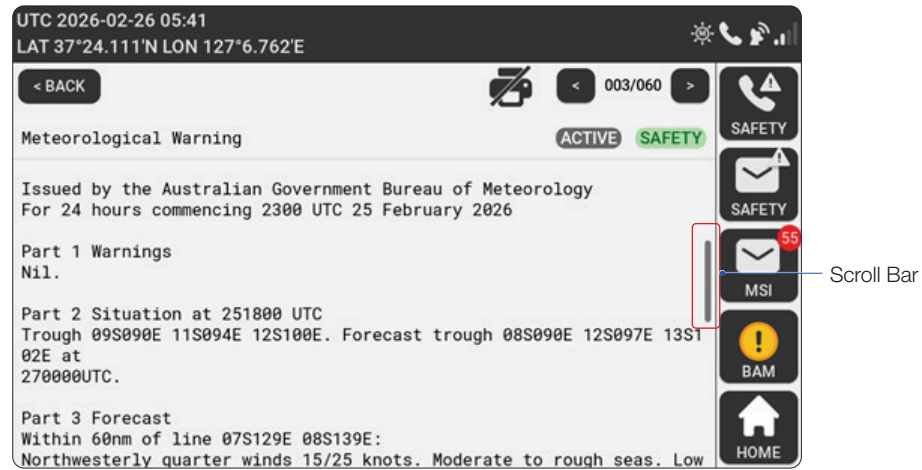
If the user turns the Dimming knob to decrease the dimming level from level 1, Auto Dimming mode is enabled. Alternatively, go to **Menu** → **System Setting** → **Display** to enable Auto brightness. When Auto Dimming mode is enabled, the brightness of the display and LEDs is automatically adjusted according to ambient light levels. Turning the Dimmer knob when in Auto Dimming mode switches back to Manual Dimming mode.

Display Features

The display of the C100M GMDSS can show 42 characters per line across 17 lines, with a character height of 3 mm. (The maximum number of lines available when reading a message is 17.)



- The display resolution is 1024 x 600 Pixels (Pixel Arrangement: RGB vertical Stripe). The response time of 30ms ensures that the display is flicker free.
- The recommended viewing distance is 60 cm, ensuring readability under all lighting conditions.
- The brightness level is adjustable in 20 steps (1–20 levels).



- A scroll bar appears on the right side of screens that require scrolling. Users can swipe up or down to view more content, and the scroll bar moves according to the user's viewing position.

Chapter 4. GMDSS Services

4.1 Distress Alert & Distress Voice Call

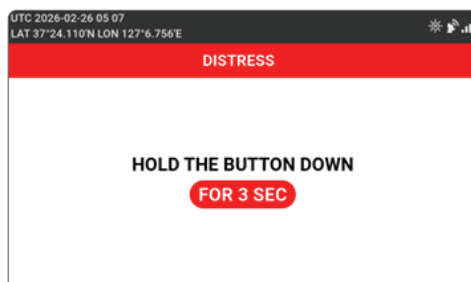
4.1.1 Activation of Distress

1. Open the cover of the **DISTRESS** key and press and hold the key for 3 seconds.



NOTE

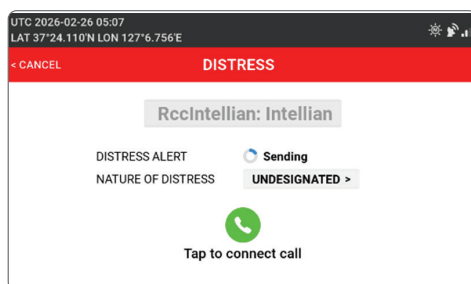
The DISTRESS key is covered to prevent accidental operation.



During the 3-second countdown, the button will flash, and an intermittent audible alarm will sound from the unit.

If the button is released within 3 seconds, the Distress Alert will not be sent and the alarm will stop.

After 3 seconds, the Distress Alert transmission starts. The button stops flashing, and the audible alarm will stop.



When the Distress Alert transmission starts, the screen is updated to show:

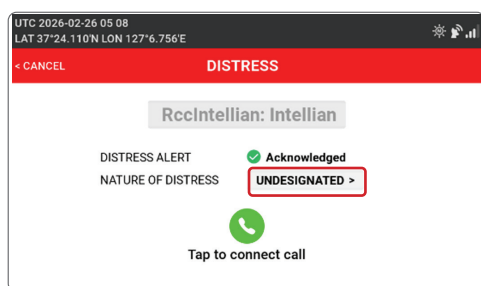
- The RCC that the Distress Alert has been sent to.
- The current status of the Distress Alert (Options include Sending, Sent, Delivered, Canceling, Acknowledged).
- The user can change the Nature of distress by selecting a different option from the drop down list. (see section 4.1.2)
- The Call button can be used to initiate a Distress Voice call with the RCC. If Auto Dial is set, a Distress Voice call will automatically be initiated when the Distress Alert status changes to Delivered.



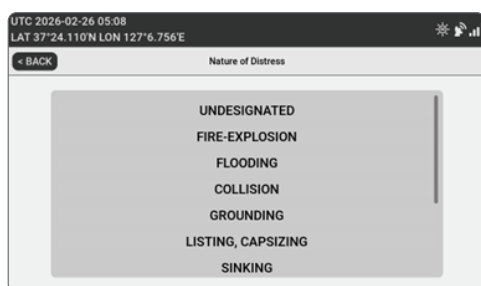
NOTE

The RCC can be changed during a Distress Alert. This function can be used only when Auto Dial is disabled and a Distress call is not in progress. See Section 5.3.2 for setup instructions.

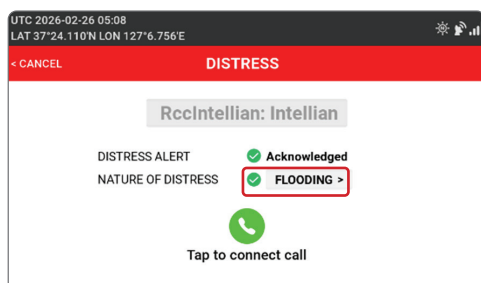
4.1.2 Select Nature of Distress



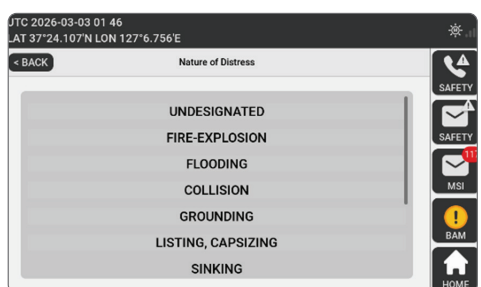
1. Press the 'Nature of Distress' drop down to display the currently configurable distress types.



2. Select the applicable Nature of Distress from the list displayed.



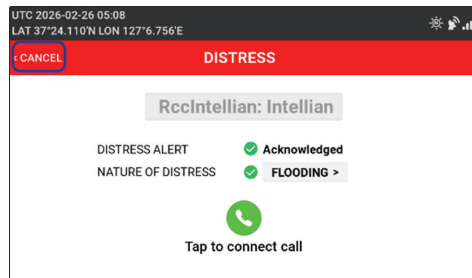
3. The green check mark indicates that the change has been made and the updated value will be communicated to the RCC.



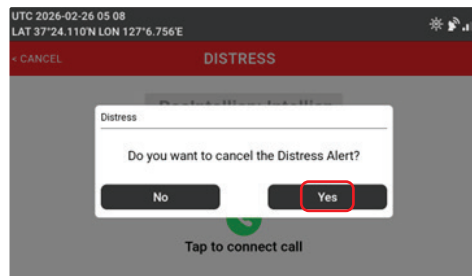
4. There is also an option to select the default Nature of Distress, go to **Menu → GMDSS Setting → Distress → Default Nature of Distress**. (see section 5.3.1)

4.1.3 Distress Cancel

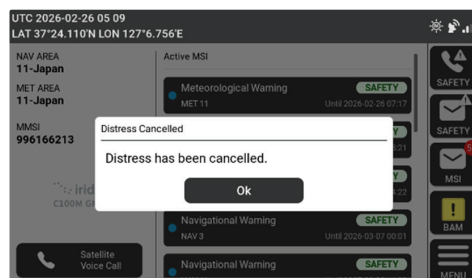
You can cancel the Distress Alert while it is being sent or while waiting for its acknowledgment as follows:



1. Select the **CANCEL** option button. A pop-up window will be displayed on the screen.



2. Pressing **Yes** will transmit a Distress Alert cancellation message to the RCC to formally retract the Distress Alert.



3. A pop up is displayed to confirm that the Distress Alert has been cancelled.

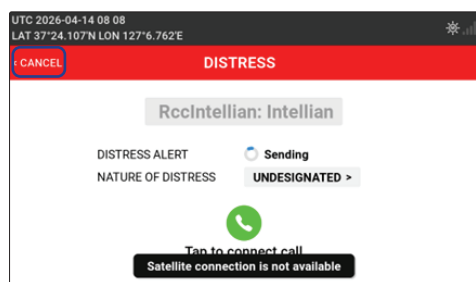


NOTE

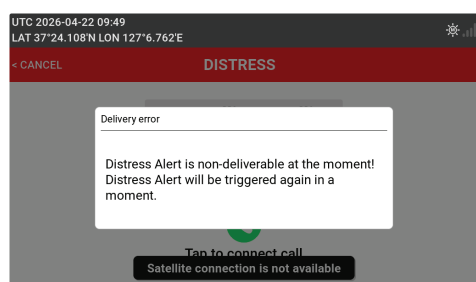
It is not required to set the Nature of Distress and the RCC will respond to all of the options including 'Undesignated'.

4.1.4 Automatic Distress Alert Retransmission

The C100M GMDSS System includes an automatic retransmission logic to handle transmission failures caused by satellite communication issues or other network interruptions. If a Distress Alert is not successfully delivered, the system operates as follows:



1. **Internal Retry Process:** If the Distress Alert status remains in the **“Sending”** state for more than **60 seconds**, the system automatically initiates an internal retry process. The system will attempt to resend the alert internally up to **three (3) times**.



2. **User Notification:** If all three internal retransmissions fail, a pop-up window appears with the message: “Distress Alert will be triggered again in a moment.”



3. **Initiation of New Distress Alert:** After the pop-up disappears, the system automatically initiates a new Distress Alert sequence. This process follows the standard Distress countdown but operates automatically without manual button interaction.

**HOLD THE BUTTON DOWN
FOR 2 SEC**



NOTE

The automatic retransmission process is performed internally by the system and is not explicitly displayed on the User Interface (UI).

4.1.5 Initiate Distress Alert from a remote GMDSS Alarm Button or GMDSS Alarm Unit

A distress alert can also be initiated from a connected external GMDSS Alarm Box or Alarm Unit. The following procedure applies specifically to activating the alert from these external devices.



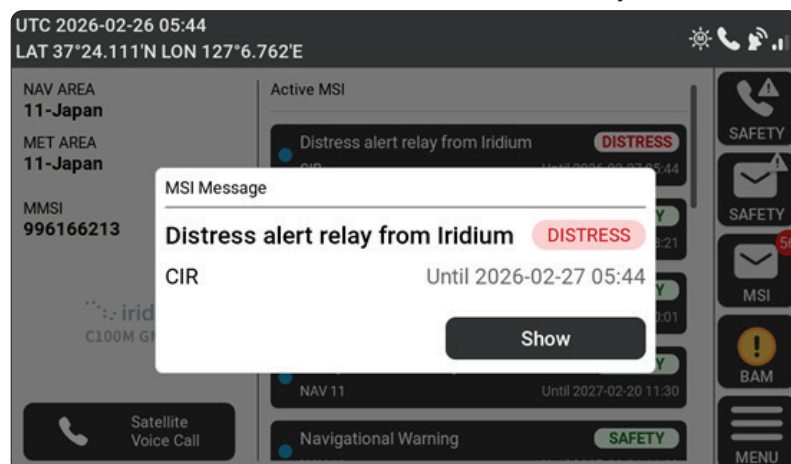
Procedure for Transmitting a Distress Alert Using a Distress Alarm Box or Distress Alarm Unit

1. Open the cover of the **DISTRESS** button.
2. Press and hold the button for 3 seconds.
3. During the 3-second countdown, the indicator light in the button will flash, and an intermittent audible alarm will sound from the unit.
4. After 3 seconds, the distress alert is transmitted. The button will become steady (no longer flashing) and the alarm will stop.

4.1.6 Distress Alert Relay (DAR)

A Distress Alert Relay message is sent by an RCC (Rescue Coordination Center) to a predefined area (for example, a circular area with a radius of 50 NM) when a nearby vessel has sent a Distress Alert message and assistance is required. The Distress Alert Relay message will contain information from the vessel in distress.

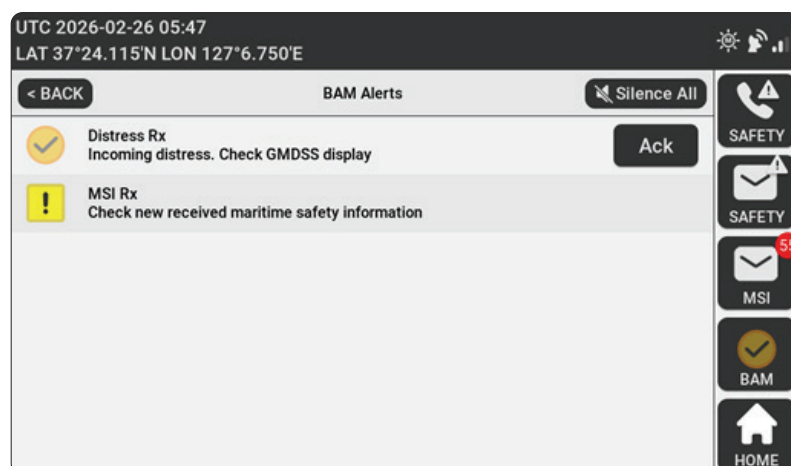
When the DAR is received, an audio alarm sounds on the SCU, and a pop-up window displaying “MSI RECEIVED” with a priority of Distress will appear on the screen. The alarm will continue until the MSI is opened. In addition, a BAM alert labeled ‘Distress Rx’ will simultaneously be sent to the CAM (if connected).



The Distress Alert Relay message contains key attribute information at the beginning. Use the touch screen and scroll up/down to read the full message content.



The BAM alarm for a Distress RX can be cleared by pressing the **ACK** button upon receiving the BAM alarm.



4.2 Maritime Safety Information (MSI)

Maritime Safety Information (MSI) messages contain navigational and meteorological warnings that are issued by Port States. MSI are typically associated with a specific NAVAREA or METAREA. It is mandatory for SOLAS ships to be able to receive MSI. MSI are broadcast over satellite, VHF radio and MF radio. The MSI may contain navigation-related information, navigation warnings, weather forecasts, search and rescue updates, marine chart updates, piracy activity reports, naval warship operation areas, and other region-specific information.



NOTE

The SCU can display MSI messages of up to 15000 bytes in size and store at least 200 MSI messages.

Unread -	Type -	Expiry Time -	Area -	Priority -
☒	Meteorological Warning Until 2026-03-03 14:15		MET 11	SAFETY
☒	Meteorological Warning Until 2026-03-03 08:23		MET 11	SAFETY
☒	Meteorological Warning Until 2026-03-03 07:16		MET 11	SAFETY
☒	Meteorological Warning Until 2026-03-03 06:30		CWA 10-D	SAFETY
☒	Meteorological Warning Expired		MET 11	SAFETY
☒	Navigational Warning Until 2027-03-02 11:35		NAV 11	SAFETY

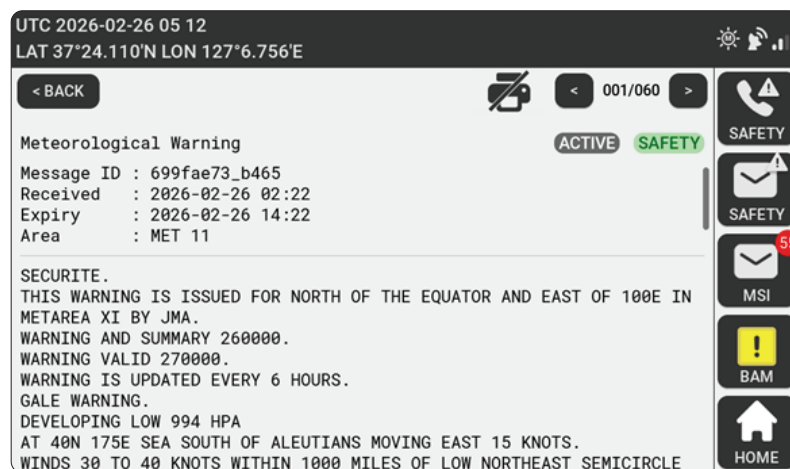
The different types of MSI messages, including their class and the Authority that issues them, are shown in the table below.

Message Type	Class	Authority	Geography	Priority
Navigational warning or bulletin	NAV	MSI Provider	Rectangular Circular NAVAREA COASTAL	Safety Urgency
Meteorological warning or forecast	MET	MSI Provider	Rectangular Circular METAREA COASTAL	Safety Urgency
Urgency & Safety Traffic	NAV SAR	MSI Provider RCC	NAVAREA	Safety Urgency
Shore to Ship Distress Alert Relay	SAR	RCC	Rectangular Circular	Distress
SAR Coordination Traffic	SAR	RCC	Rectangular Circular	Safety Urgency Distress
Piracy Situation Report	NAV (Piracy)	MSI Provider	Rectangular Circular NAVAREA COASTAL	Safety
Piracy Attack Warning	NAV (Piracy)	MSI Provider	Rectangular Circular NAVAREA COASTAL	Urgency

MSI messages with a Distress priority are issued immediately, MSI messages with lower priorities are issued, for each NAVAREA and METAREA, in accordance with an established schedule (typically twice per day for each of the different transmission paths – satellite, VHF & MF).

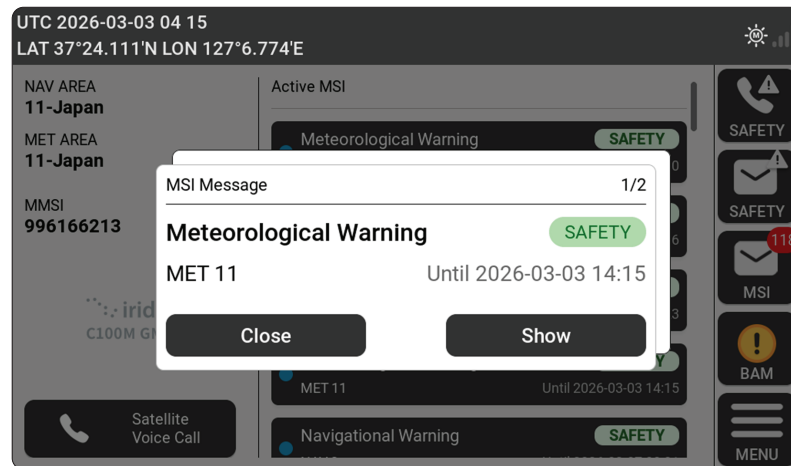
The C100M GMDSS system always receives MSI messages for the NAVAREA/METAREA and Coastal Warning Area that the vessel is currently located in. If a nearby NAV/MET area is within 300 NM of the GNSS position (within 100 NM for CWA), additional MSI messages may be received. MSI for other NAVAREAs and METAREAs can also be received. See section 5.2.1 for guidance on how to do this.

The image below shows an example of a MSI message displayed on the SCU.



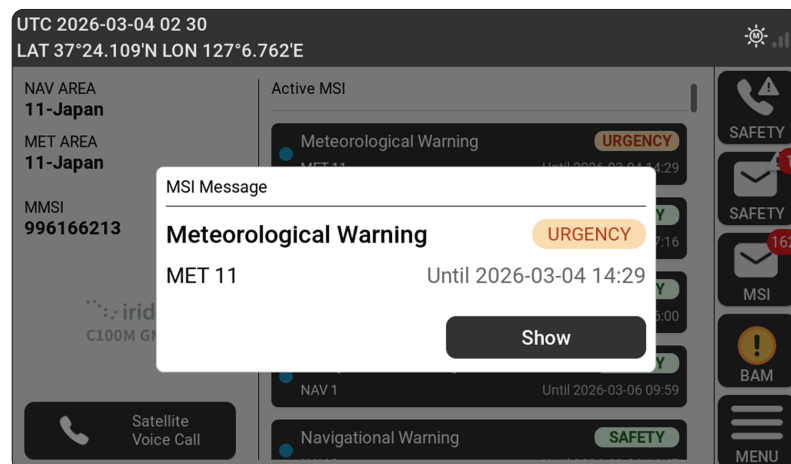
4.2.1 View Received MSI Messages

When an MSI message with Safety priority is received, a pop-up window will appear on the screen accompanied by an audio alarm. Press the **Show** button to display the contents of the MSI message or press the **Close** button to dismiss the pop-up.

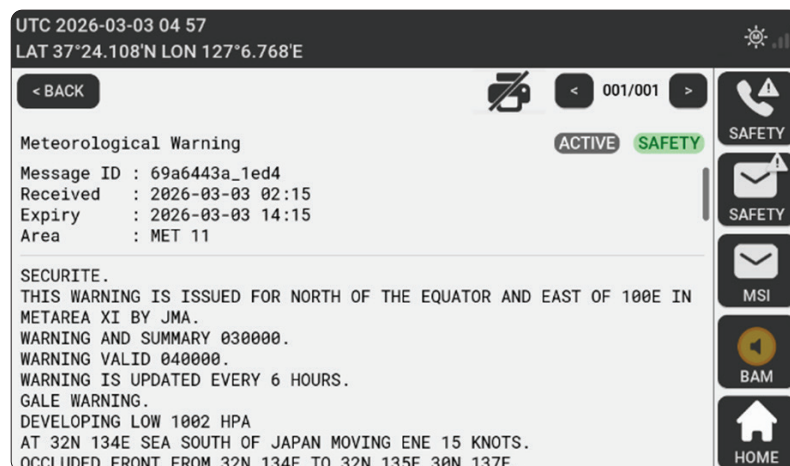


When a MSI message with Distress/Urgency priority is received, the audio alarm will continue until the message is opened.

Click the **Show** button to open the message.



To view all lists for received MSI messages, press the MSI button on the menu bar on the right side of the screen. You can sort the list by pressing a column. The arrow next to the column name indicates the current sort order. This screenshot shows the MSI List sorted in descending order of priority.



NOTE

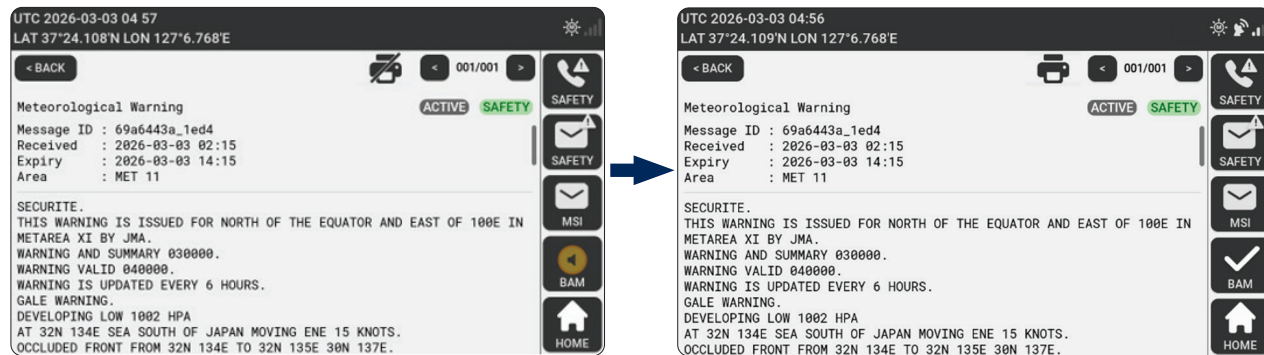
The types of pop-ups in SCU are MSI Message Receipt (Distress, Urgency, Safety priority), Safety Message Receipt (Distress, Urgency, Safety priority), and BAM Alert (Warning, Caution priority). The pop-ups are sorted in the following order:

1. Distress priority message (MSI or Safety message)
2. Urgency priority message (MSI or Safety message)
3. BAM Warning priority & Safety priority message (MSI or Safety message)
4. BAM Caution priority ("Lost connection" is the only one that triggers a pop-up).

And in the same priority, latest is first.

Print MSI Message

If a printer is connected, the user can print the received MSI message. see section 11.2 of the Installation Guide for printing device installation instructions. If the printer is not installed correctly or is not connected, the printer icon at the top of the MSI Message screen will be disabled. (🚫) If the printer is properly connected, the printer icon at the top of the MSI Message screen will be enabled. (🖨️).



Checking the printer icon will immediately print the corresponding MSI message on the printer. The image below shows an example of the printed message.

```

Meteorological Warning
Priority : Safety
Message ID : 69a6443a_1ed4
Received : 2026-03-03 02:15:22
Expiry : 2026-03-03 14:15:22
Area : MET 11

SECURITE.
THIS WARNING IS ISSUED FOR NORTH OF THE EQUATOR AND EAST OF 100E IN
METAREA XI BY JMA.
WARNING AND SUMMARY 030000.
WARNING VALID 040000.
WARNING IS UPDATED EVERY 6 HOURS.
GALE WARNING.
DEVELOPING LOW 1002 HPA
AT 32N 134E SEA SOUTH OF JAPAN MOVING ENE 15 KNOTS.
OCCLUDED FRONT FROM 32N 134E TO 32N 135E 30N 137E.
WARM FRONT FROM 30N 137E TO 28N 138E 26N 140E.
COLD FRONT FROM 30N 137E TO 26N 134E 24N 130E.
WINDS 30 TO 40 KNOTS WITHIN 500 MILES OF LOW SOUTHEAST SEMICIRCLE AND
400 MILES ELSEWHERE.
EXPECTED WINDS 30 TO 45 KNOTS WITHIN 800 MILES OF LOW NORTH
SEMICIRCLE AND 500 MILES ELSEWHERE WITHIN

```

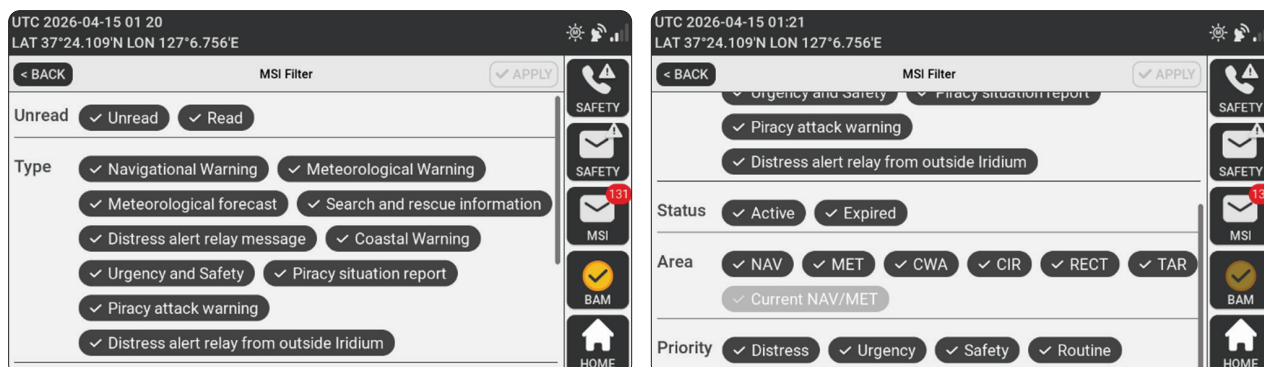


NOTE

Printing device supports the printing of the Standard International Reference Alphabet (IRA) character set. No other character sets beyond the Standard IRA character set are supported by this device. When printing a test of the diagnostic test, the Korean KS5601 is output, but this is limited to test printing only.

4.2.2 MSI Message Filter

The SCU can filter MSI messages using the Filter function located at the top right of the MSI message list page. Deselect/Select the filter criteria to be applied by unchecking/checking the appropriate labels and then press the **Apply** button. The MSI messages will be filtered according to filter criteria that have been selected.



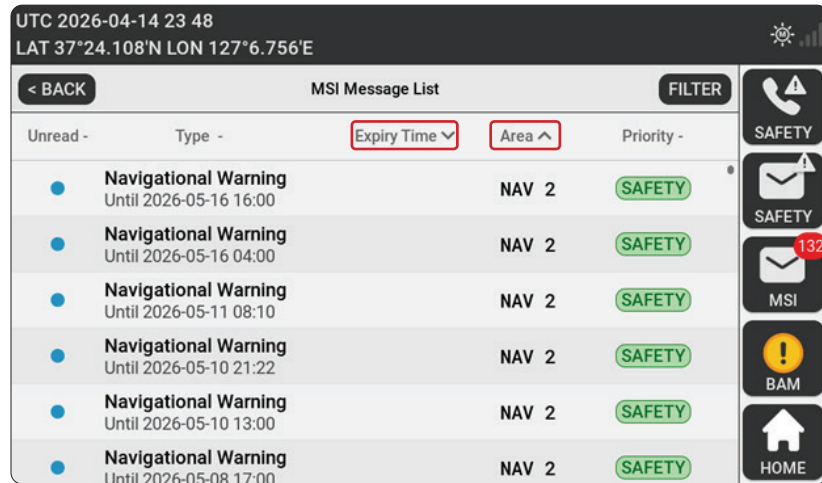
The screenshot below shows the message list filtered to show only unread messages. Note the filter icon next to the Unread column heading that indicates that a filter has been applied.

UTC 2026-02-26 06:12 LAT 37°24.110'N LON 127°6.762'E				
MSI Message List				
Unread -	Type -	Expiry Time -	Area -	Priority -
☒	Meteorological Warning	Until 2026-02-26 08:21	MET 11	SAFETY
☒	Meteorological Warning	Expired	MET 11	SAFETY
☒	Navigational Warning	Until 2027-02-25 11:32	NAV 11	SAFETY
☒	Meteorological Warning	Expired	MET 11	SAFETY
☒	Meteorological Warning	Expired	MET 11	SAFETY
☒	Navigational Warning	Until 2027-02-25 06:03	NAV 11	SAFETY

4.2.3 MSI Message Sort

Messages can be sorted by Unread, Type, Expiry Time, Area, and Priority. Click on the column heading to apply a sort order. Clicking the column heading a second time changes the sort order from descending order of priority to ascending order of priority. Clicking the column heading a third time removes the sort order.

For example, sorting Expiry Time in ascending order and Area in descending order will display the list as shown in the screenshot below.



The screenshot displays the 'MSI Message List' interface. At the top, it shows the UTC time '2026-04-14 23 48' and coordinates 'LAT 37°24.108'N LON 127°6.756'E'. Below this is a header bar with '< BACK', 'MSI Message List', and 'FILTER'. The table has columns: 'Unread -', 'Type -', 'Expiry Time' (sorted descending), 'Area' (sorted ascending), and 'Priority -'. The table lists six 'Navigational Warning' messages, all with 'NAV 2' priority and 'SAFETY' status. The expiry times are: 'Until 2026-05-16 16:00', 'Until 2026-05-16 04:00', 'Until 2026-05-11 08:10', 'Until 2026-05-10 21:22', 'Until 2026-05-10 13:00', and 'Until 2026-05-08 17:00'. On the right side, there is a vertical menu with icons for 'SAFETY', 'SAFETY' (with a red '132' badge), 'MSI', 'BAM', and 'HOME'.

Unread -	Type -	Expiry Time	Area	Priority -
	Navigational Warning	Until 2026-05-16 16:00	NAV 2	SAFETY
	Navigational Warning	Until 2026-05-16 04:00	NAV 2	SAFETY
	Navigational Warning	Until 2026-05-11 08:10	NAV 2	SAFETY
	Navigational Warning	Until 2026-05-10 21:22	NAV 2	SAFETY
	Navigational Warning	Until 2026-05-10 13:00	NAV 2	SAFETY
	Navigational Warning	Until 2026-05-08 17:00	NAV 2	SAFETY

4.3 Safety Message

The C100M GMDSS allows users to send a Safety Message to a specific Rescue Coordination Center (RCC) and to receive Safety Message sent by a specific RCC.

However, direct Safety Message transmission between SCU terminals is not supported.



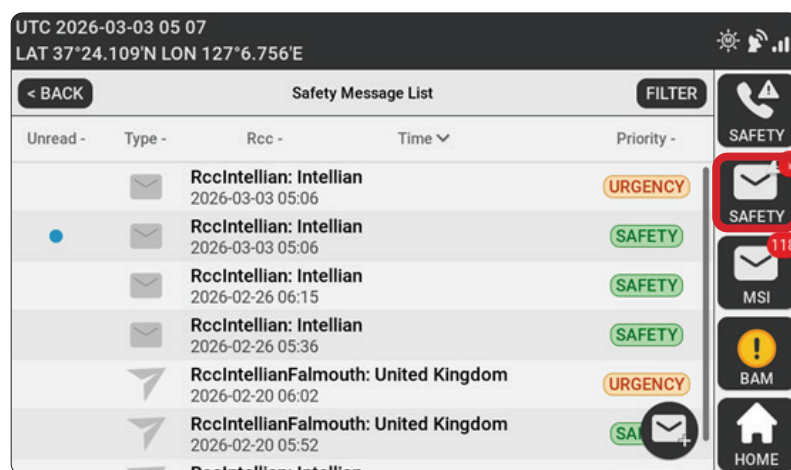
NOTE

The following naming convention is often used to describe who is the sender and who the message is being sent to:

- Mobile Originated: Safety message is sent from the ship to the RCC
- Mobile Terminated: Safety Message is sent from the RCC to the ship.
- The GMDSS System does not support the sending of Safety Messages from one ship to another.

Press the **SAFETY** button on the menu bar to display the entire list of messages. The Safety Message List page shows both sent and received Safety Messages.

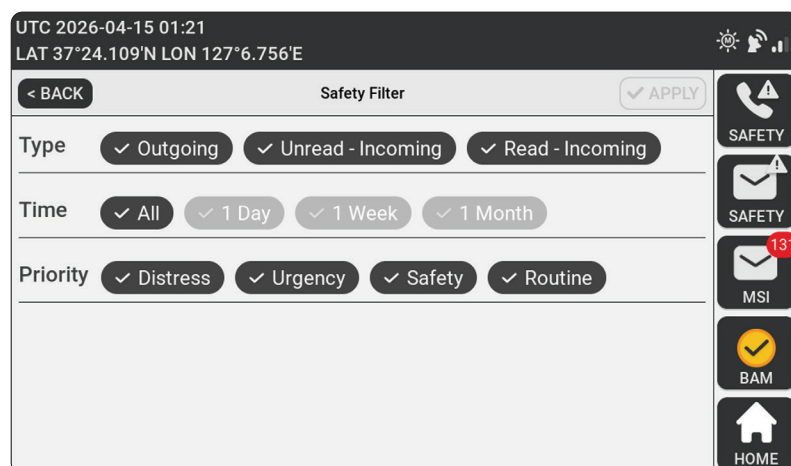
It can also be arranged in ascending or descending order by pressing the button on top of the list. Sort the Unread, Type, RCC, Time and Priority columns to organize the list.



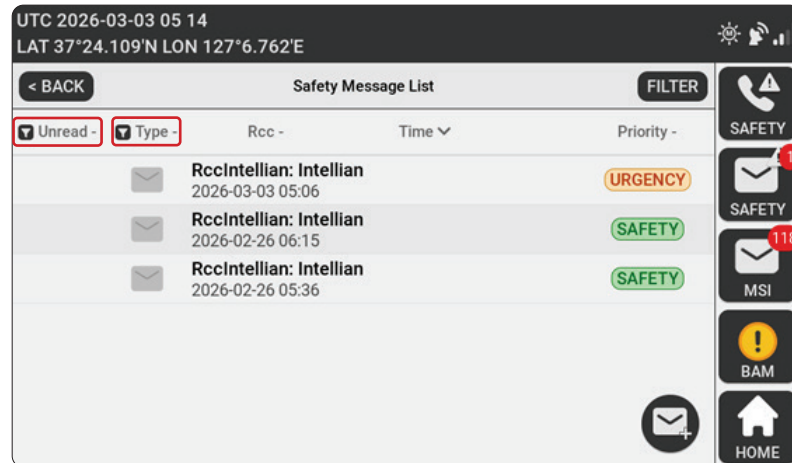
NOTE

One safety message can be up to 1000 bytes in length and the SCU can store at least 200 messages in the internal storage.

Safety Messages can be filtered and sorted in the same way as MSI. (see section 4.2.2)

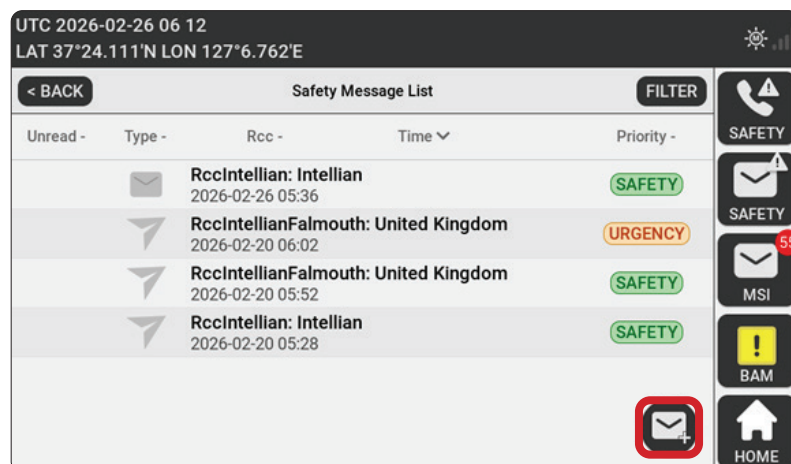


The filter function can be used to only display sent or received messages (Mobile Originated or Mobile Terminated). The screenshot below shows the results of filtering only the read messages among the Mobile Terminated messages.

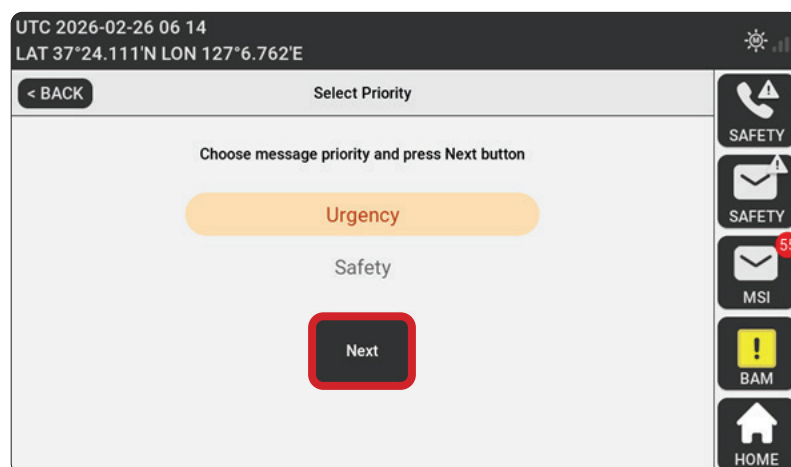


4.3.1 Sending a Safety Message

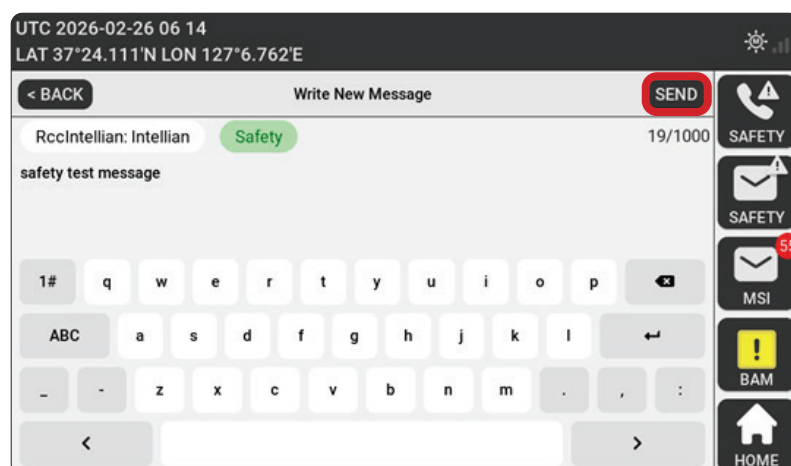
1. Click the  (New message) button at the bottom right of the Safety Message page.



2. Select the Priority (either Urgency or Safety) and, then press the **NEXT** button.

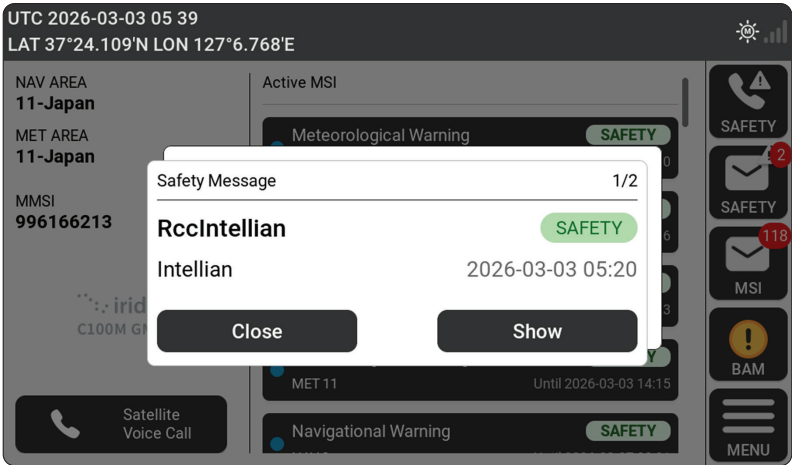


3. On the next page the user can enter the text of the message to be sent. The RCC is selected automatically but can be changed by pressing on the button showing the selected RCC. When the message is complete, press the **SEND** button in the upper right corner to send the message.

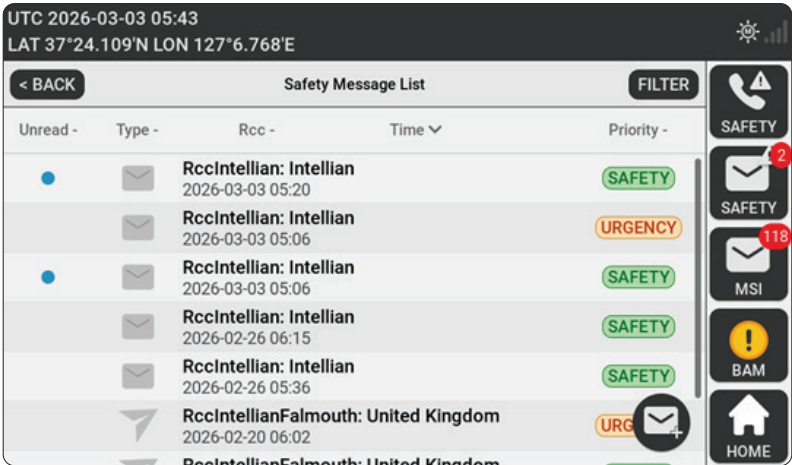


4.3.2 Receiving a Safety Message

When a new Safety message is received, a pop-up window is displayed. Pressing the **Show** button opens the message so that it can be read immediately or pressing the Close button to dis-miss the pop-up. When a message with Distress/Urgency priority arrives, as shown in the image below, the audio alarm will continue until the message is opened.



You can also see the received Safety Messages in the Safety Message List page. An unread message is marked with a blue dot in the new column on the left side.

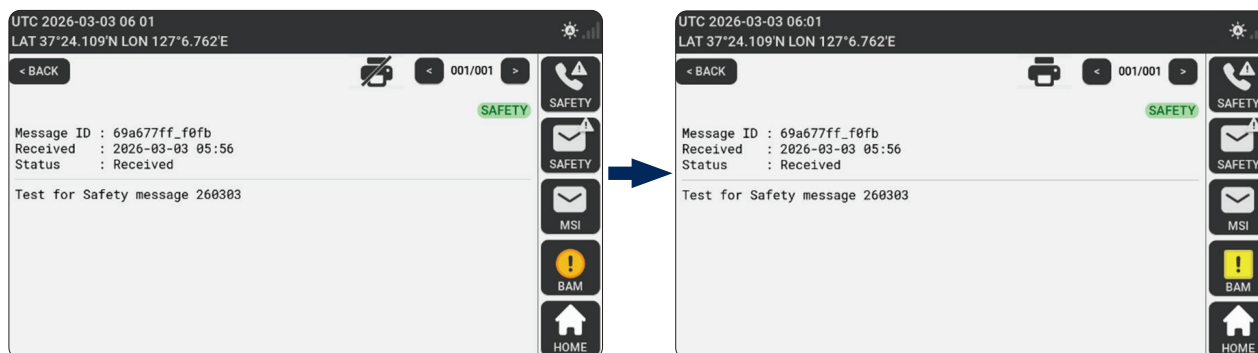


The screenshot below shows an opened Safety Messages.



Print Safety Message

If a printer is connected, the user can print the received MSI message. see section 11.2 of the Installation Guide for printing device installation instructions. If the printer is not installed correctly or is not connected, the printer icon at the top of the MSI Message screen will be disabled. (🚫) If the printer is properly connected, the printer icon at the top of the MSI Message screen will be enabled. (🖨️).



Checking the printer icon will immediately print the corresponding MSI message on the printer. The image below shows an example of the printed message.

```
Safety message
Priority : Safety
Message ID : 69a677ff_f0fb
Received : 2026-03-03 05:56:15
Status   : Received

Test for Safety message 260303
```



NOTE

Printing device supports the printing of the Standard International Reference Alphabet (IRA) character set. No other character sets beyond the Standard IRA character set are supported by this device. When printing a test of the diagnostic test, the Korean KS5601 is output, but this is limited to test printing only.

4.4 Safety Calls

Press the Safety Call button at the top of the menu bar to navigate to the Safety Call page. Safety Calls have can be assigned one of three priorities:

Priority calls are classified into four levels:

- Distress: Calls associated with a Distress Alert
- Urgency
- Safety

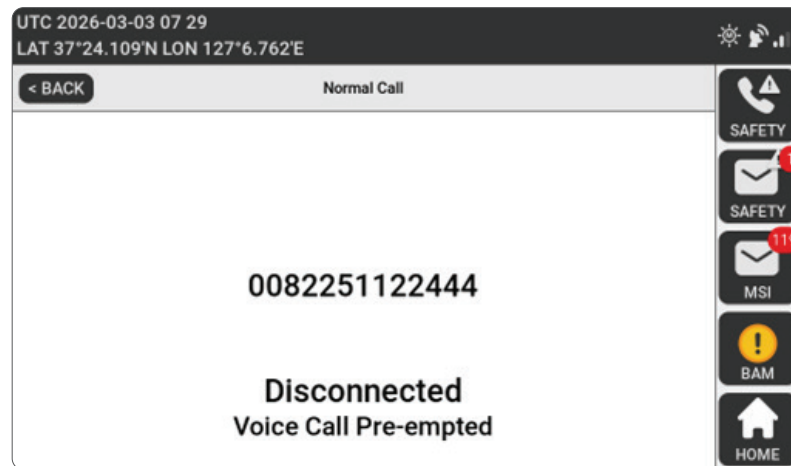


NOTE

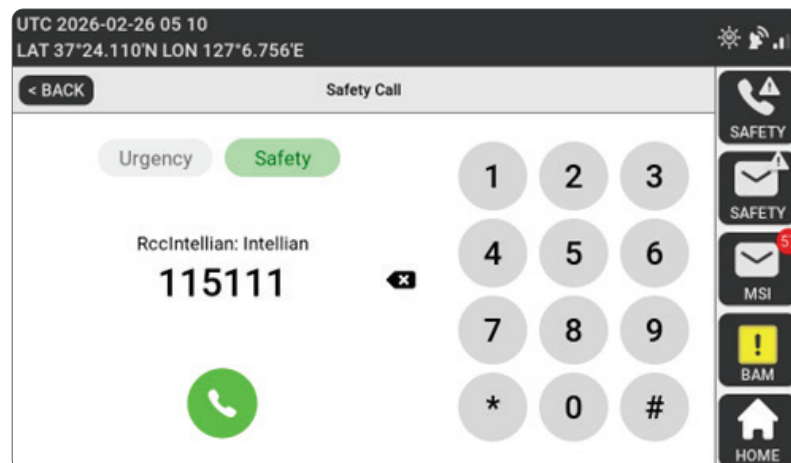
Routine calls are not available in this menu. For a description of routine calls, see section 6.1.

The C100M GMDSS system preempts lower priority calls to priority calls. If a higher-priority call comes in while another call is in progress, the lower-priority call will be disconnected, and the higher-priority call will start automatically. If a lower-priority call comes in during an ongoing call, it will be ignored.

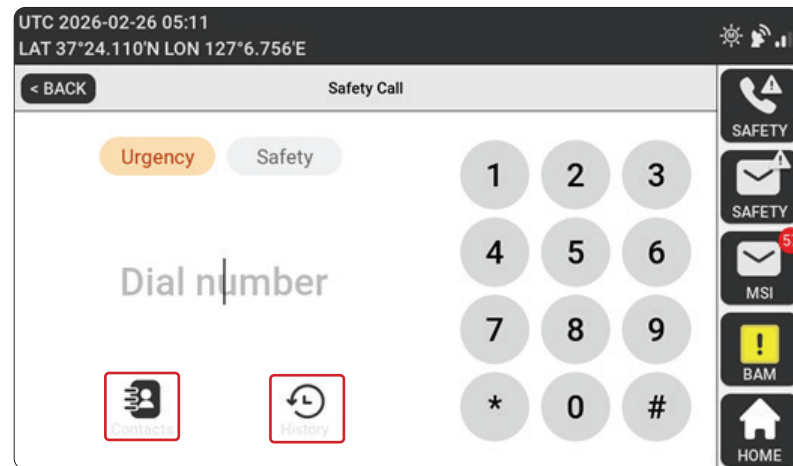
The screenshot below shows the message that is displayed when a lower priority call is preempted.



When accessing the Safety Call page for the first time, it displays the RCC phone number based on the default RCC (Automatic or Manual setup).



If the default RCC number that is first displayed is deleted, the Contacts and Call History buttons will appear

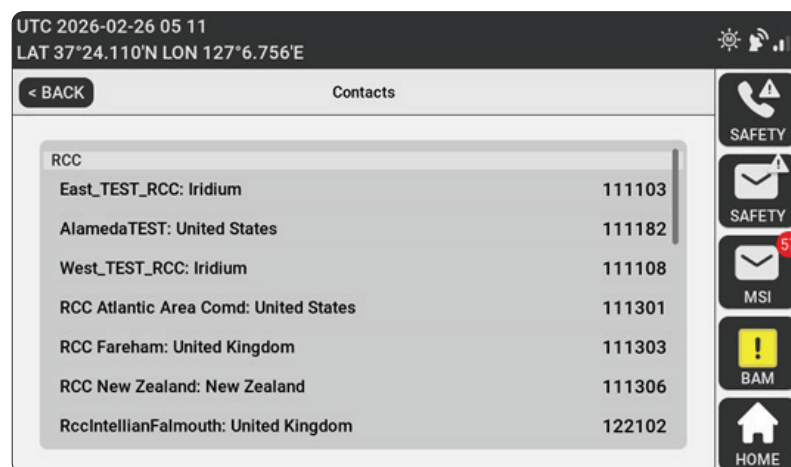
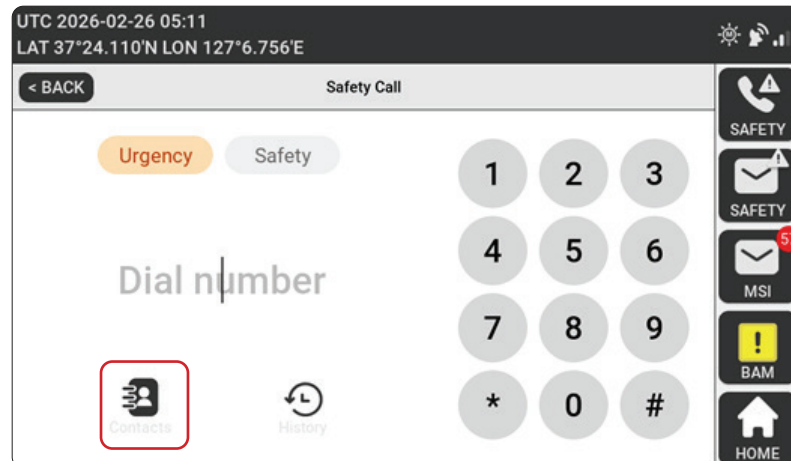


4.4.1 Making Safety Calls

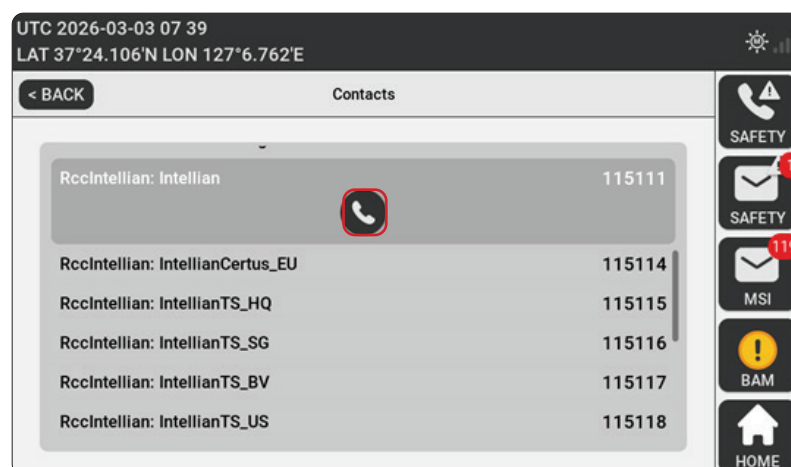
Safety Calls from the ship (Mobile originated calls) can only be made to an RCC. When manually initiating a Safety Call from the Safety Call page the user can only select the priority as Urgency or Safety:

If a priority of Safety is selected the target RCC can be changed as follows:

1. Press the **Contacts** button to bring up a page showing the list of RCC Contacts that you can make a call to.

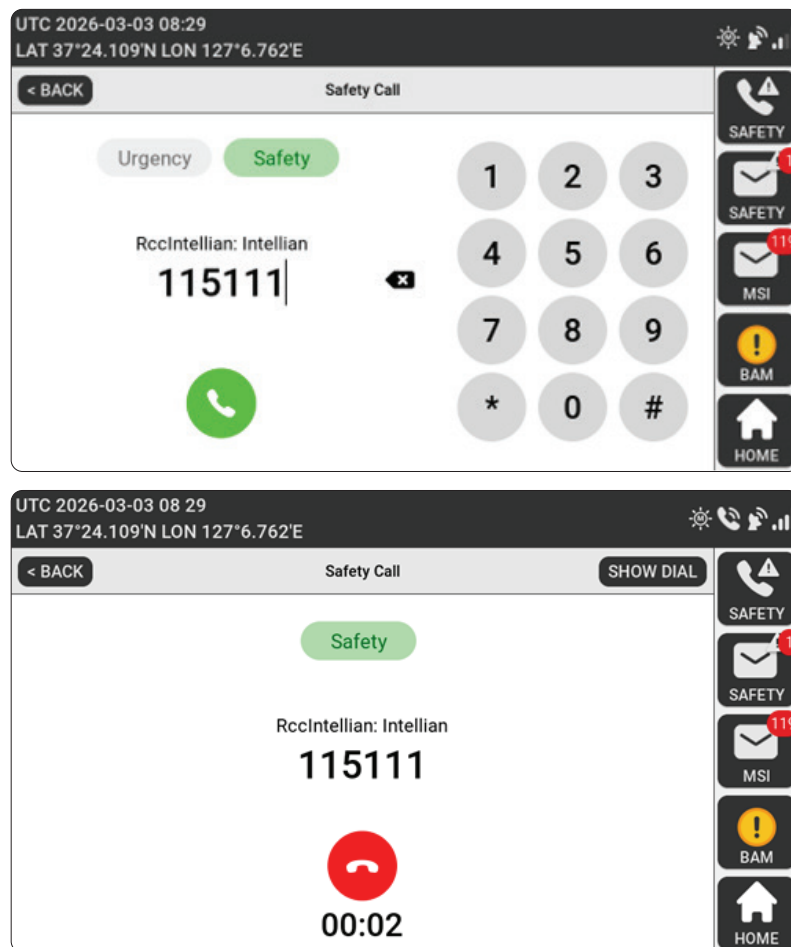


2. Select a desired contact from the list of RCC Contacts and press the black Call button. The Safety Call page is then displayed showing the selected RCC.



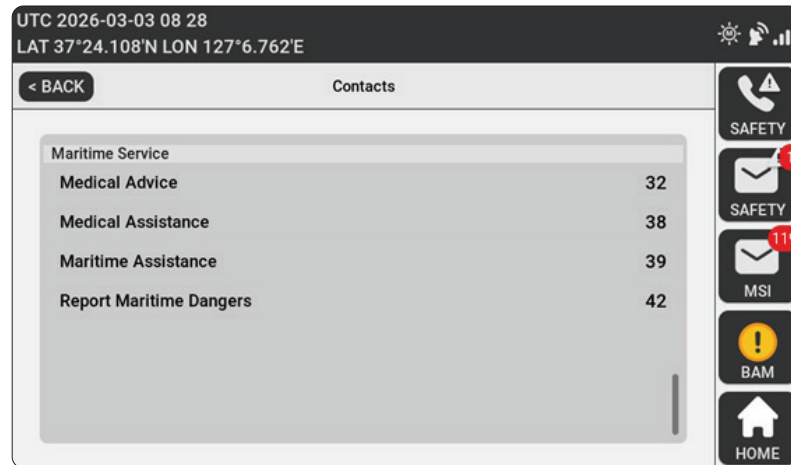
Alternatively the short code for the RCC can be entered directly:

Press the green Call button to initiate the call.



4.4.2 Calling a Maritime Service (Short Code Dialing)

A Maritime Service can be called from the Safety Call page by selecting the Safety priority and then clicking on the contacts button to bring up the page that shows the list of RCCs. At the bottom of the list of RCCs are the Maritime Services which are selected in the same way as an RCC. (see previous section.)



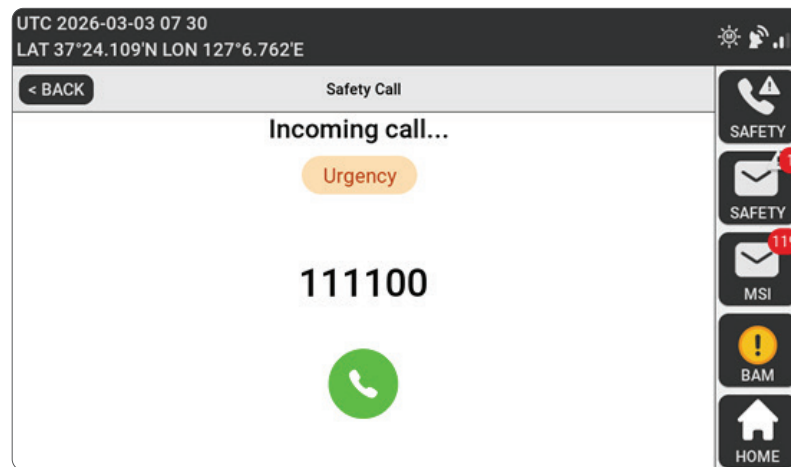
Alternatively the short code for the Maritime Service can be entered directly:

Iridium GMDSS supports the following Maritime Services

Service	Short code	Description
Medical Advice	32	A call to remotely consult with shore-based medical professionals (TMAS - Telemedical Assistance Service) about a medical situation on board (e.g., describing a patient's symptoms and requesting first-aid advice).
Medical Assistance	38	Used when practical medical support is required, going beyond simple advice. This includes arranging for a medical evacuation (Medevac), a doctor to visit the vessel, or diverting to the nearest port with medical facilities.
Maritime Assistance	39	A call to request support from maritime authorities for situations that are not in distress but could affect the safe navigation of the vessel (e.g., requesting a tugboat due to engine failure).
Report Maritime Dangers	42	A call to report a danger to navigation (e.g., a lost container, a drifting buoy, an uncharted reef) to the authorities, so a Navigational Warning can be broadcast to other ships.

4.4.3 Receiving Safety Calls

When an incoming call is received from an RCC, the information will be displayed as shown in the screenshot below. Either press the green Call button to answer the call, or lift the handset from the cradle.

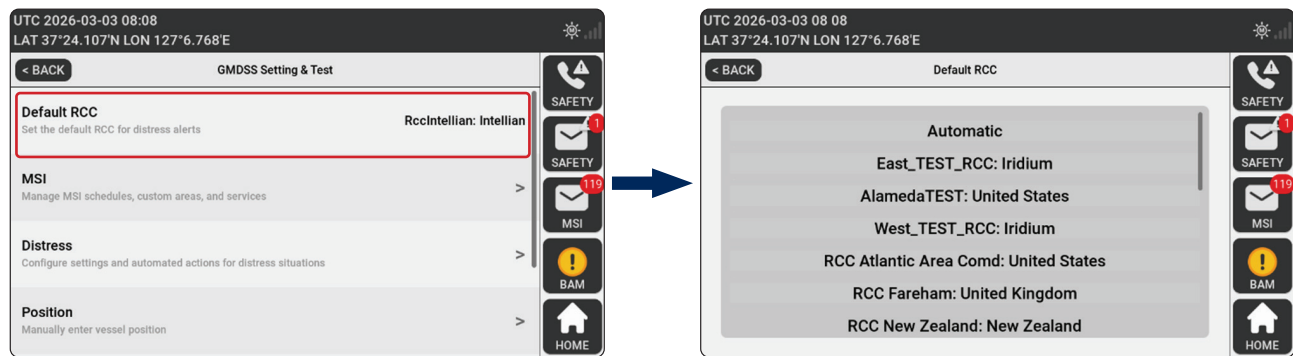


Chapter 5. GMDSS Setting

Go to **Menu** → **GMDSS Settings** to check the GMDSS Settings. The GMDSS Settings submenu includes Default RCC, MSI Setting, Distress Setting, Position, and Auto Print functions.

5.1 Default RCC

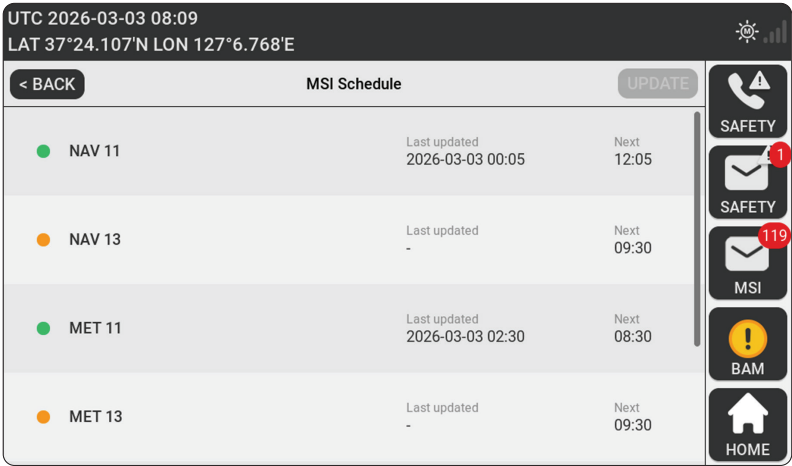
Go to **Menu** → **GMDSS Settings** → **Default RCC** to check the selection of the RCC that will be contacted when the **DISTRESS** button is pressed or contacted when making a Safety Call or sending a Safety Message. If Automatic is selected then the RCC will automatically be selected based on the location of the vessel. If a specific RCC is selected then that RCC will be contacted irrespective of where the vessel is located.



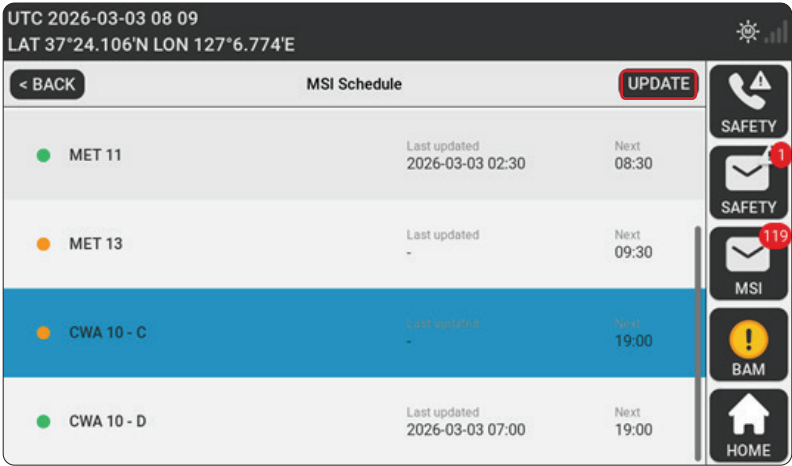
5.2 MSI Settings

5.2.1 MSI Schedule

Go to **Menu** → **GMDSS Settings** → **MSI** → **Schedule** to check the update schedule as per each area. The screen will display the last update time and the next scheduled update. An orange dot indicates areas that have not been updated.



To request an update manually, select the item and press the **UPDATE** button at the top right.

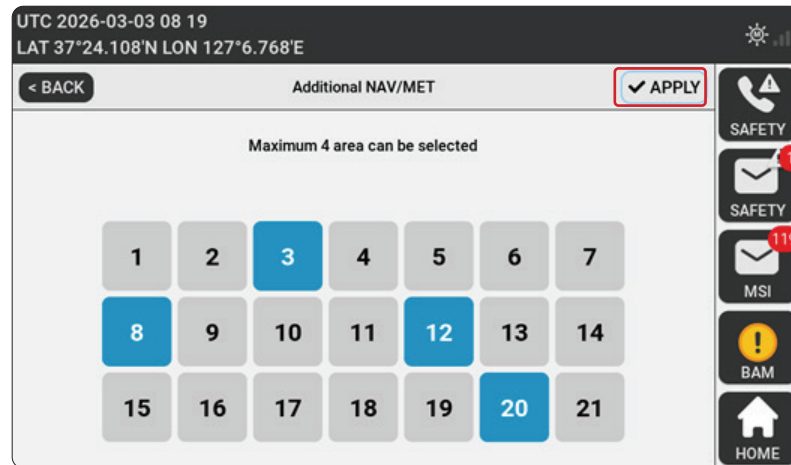


If an additional area is manually added from Additional NAV/MET or Additional CWA, it can be checked in the MSI schedule. (see section 5.2.2) When an additional area is added manually, it will be updated automatically when the scheduled time arrives.

If a nearby NAV/MET area is within 300 NM of the GNSS position (within 100 NM for CWA), additional MSI messages may be received. The added NAV/MET area can be confirmed in the MSI Schedule.

5.2.2 Selection of additional NAVAREA / METAREA

The vessel will always receive MSI for the Sea Area that the vessel is currently located in. It is also possible to receive MSI from up to four additional areas to receive MSI from Additional NAV/MET Areas can be set. Go to **Menu** → **GMDSS Settings** → **MSI** → **Additional NAV/MET** and select the additional Sea Areas. Selecting an already selected Sea Area unselects it. Once you have selected the additional Sea Area(s) press **Apply** to save the selection.



5.2.3 Selecting additional Coastal Warning Areas (CWA)

Some Sea Areas include Coastal Warning Areas (CWA) that have their own MSI. CWA are identified by a letter. To select to receive MSI for a specific CWA go to **Menu → GMDSS Settings → MSI → Additional CWA**.

Sea Areas with CWA are shown with a dark grey background. When you select one of these Sea Areas a screen is shown where you can select the CWA associated with that Sea Area. The applicable CWA associated with Sea Area are shown in dark grey. Selecting an already selected CWA unselects it.

Press **Apply** to save the selection. A maximum of 4 CWAs can be selected for each Sea Area.



In the screenshot above, only CWA areas C and D within Sea Area 10 are selected.

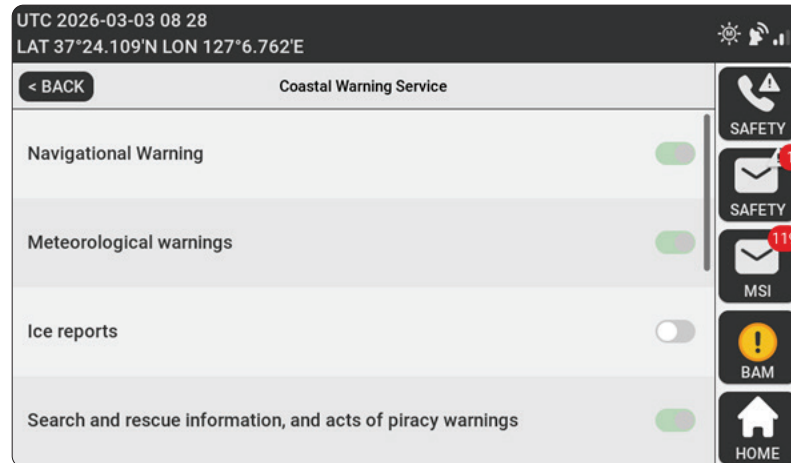


NOTE
If you long-press on Sea Areas, all CWAs selected under that category will be deselected.

5.2.4 Selecting Services to receive in Coastal Warning Areas

There are a range of different MSI Services available in Coastal Warning Areas (CWAs) Some Services are mandatory, such as Navigational Warnings. Other Services are voluntary and can be turned on and off. The screenshot below shows the Coastal Warning Services page where the Services can be selected. Note that those with a grey toggle switch are mandatory.

The applied selected Coastal Warning Services will be applied for all watched Coastal Warning Areas. The complete list of services is available in the table below.



Service	Default Settings	User Configurable
Navigational Warnings	Enabled	No
Meteorological Warnings	Enabled	No
Ice Reports	Disabled	Yes
Search and Rescue, and act of Piracy Warnings	Enabled	No
Meteorological Forecasts	Enabled	No
Pilot Service Messages	Disabled	Yes
AIS	Disabled	Yes
LORAN Messages	Disabled	Yes
SATNAV Messages	Disabled	Yes

5.3 Distress Settings

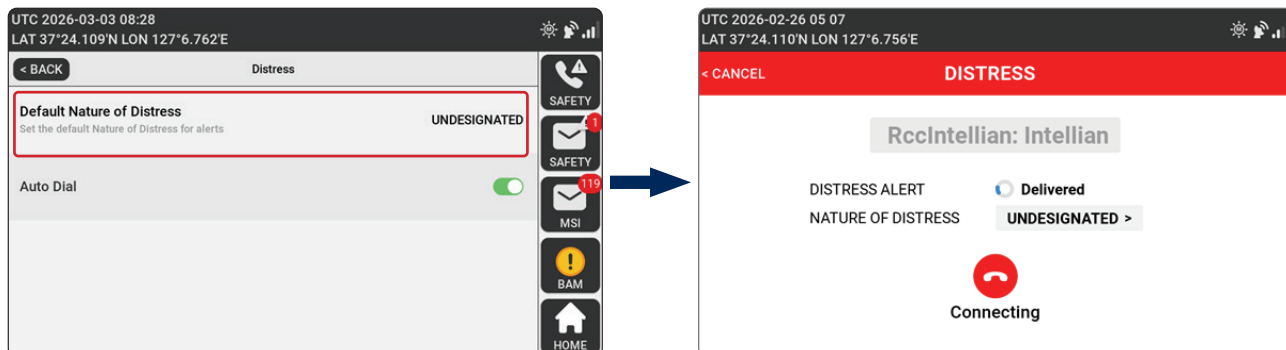
The settings associated with a DISTRESS alert can be configured using these submenus. The Distress Settings window consists of the following configuration items: Auto Dial and Nature of Distress.

5.3.1 Nature of Distress

The Nature of Distress information can be configured when the Distress Alert is being sent to the RCC.

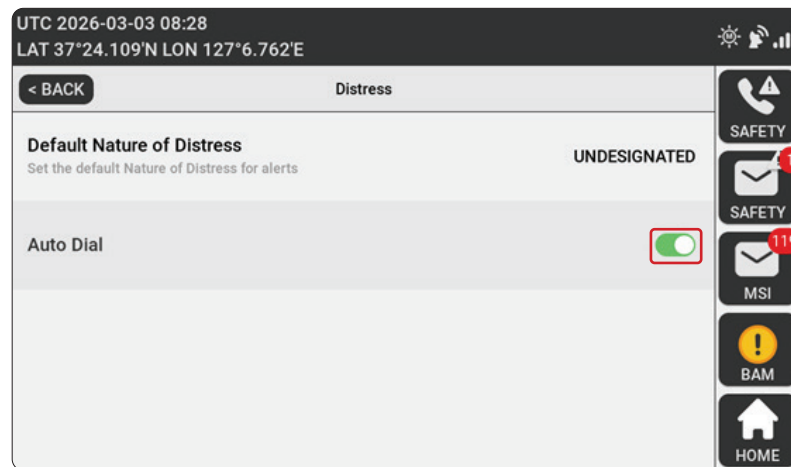
By default, the Nature of Distress is set to Undesignated however, if there is time as events are unfolding then, the user can change the default Nature of Distress.

Nature of Distress	Description
UNDESIGNATED	Nature of the Distress is not known or not reported
FIRE / EXPLOSION	Ship is on fire or has explode
FLOODING	Ship is flooding
COLLISION	Ship has been involved in a collision
GROUNDING	Ship is stranded
LISTING	Listing or capsizing
SINKING	Ship is sinking
DISABLED&ADR(IFT)	Essential shipboard systems have failed and the ship is adrift
ABANDONING	Ship is being abandoned
PIRACYMAN	Ship is under attack Attacks by pirates or armed robbers
OVERBOARD	One or more people have fallen overboard

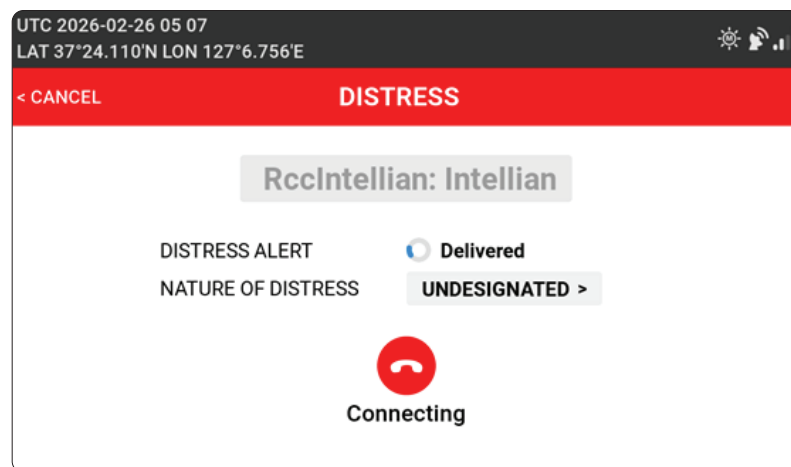


5.3.2 Auto Dial

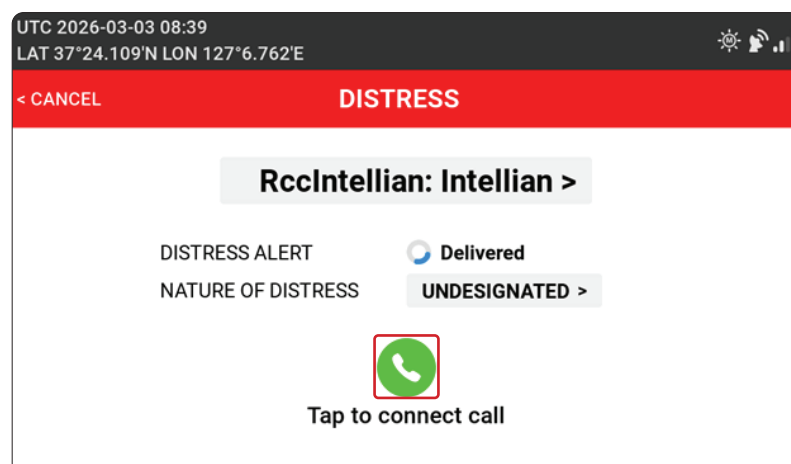
By default the designated RCC will be called immediately after a Distress Alert has been sent. However it is possible to change this so that the RCC is not automatically called.



The screenshot below shows the RCC being automatically called once the Distress Alert has been delivered.



If the Auto Dial is disabled, the RCC will not be called automatically when the Distress Alert has been delivered. In this case, the user can manually call the RCC by pressing the green button at the bottom as shown on the screenshot below.





NOTE
The RCC can be changed during a Distress Alert. This function can be used only when Auto Dial is disabled and a Distress call is not in progress. Press the Distress Alert is activated and select a new RCC from the drop down list name is activated.

UTC 2026-03-03 08:39
LAT 37°24.109'N LON 127°6.762'E

< CANCEL

DISTRESS

RccIntellian: Intellian >

DISTRESS ALERT

Delivered

NATURE OF DISTRESS

UNDESIGNATED >

Tap to connect call

UTC 2026-03-03 08:39
LAT 37°24.109'N LON 127°6.762'E

< BACK

Distress RCC

East_TEST_RCC: Iridium

AlamedaTEST: United States

West_TEST_RCC: Iridium

RCC Atlantic Area Comd: United States

RCC Fareham: United Kingdom

RCC New Zealand: New Zealand

RccIntellianFalmouth: United Kingdom

5.4 Position Settings

Normally the GNSS receiver in the above deck unit is used to determine the location of the vessel. However, it is also possible to enter the location of the vessel manually in the event that the GNSS receiver fails or is being jammed or spoofed. To access the Position Settings go to **Menu** → **GMDSS Settings** → **Position**.

5.4.1 Use Manual Position

Use this toggle to enter the vessel's position manually. In addition to manually entering the latitude and longitude of the vessel the following information is required to calculate the vessels subsequent position:

- The date and time of when the vessel was at the manual position (e.g. when the position was measured or estimated)
- The vessel's speed over the ground
- The vessel's course over the ground

When the vessel's position is calculated based on manually entered data the regulations require that the manual position is updated at least every four hours. If the Manual Position is more than four hours old a BAM Alert will be raised to notify the bridge team that the Manual Position should be updated.

5.4.2 Update Manual Position

1. Enter the vessel's Latitude (between **90° 00.0000'** North and **90° 00.0000'** South) then press **ENTER**.

2. Set the Longitude (between **180° 00.0000'** East and **180° 00.0000'** West) then press **ENTER**.

- Set the Date and Time of when the manual position was measured or estimated (Note that this can be up to 4 hours in the past) then press **ENTER**.

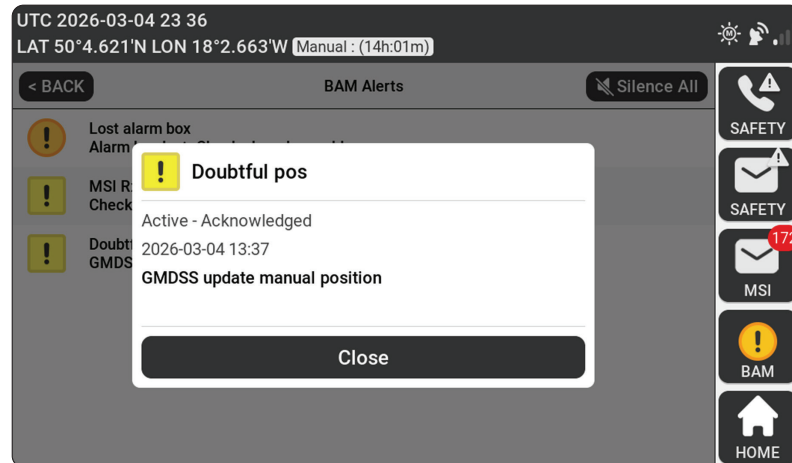
- Set the Course Over Ground (between **0°** and **359.99°**) then press **ENTER**.

- Set the Speed Over Ground (between **0 knot** and **60.0 knots**) then press **ENTER**.

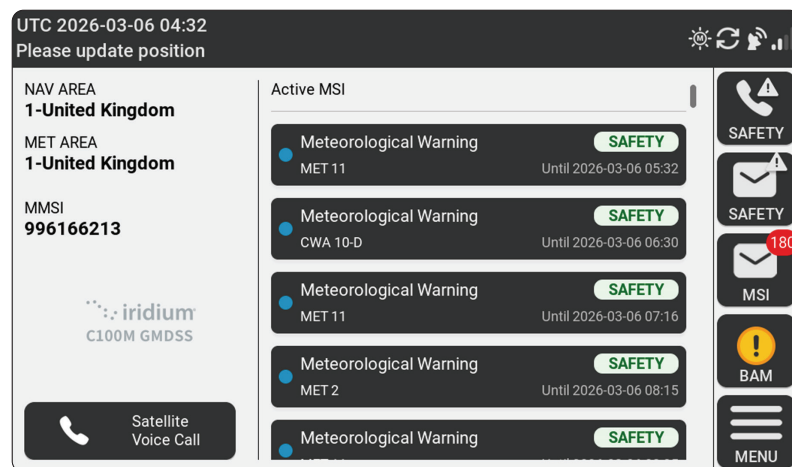
- Click the **Apply** button to apply the settings. (Note that these, settings cannot be applied while the MSI Schedule update is in progress— This is indicated by the update icon (🔄) in the status bar.)

- A label is shown next to the vessel's position in the status bar indicating that this is calculated based on manually entered information and the elapsed time since the manual position was measured/estimated.

When the vessel's location is calculated using manually entered information the regulations require that it is updated at least every four hours. A BAM alert (Active Caution: Doubtful Position) is triggered if the manually entered position is more than 4 hours old.

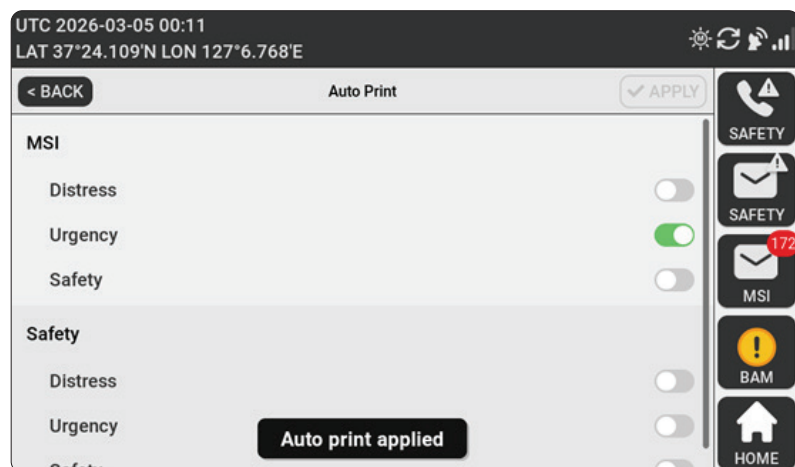


If the manual position has not been updated for 24 hours then, a message reading '**Please update position**' will appear at the top of the screen where the Latitude and Longitude are displayed. This message will disappear when manual position is disabled or when the manual position is updated.



5.5 Auto Print

Go to **Menu** → **GMDSS Settings** → **Auto Print**. This function is available when a printer is connected to the SCU. The system can be configured to automatically print received MSI and Safety messages when they are received. It is also possible to specify which types of MSI and Safety Messages are automatically printed based on priority (Distress, Urgency, Safety).



5.6 GMDSS Test



NOTE

The GMDSS Test function will not contact an active RCC. It contacts the Iridium GMDSS Test service which is completely automated.

Go to **Menu** → **GMDSS Settings** → **GMDSS Test**. The GMDSS functions will be tested to ensure they are working correctly. In Test Mode, the user is asked to initiate a Distress Alert using the physical DISTRESS button. A test Distress Alert is then sent to the IGS (Iridium GMDSS System). Subsequently a test Distress Voice call is made the IGS which answers with an automated response.



1. Click the **Next** button to start the GMDSS Test.

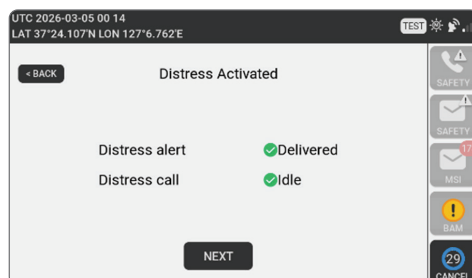


2. Press and hold the **DISTRESS** button for 3 seconds.
3. Verify the Distress status.

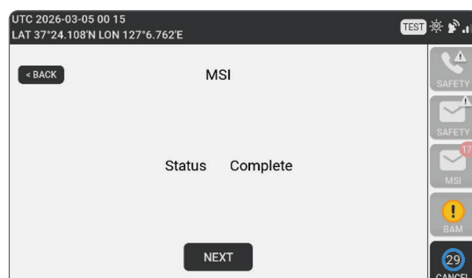


NOTE

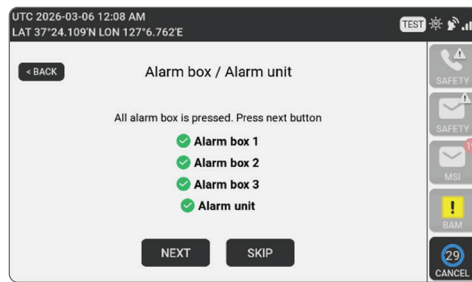
During a GMDSS Test, if no response is received for 30 seconds in situations requiring user interaction (e.g., Click Next button), the test will automatically terminate.



4. When the test Distress Alert has been successfully transmitted to the Iridium GMDSS Server, a test Distress Voice call will be initiated.



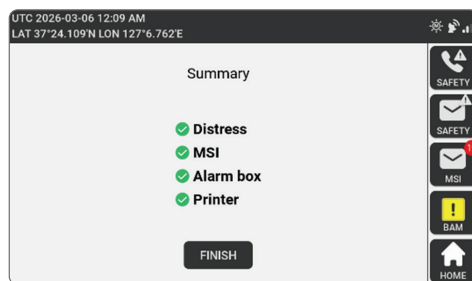
5. Verify MSI.



6. If an Alarm Box and Alarm Unit are connected to the system, press the Distress button for each accessory and verify them. If an Alarm Box and an Alarm Unit are not installed, press the **SKIP** button to skip this step.



7. If a printer is connected to the system then press **Test Print** to confirm that it is working correctly.

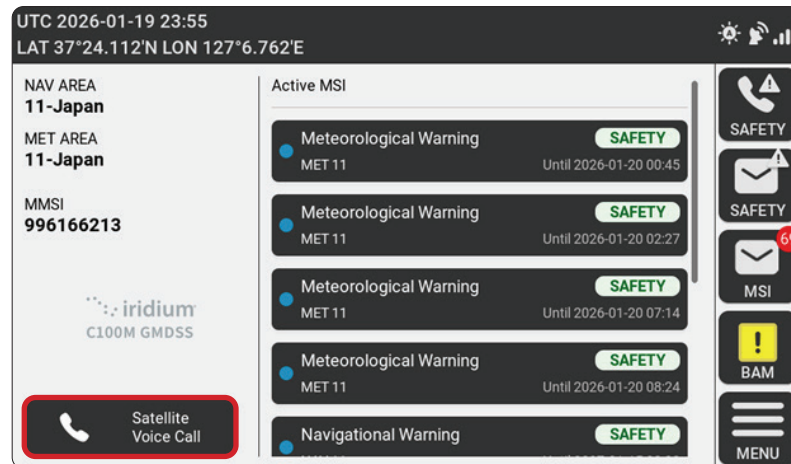


8. The test is completed and a summary of the outcome of the tests is displayed.

Chapter 6. Non-GMDSS Function

6.1 Satellite Voice Call

The SCU can be used to make and receive non-GMDSS satellite voice calls. To initiate non-GMDSS voice call, press the **Satellite Voice Call** button in the lower left-hand corner of the Home page.



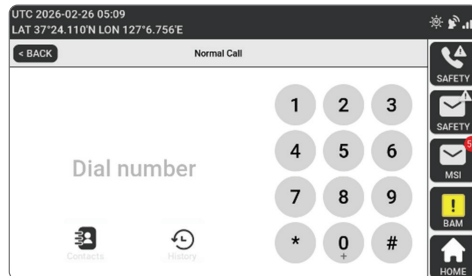
NOTE

Charges apply for Non-GMDSS phone calls.

6.1.1 Making a non-GMDSS phone call (Mobile Originated)

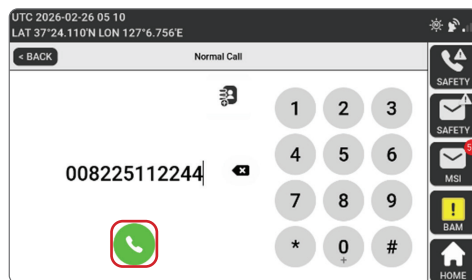
In addition to pressing the Satellite Voice Call button on the Home page, a call can also be initiated by lifting the handset off the hook:

General Outgoing Call using Handset:

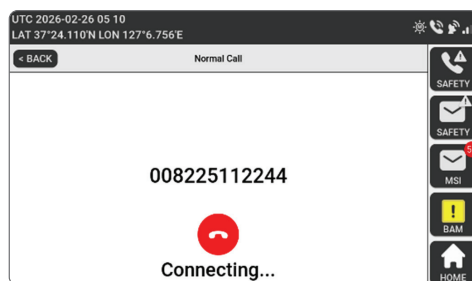


1. Pick up the handset (or press the Satellite Voice Call button), and the Routine Call page will be displayed and there will be an audible dial tone.

2. Enter **00**, followed by the country code and the phone number using the dial pad.



3. Press the green Connect button to make the call.

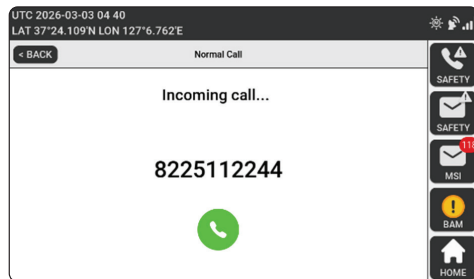


4. The call is connecting.

6.1.2 Receiving an Incoming Call (Mobile terminated)

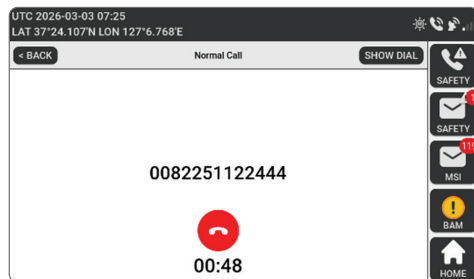
There are two methods for answering an incoming call:

Using the Handset:



1. On the incoming call screen, pick up the handset.
2. Communicate using the handset.

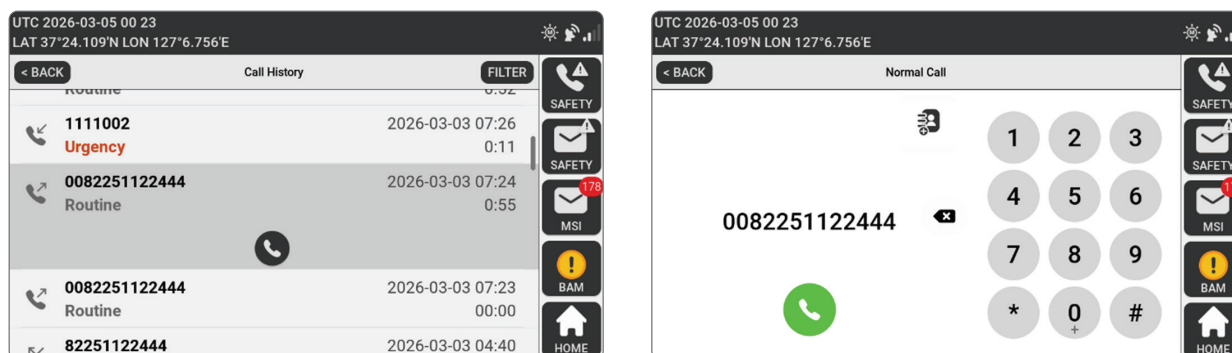
Using built-in speaker:



1. On the incoming call screen, press the green Connect button.
2. The caller can be heard through the built-in speaker. Note there isn't a built-in microphone. To speak to the caller, pick up the handset. The caller will then be heard through the speaker in the earpiece of the handset. (The built-in speaker is muted.)

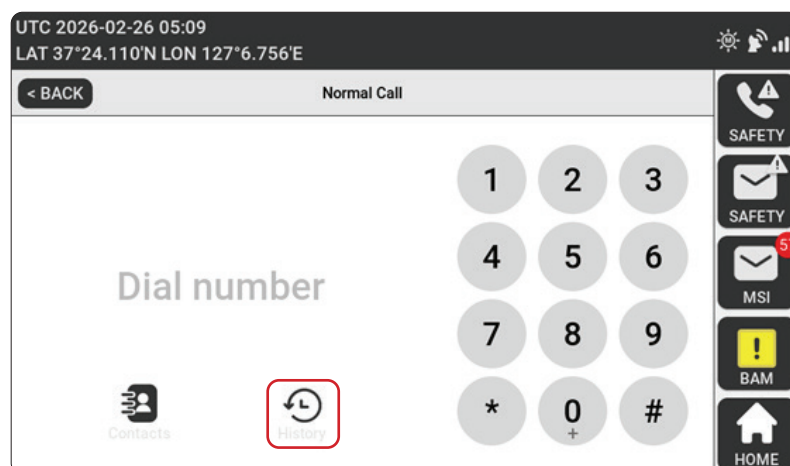
6.1.3 Call History

Call History shows a list of recent calls that have been made and received by the system. Call History contains up to 200 calls. When an entry is selected, the call connect button appears below. Clicking it brings up the dial pad screen phone number already entered.

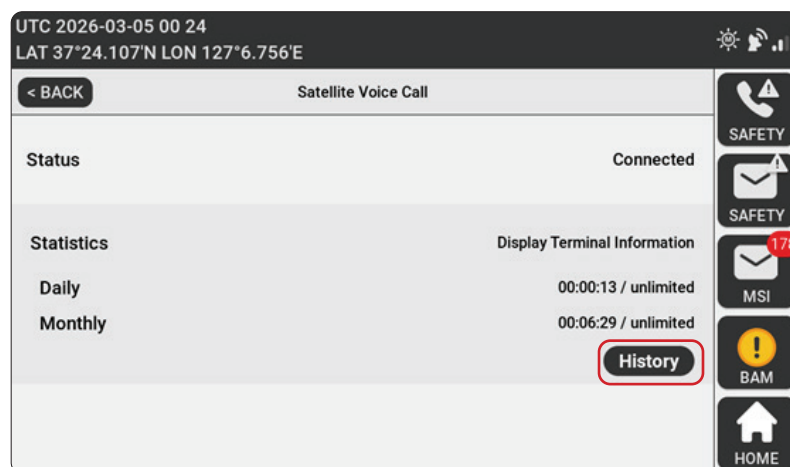


Call History can be accessed in the following ways:

- By clicking the **Satellite Voice Call** button, the **History** button is located at the bottom of the dial pad screen. Press the **History** button to view the call history.



- Go to **Menu** → **Non-GMDSS Function** → **Satellite Voice Call**. Press the **History** button at the bottom of the screen to view the call history.



6.1.4 Line 2 Configuration

The Iridium Certus GMDSS SIM supports a maximum of 2 phone numbers (Line 1 and 2). Both phone numbers assigned to the SIM are dedicated exclusively to the SCU handset.

Phone settings must be configured on the AptusLX Web UI. see section 14.4.2 for details.

- Mobile Originated Call: Outgoing calls can only be made using the phone number assigned to Line 1.
- Mobile Incoming calls can be received using the phone numbers assigned to both Line 1 and Line 2.

For the SCU handset, while outbound (MO) capability is restricted to Line 1, inbound (MT) capability is configured for all available lines (1 and 2). Therefore, the SCU handset can receive all incoming calls made to either of the two assigned phone numbers.

Call Capability Summary:

- Line 1 MO Call: SCU Handset only
- Line 1 MT Call: SCU Handset only
- Line 2 MO Call: Not Supported
- Line 2 MT Call: SCU Handset only

6.1.5 Additional Call Features

The SCU supports Additional Call Features, which include Call Barring, Call Forwarding, and Voicemail.

Call Barring

The C100M GMDSS system operator can set the Call Barring function. This function can be enabled and disabled on the Satellite Voice Call screen, as follows:



NOTE

- The default password is 0000.
- Do not prefix the additional call feature with 9.

• Outgoing Call Barring

- Activation: *33*<4-digit password> + dial button
- Deactivation: *34*<4-digit password> + dial button
- Check Status: *33 + dial button

• Incoming Call Barring

- Activation: *35*<4-digit password> + dial button
- Deactivation: *36*<4-digit password> + dial button
- Check Status: *35 + dial button

Call Forwarding

The C100M GMDSS can be configured to forward all incoming calls. Calls can be forwarded for one or more of four reasons: Unconditional (all calls are forwarded), Busy, No Answer, or Not Reachable (terminal is not visible on the network). To activate the Call Forwarding function, the user must first complete the registration process. The full procedure, including deactivation and status checks, is provided below.

Cause	Register	Activation	Deactivation	Check Status
Unconditional	*21*<Number>	*21	*22	*23
Busy	*67*<Number>	*67	*68	*69
No Answer	*61*<Number>*<timeout>#	*61	*62	*63
Not Reachable	*24*<Number>	*25	*26	*27

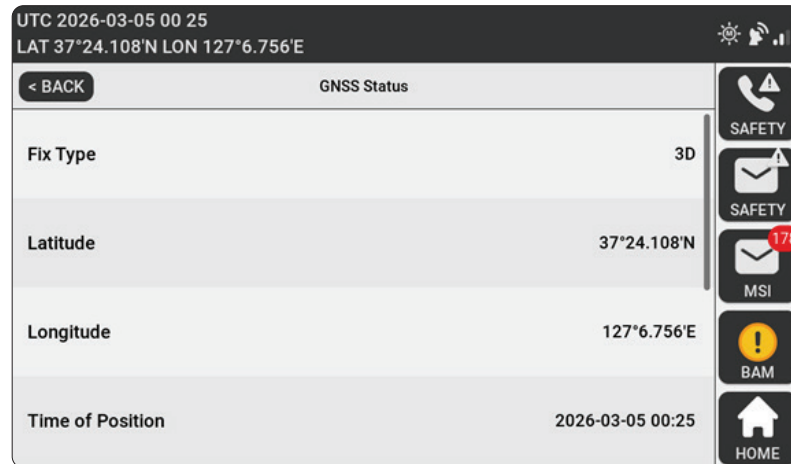
Voicemail

When a user dials *86 on the C100M GMDSS, they access voicemail. Entering the mailbox number allows access to the voicemail menu. The menu options are as follows:

- Press 1: Listen to new messages
- Press 2: Listen to saved messages
- Press 3: Personal options
- Press 9: Exit

6.2 GNSS Status

Go to **Menu** → **Non-GMDSS Function** → **GNSS Status**.



The current status of the GNSS receiver is shown on the GNSS Status page.

This can be used to check the vessel's current position. The following information is available:

- Fix Type
- Latitude
- Longitude
- Time of Position
- COG
- SOG
- Accuracy
- Satellites in use



NOTE

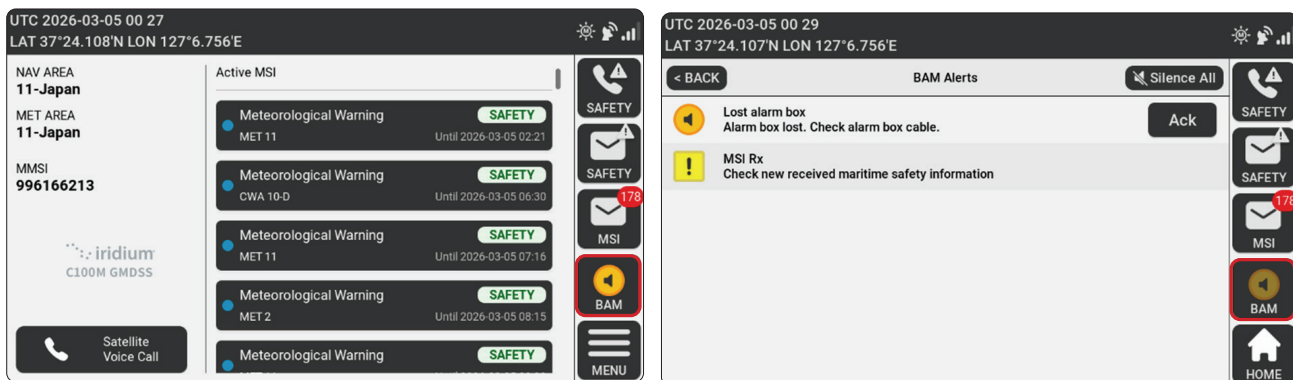
If the vessel's position has been entered manually (see section 5.4) the GNSS Status page can be used to view the vessel's position according to the GNSS.

Chapter 7. Bridge Alert Management

7.1 Bridge Alert Management (BAM)

Bridge Alert Management (BAM) is an IMO-defined framework for the management, distribution, handling, and presentation of alerts on a ship's bridge. This system allows the bridge team to focus on the vessel's safe operation and quickly identify any alerts that require immediate action to maintain the safety of the crew and the vessel. The C100M GMDSS system supports integration in accordance with the following standards (IEC 62923-1 and IEC 62923-2 Bridge Alert Management). A list of all BAM alerts supported by the C100M GMDSS can be found in Section 15.5.

The BAM Alert button in the Menu Bar is accessible from all pages. Button is the fourth of the five buttons on the right. The icon on the button indicates highest priority active alert. Pressing the BAM Alert button opens the BAM Alert page which lists all of the active BAM Alerts. The list contains required basic information (priority, state, title/description) and is sorted by display priority then time of last state change.



Check the top priority alert status in the current active BAM via the **BAM** button on the Menu Bar.



7.2 Alert priority and state

The severity of an alert is signified by its priority. The BAM framework categorizes alerts into four levels: Emergency Alarm, Alarm, Warning, and Caution. The C100M GMDSS system can generate alerts with the following priorities:

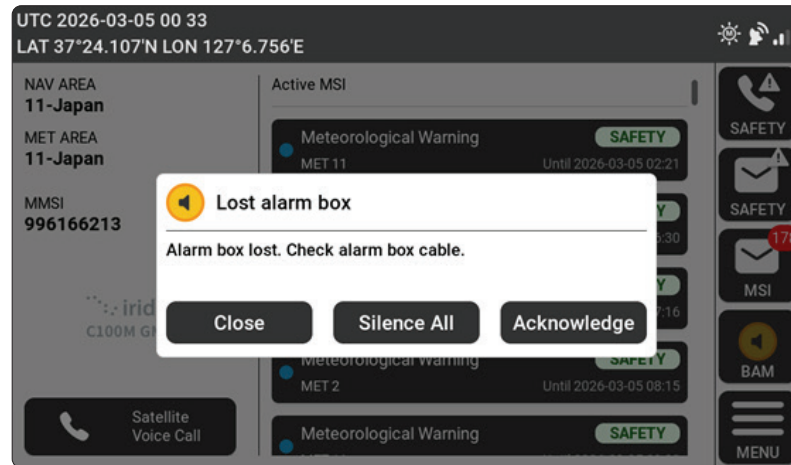
- **WARNING** : Requires immediate attention, but no immediate action by the bridge team. These alerts are precautionary to inform the bridge team of changed conditions that are not immediately dangerous but could become hazardous if not addressed.
- **CAUTION**: The lowest priority alert. It signals awareness of a condition that does not warrant an alarm or warning but still needs attention beyond usual considerations of the situation or provided information.

The priority of an alert in the BAM system is indicated by the shape and color of its icon, while the symbol inside the icon represents the alert's state. Refer to the table below for details.

Priority	Icon	state	Condition	Audible signal
Warning		Active-unacknowledged	Alert is currently active and requires acknowledgement.	Two short audible signal
		Active-silenced	Alert remains active but sound has been muted by operator.	No
		Active-acknowledged	Alert is active and has been confirmed by operator.	No
		Rectified-unacknowledged	Alert condition resolved but acknowledgement still pending.	No
	None	Normal	No alert condition.	No
Caution		Active	Caution alert is currently active.	No
	None	Normal	No alert condition.	No

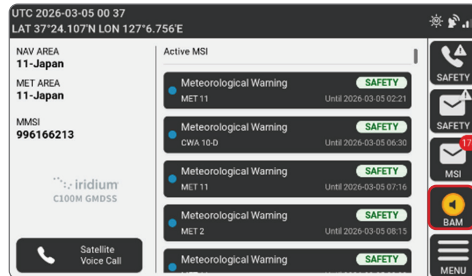
7.3 Receive alert

When the system receives a new alert, the contents will be displayed in a pop-up window. To take action, press Silence or Acknowledge. If you don't want to process the alert immediately, press the **CLOSE** button to close the pop-up window. Later, you can press the BAM button on the Menu Bar to take action from the alert list.



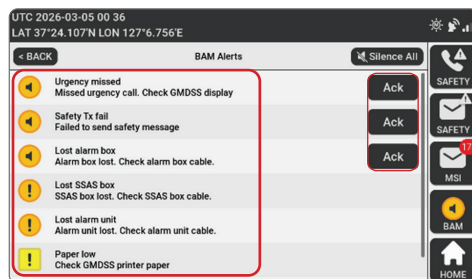
7.4 BAM list

The BAM List page is used to manage active BAM Alerts.



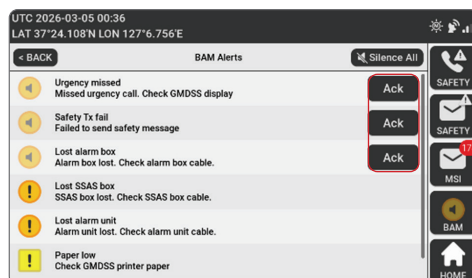
Viewing active alerts:

Press the **BAM** button on the Menu Bar to view a list of all active BAM alerts.



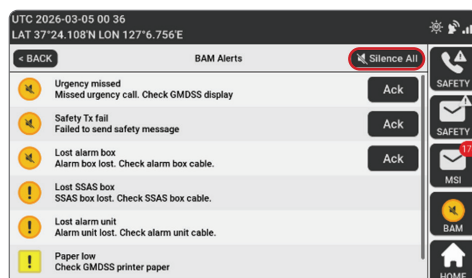
Control individual alerts:

Select the **Silence** or **Ack** (Acknowledge) buttons to control each alert individually.



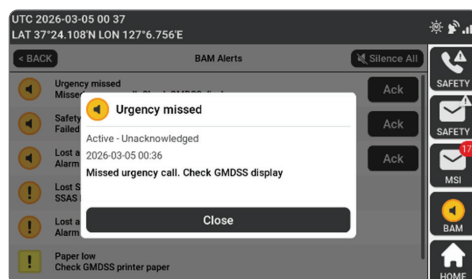
Acknowledge alerts:

- Warning Alerts: These can typically be acknowledged. Select the specific alert you wish to acknowledge from the list. Press the **Ack** (Acknowledge).
- Caution Alerts: These alerts do not require acknowledgment.



Silence All Alerts:

To silence all active alerts simultaneously, press the **Silence All** button located at the top right of the screen. See section 7.5.



Viewing Alert Contents:

Select an alert from the list to display its relevant details and contents.

The alert list is sorted according to the Display Priority rules. The display priority is determined by combining the alert's State and its assigned Priority, with the highest display priority alert shown at the top of the list.

Default Sorting Order:

	Priority	State
1.	Warnings	Active - Unacknowledged / Silenced
2.	Warnings	Rectified - Unacknowledged
3.	Warnings	Active - Acknowledged
4.	Cautions	Active

**NOTE**

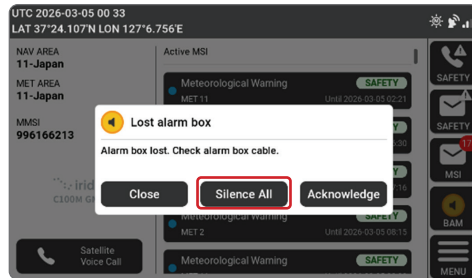
Within the same display priority, alerts are displayed with the one whose state changed most recently shown first. (State changes related to activating or returning from Silence do not affect this order.)

7.5 Temporary silence

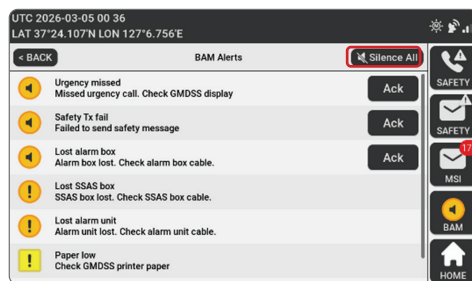
To mute all alerts and the corresponding audible signal temporarily, press the **Silence All** soft key. This temporary silence lasts for 30 seconds. After this period, any silenced active alerts will return to their unacknowledged state, causing the audible signal to resume.

Silence All Alerts

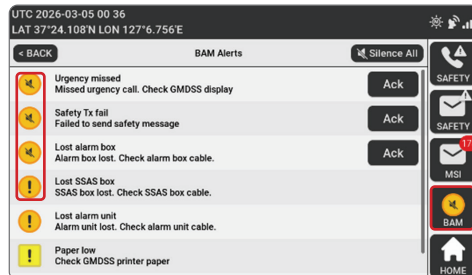
To silence all active alerts at once, press the **Silence All** button. This button can be found in two locations:



- Case 1. Press the **Silence All** button on the BAM pop-up window.



- Case 2. Press the **Silence All** button in the BAM List section.



System Behavior in Silence All Status:

In the Silence All status, the BAM icon will change to the Silence All icon, and it will keep the Silence All status for 30 seconds. After 30 seconds have passed, it will revert to the original status again.

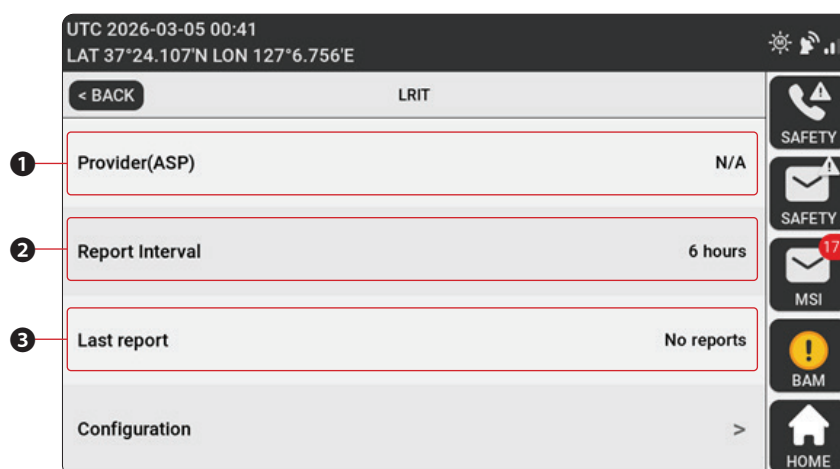


Chapter 8. Long Range Identification & Tracking (LRIT) service

C100M GMDSS supports LRIT (Long-Range Identification and Tracking) functionality, which automatically transmits your vessel's position information at regular intervals. When LRIT is activated, the system sends location data to authorized maritime authorities, including your flag state government and search and rescue services, through the LRIT Data Centre.

8.1 LRIT Status

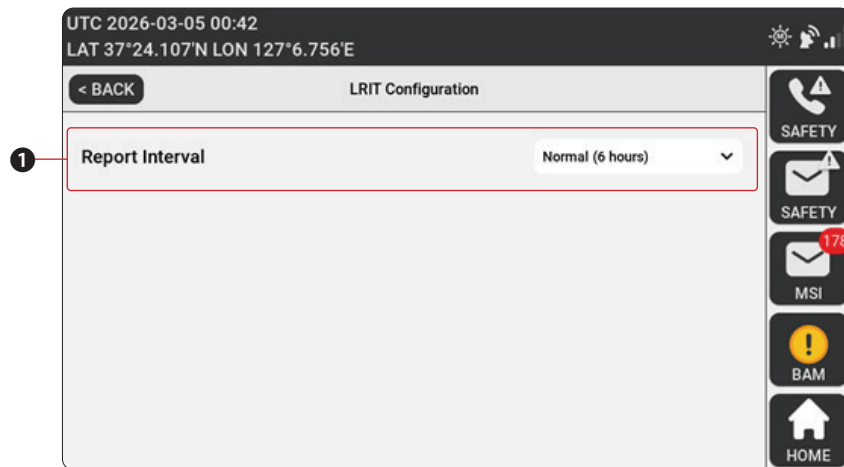
Go to **Menu** → **Non-GMDSS Function** → **LRIT**. The LRIT Status section provides essential information regarding the vessel's LRIT service status. The key parameters shown in the LRIT Status display are:



No.	Item	Description
①	Provider (ASP)	Displays the Application Service Provider (ASP) responsible for handling LRIT transmissions. If no ASP is assigned, it shows "N/A" Otherwise, it displays the assigned ASP name (e.g., polestar).
②	Report Interval	Represents the frequency at which LRIT information is transmitted. By default, it shows '6 hours' But, it may display either a value set by the user or a value defined by the ASP, and the ASP can modify the value set by the user.
③	Last Report	Shows the timestamp of the most recent attempt to transmit LRIT information.

8.2 LRIT Settings

Go to **Menu** → **Non-GMDSS Function** → **LRIT** → **Configuration**. Enter your password to access LRIT Settings (this is the same as your account password in AptusLX, which defaults to 12345678). The LRIT Settings section provides the configuration for the following parameters:



No.	Item	Description
①	Report Interval	Set the time interval for reporting ship position information. • Normal: Set the report interval to 6 hours (default). • Reduced (24 hours): Set the report interval to 24 hours, reducing the reporting frequency. • Disabled: Disable the reporting function, no reports will be sent.



NOTE

According to section 4.4.1 of IMO MSC.263(84) resolution, only in exceptional circumstances, such as when a ship is undergoing repairs, modifications, or conversions in dry-dock or port, or is laid up for a long period, should the vessel's master set the LRIT transmission interval to 'Reduced' or 'Disabled'.

Chapter 9. Ship Security Alert System (SSAS) service

C100M GMDSS supports SSAS (Ship Security Alert System) functionality. When enabled, the SSAS service allows the transmission of security alerts from the vessel in response to security threats. When activated by the ship's master or crew, the system automatically sends alert messages to predefined recipients including the ship operator and relevant authorities. This system enables rapid response to maritime security threats such as piracy, terrorism, or armed robbery.

9.1 SSAS Box Alert and SSAS Box Test

SSAS Box Alert



The SSAS Box Alert, as shown in the illustration, has a single red latched button with a built-in LED light. When you press the button once, it stays pressed; pressing it again will release it back to its original position. There is a clear over that protects the button from being accidentally pressed.

You can use this button in two ways:

- When used alone, it activates the SSAS Alert.
- When used together with the Test button, it triggers a Test Alert.

SSAS Box Test



The SSAS Box Test has a single green button with a built-in LED indicator. This is a momentary button, so it returns to its original position immediately after you release it.

When you use this button together with the SSAS Box Alert, it activates the SSAS Test Alert, and the LED blinks to indicate that the test alert is active.

9.2 Activating a SSAS Alert

Activating a SSAS Alert:

1. Firmly press one of the SSAS Box Alert buttons so that it latches into the down position.
2. If the SSAS Alert was activated by mistake or you wish to cancel the alert before the message is sent, press the button again within the 30-second window (the SSAS Box Alert button uses a latched mechanism) to release the button.
3. If the button remains latched for 30 seconds, a SSAS Alert message is automatically transmitted to the designated recipient.
4. After this, the alert message will continue to be retransmitted at the interval configured in the SSAS configuration menu.

Cancelling an SSAS Alert (after transmission):

1. Press the SSAS Box Alert button again (the SSAS Box Alert button uses a latched mechanism) to release the button and stop the active SSAS Alert.
2. The system then sends a cancellation message to the recipient.

9.3 Activating a SSAS Test Alert

Activating a SSAS Test Alert:

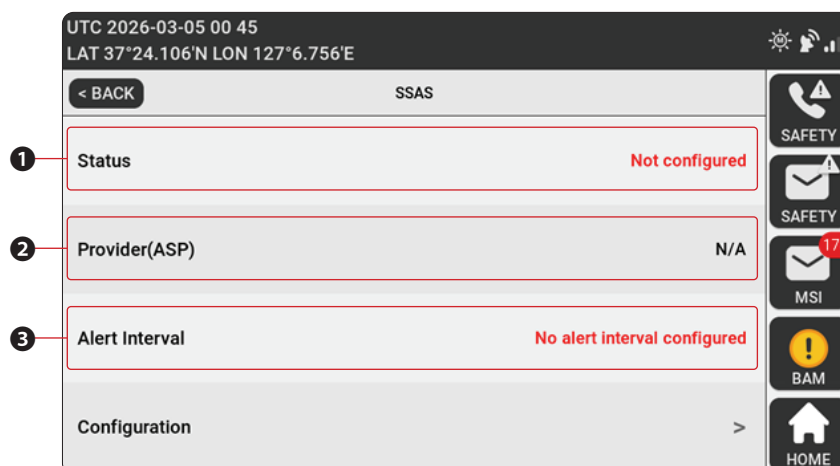
1. Press and hold the SSAS Box Test button.
2. Continue holding the SSAS Box Test button, and press one of the SSAS Box Alert buttons so the it is latched in the down position.
3. When the SSAS Test Alert is activated, the LED on the SSAS Box Test button will blink at 250ms intervals. You may then release the SSAS Box Test button, but the SSAS Box Alert button must remain latched.
4. To cancel before transmission: If the test was activated by mistake, press the SSAS Box Alert button again within the 30-second window to release the button. The SSAS Box Test button LED will turn off when deactivated.
5. Automatic transmission: If the SSAS Box Alert button remains latched for 30 seconds, a test alert message is automatically transmitted to the designated recipient, and the LED on the SSAS Box Test button will blink more quickly at 100ms intervals.
6. After transmission, the test alert message will continue to be retransmitted at the configured interval.

Cancelling a SSAS Test Alert (after transmission):

1. Press the SSAS Box Alert button again (the SSAS Box Alert button uses a latched mechanism) to release the button and stop the active test alert. When the test alert is stopped, the LED on the SSAS Box Test button will turn off.
2. The system then sends a cancellation message to the recipient.

9.4 SSAS Status

Go to **Menu** → **Non-GMDSS Function** → **SSAS**. The SSAS Status section provides information on the SSAS service status. The key parameters shown in the SSAS Status display are:



No.	Item	Description
①	Status	Displays the current status of the SSAS service. • Not Configured: Required settings have not been completed, so the service is unavailable. • Idle: The system is on standby, ready to send an alert or test alert as needed. • Alert ready: The system is waiting to send an alert. Cancellation is possible before transmission. • Alert test ready: The system is waiting to send a test alert. Cancellation is possible before transmission. • Sending alert: The system is in the process of transmitting an alert. • Sending alert test: The system is in the process of transmitting a test alert. • Sending alert cancellation: The system is in the process of canceling an alert after it has been sent. • Sending alert test cancellation: The system is in the process of canceling a test alert after it has been sent.
②	Provider (ASP)	Displays the Application Service Provider (ASP) responsible for handling SSAS transmissions. If no ASP is assigned, it shows “N/A” Otherwise, it displays the assigned ASP name (e.g., polestar).
③	Alert Interval	Displays the configured alert message sending interval. • If no alert interval is configured, it shows “No alert interval configured.” • If an alert interval is set, it displays the configured value (e.g., 10 min, 20 min, 30 min, etc.).

9.5 SSAS Setting

Go to **Menu → Non-GMDSS Function → SSAS → Configuration**. The SSAS Setting section allows you to configure the following parameters for the vessel's SSAS system. The key settings are:

No.	Item	Description
①	Destination	Designate the contact information (Email or SMS) for the recipient or center that receives an alert message.
②	CSO (Chief Security Officer)	Enter the name and phone number of the Chief Security Officer. This information is not used for transmitting SMS; it is for reference only.
③	Secondary CSO	If the flag state requires that information, enter the name and phone number of the Secondary Chief Security Officer. This information is not used for transmitting SMS; it is for reference only.
④	Alert Interval	Set the repeat sending interval for the alert message. Available options are in 10-minute increments, ranging from 10 minutes to 60 minutes.

Destination

1. Select the **Destination** in the SSAS section.
2. Specify the destination using the following types.
Disable: This destination is not used.
Test: When a Test Alert is triggered, it is sent to this destination.
Alert: When an Alert is triggered, it is sent to this destination.
Both: When either an Alert or a Test Alert is triggered, it is sent to this destination.
3. Designate the contact information (Email or SMS) for the recipient or center that will receive an alert message.

CSO (Chief Security Officer)

1. Select the **CSO** in the SSAS section.
2. Enter the name and phone number of the Chief Security Officer. This information is not used for transmitting SMS; it is for reference only.

Secondary CSO

1. Select the Secondary **CSO** in the SSAS section.
2. Enter the name and phone number of the Secondary Chief Security Officer. This information is not used for transmitting SMS; it is for reference only.

Alert Interval

1. Select the **Alert Interval** in the SSAS section.
2. Set the repeat sending interval for the alert message. Available options are in 10-minute increments, ranging from 10 minutes to 60 minutes.



NOTE

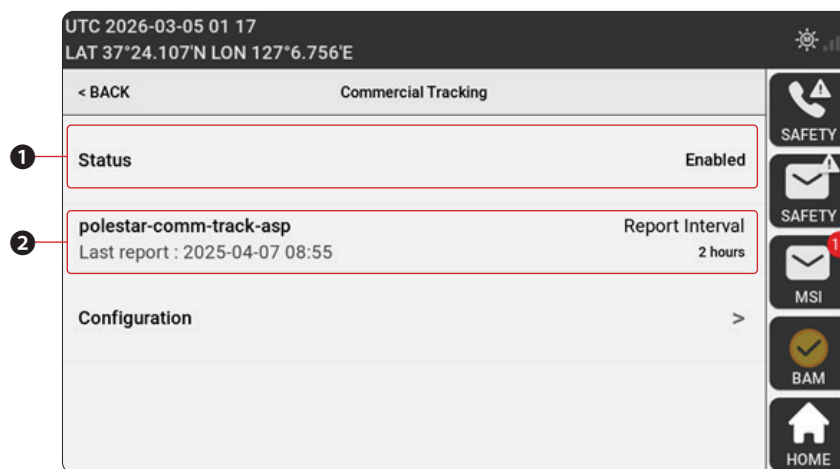
'Destination' and 'Alert Interval' are required settings. If they are not configured, the Status will display "Not Configured" and the SSAS service will be unavailable.

Chapter 10. Commercial Tracking service

C100M GMDSS supports Commercial Tracking services, which collects, analyzes, and provides information such as vessel position, movement route, and status. While LRIT supports only a single ASP, Commercial Tracking supports multiple ASPs, allowing users to use multiple providers simultaneously.

10.1 Commercial Tracking Status

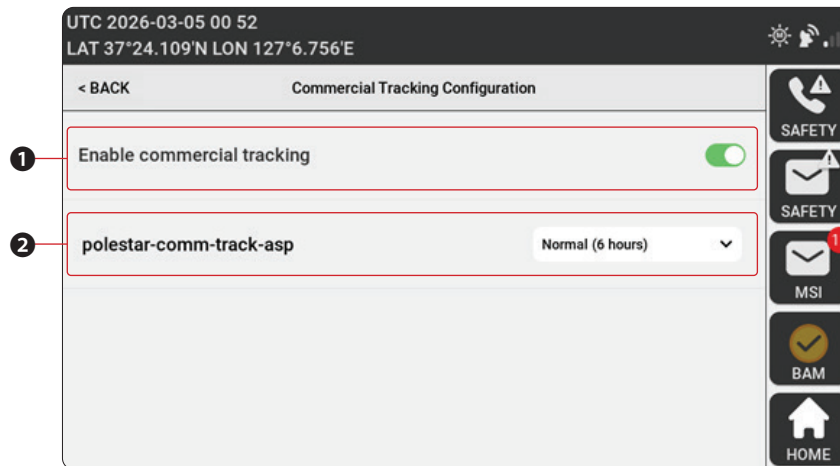
Go to **Menu** → **Non-GMDSS Function** → **Commercial Tracking**. The Commercial Tracking Status section provides essential information regarding the vessel's Commercial Tracking service status. The key parameters shown in the Commercial Tracking Status display are:



No.	Item	Description
①	Status	Indicates whether the Commercial Tracking service is currently enabled or disabled. The default value is disabled.
②	ASP Information	This section provides information about how the Commercial Tracking service is currently set up and managed. This will only be displayed when integrated with the service provider. When the service is provided by multiple service providers, each one appears as a separate entry. • Service Provider Name: Displays the Application Service Provider (ASP) responsible for handling Commercial Tracking transmissions. (e.g., polestar-comm-track-asp) • Report Interval: Report Interval: Represents the frequency at which Commercial Tracking information is transmitted. By default, it shows '6 hours' but it may display either a value set by the user or a value defined by the ASP, and the ASP can modify the value set by the user. (e.g., 2 hours) • Last Report: Shows the timestamp of the most recent attempt to transmit Commercial Tracking information.

10.2 Commercial Tracking Configuration

Go to **Menu** → **Non-GMDSS Function** → **Commercial Tracking** → **Configuration**. The commercial tracking configuration section provides setting for the following parameters:



No.	Item	Description
①	Enable commercial tracking	Enables or disables the Commercial Tracking service.
②	ASP Interval (e.g. polestar-comm-track-asp)	This section provides options to configure the Commercial Tracking service. This will only be displayed when integrated with the service provider. When the service is provided by multiple service providers, each one appears as a separate entry. Each entry includes configurable options that can be set independently. - Set the time interval for reporting ship position information. - Normal: Set the report interval to 6 hours (default). - Reduced (24 hours): Set the report interval to 24 hours, reducing the reporting frequency. - Disabled: Disable the reporting function, no reports will be sent.

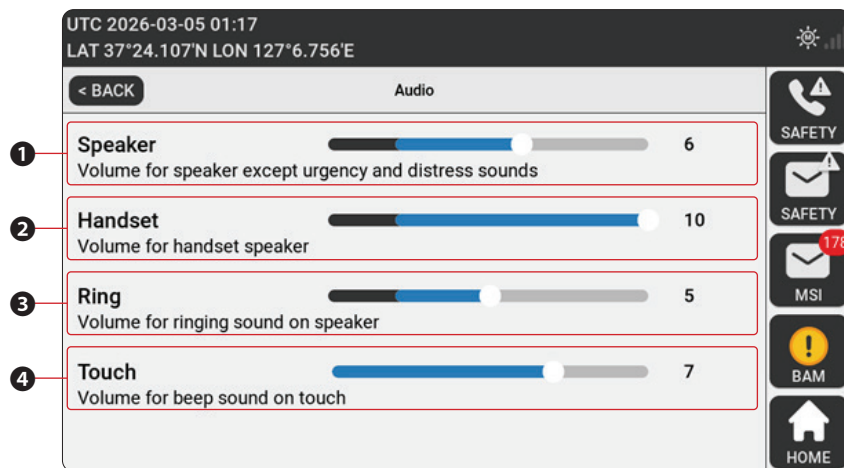
Chapter 11. System Settings

11.1 System Settings

Menu to change system settings for SCU. Go to **Menu** → **System Setting**.

11.1.1 Audio

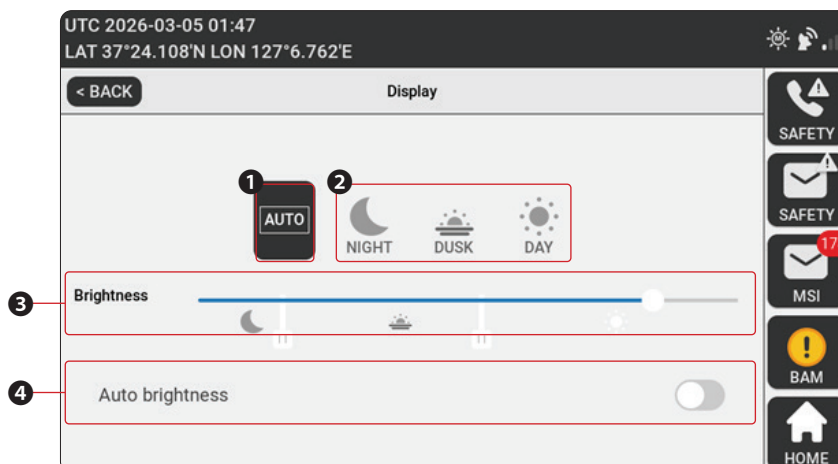
Go to **Menu** → **System Setting** → **Audio**. The audio level can be adjusted across 11 levels in the Audio settings: most audio functions range from 2 to 10, except for touch sounds which range from 0 to 10:



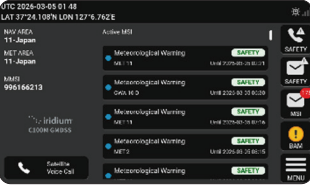
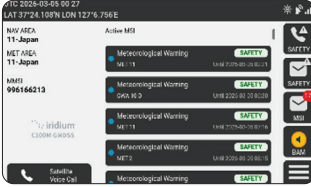
No.	Item	Description
①	Speaker	Adjust the speaker audio level on the SCU. - Available adjustments: Message Notification sound (MSI, Safety), Speaker Phone, Include ④ Touch sound
②	Handset	Adjust the audio level when using the handset. - Available adjustment: Handset audio during calls
③	Ring	Adjust the ringing volume for incoming calls. - Available adjustment: Ringing Tone
④	Touch	Adjust the audio level for button clicks on the screen. - Available adjustments: Touch key, Dial Pad (DTMF)

11.1.2 Display

Go to **Menu** → **System Setting** → **Display**. Change the Brightness and Display Theme:



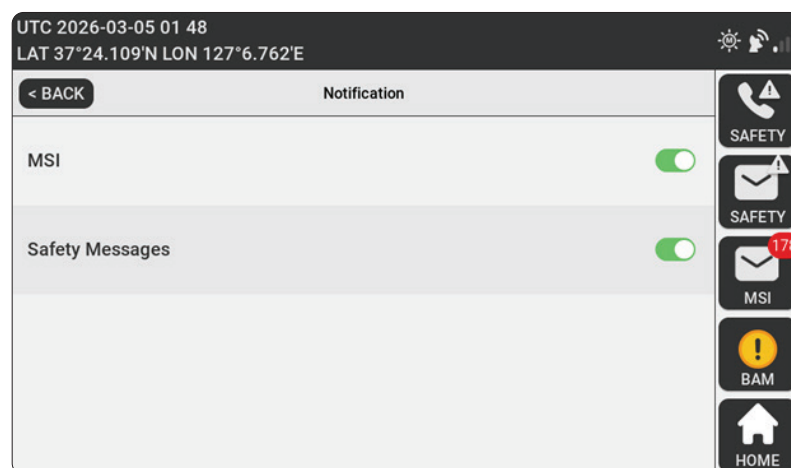
No.	Item	Description
①	Auto Theme	The Auto Theme feature ensures optimal readability in any environment by automatically switching the display theme (Day, Dusk, or Night) based on the brightness level of the display. Users can customize the brightness levels at which the theme changes by adjusting two 'transition point' sliders:  • Day/Dusk Transition Point: Sets the brightness level at which the theme switches from the Day theme to the Dusk theme. • Dusk/Night Transition Point: Sets the brightness level at which the theme switches from the Dusk theme to the Night theme. Example: If the Day/Dusk transition point is set to brightness level 4, the theme will automatically change from Day to Dusk when the brightness decreases to level 4. When the brightness increases back above level 4, it will revert to the Day theme. Important Rules for Setting Transition Points: Please note there are two rules for setting these transition points: 1. The Dusk/Night transition point must always be set at a lower (darker) brightness level than the Day/Dusk point. 2. If both sliders are configured to the same brightness level, the system will bypass the Dusk theme and switch directly between the Day and Night themes.

No.	Item	Description
②	Manual Theme	Select the manual theme (Day/Night/Dusk).  <Day theme> <Night theme> <Dusk theme>
③	Brightness	The display brightness can be configured by selecting either ‘Auto’ or ‘Manual’ mode from the Display menu. • Manual Brightness: In Manual mode, you can directly set the brightness to your preference using a finely tuned scale of 20 distinct levels. • Auto Brightness: When Auto mode is selected, the device will use its built-in illuminance sensor to adjust the screen brightness automatically according to the ambient light conditions. For more convenient and immediate control, the Dimmer knob is located on the top-left of the device. • This knob allows you to adjust the brightness from any screen without needing to navigate through the menu. • As you turn the Dimmer knob, the current brightness level is temporarily displayed on-screen for your reference. Note: If you adjust the brightness using the Dimmer knob while the system is in Auto mode, it will automatically switch over to Manual mode at the brightness level you have just selected. 

11.1.3 Notification

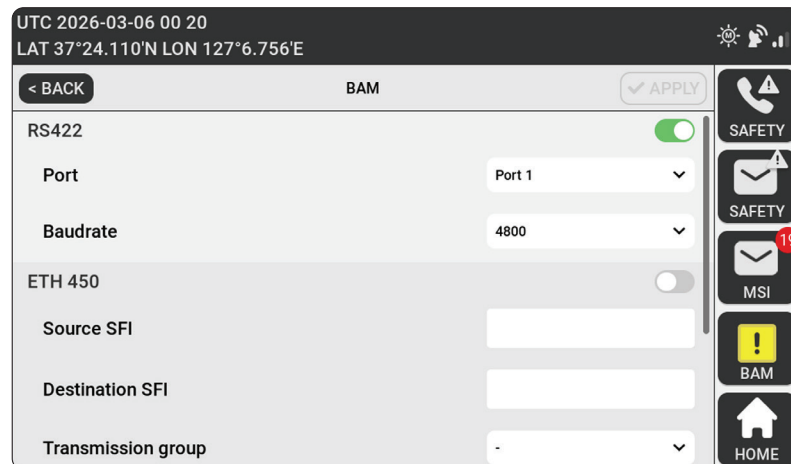
Go to **Menu** → **System Setting** → **Notification**. Choose whether to enable alarms for receiving items such as MSI, or Safety Messages.

Message notifications controllable through the notification menu are limited to safety priority messages. Messages with urgency or distress priority will trigger an audible alert and display a pop-up notification upon receipt, even if notifications are disabled.



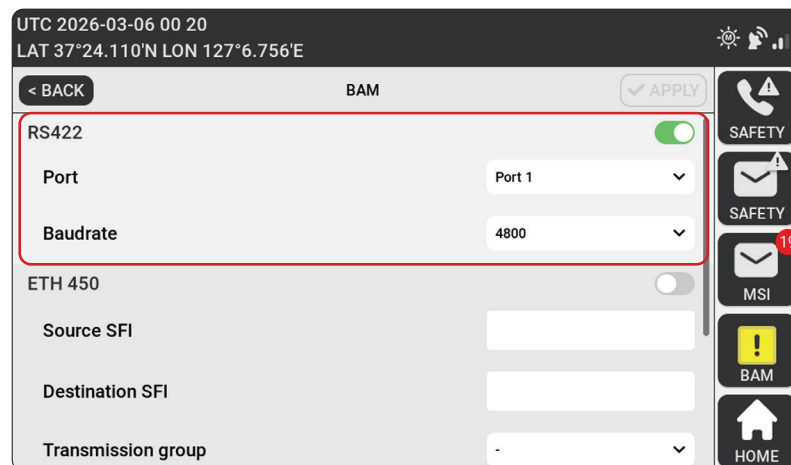
11.1.4 BAM Setting

BAM system is designed to centralize the management and presentation of alerts generated by different sources on the vessel. For the BAM system to function correctly and reliably identify the source of each alert transmitted over the interface, proper configuration of this device is essential. Go to **Menu** → **System Setting** → **BAM**. SCU can be configured with the Central Alert Management (CAM) system and network. When the SCU is connected to the CAM system, BAM Alerts can be received from CAM. You can modify the necessary settings when configuring the network. Available interfaces are two Serial Interface (RS422) and one Ethernet (ETH 450).



RS422

The C100M GMDSS utilizes the IEC 61162-1, 61162-2 network standard for communication with other onboard equipment. The system provides two independent RS422 serial ports.



Each port can be configured for a total of 4 baud rates (4800, 9600, 19200, 38400). Refer to the Installation Guide for RS422 connection information. Use the same baud rate as the equipment (e.g., CAM) communicating via RS422. For instructions on connecting the RS422 cable, see section 12.2.2 of the Installation Guide. The C100M GMDSS System transmits BAM sentences using the talker identifier 'CS' (Communications – satellite).

- How to set up the RS422
 1. Navigate to **Menu** → **System Setting** → **BAM** menu.
 2. Click the Port number to use.
(Note: A single port cannot be configured for both BAM and NMEA 0183 simultaneously.)
 3. Click the Baudrate to use.
 4. The RS422 toggle switch can be clicked to Enable/Disable it.

Ethernet (ETH 450)

The C100M GMDSS utilizes the IEC 61162-450 network standard, also known as Lightweight Ethernet, for communication with other onboard equipment. These settings are typically configured during the initial installation process. For further details, please refer to Section 8.3 of the Installation Guide.

External Logging

The C100M GMDSS supports External logging, a function that transmits log information generated internally within the device over the network to another external server.

External logging uses the standard Syslog protocol and transmits via UDP packets to port 514, using the inputted IP address of the external server.

The method to configure External logging is as follows:

1. Enter the IP address of the external server where logs will be checked into the 'Address' field.
(The default syslog multicast address is 239.192.0.254)
2. Enter the Port number. (The standard port for External logging is 514).
3. Click the toggle switch for External logging to Enable/Disable the function.
4. Generate an error message on the device to which you want to send the error message.
5. Check SCU log for incoming error messages and error counter.
(apps.log is available for download in the SCU Web UI.)



NOTE

SCU's BAM ethernet interface does not change its IP address and IP port settings after an OFF/ON power cycle. IP address and port is only changing the BAM setting.

11.1.5 NMEA Setting

C100M GMDSS supports NMEA 0183 sentence functionality, which serves as the standard data format for exchanging navigation information between marine electronic devices. Developed by the National Marine Electronics Association (NMEA), this protocol replaces the earlier NMEA 0180 and NMEA 0182 standards and is supported by all GPS manufacturers. When enabled, the system automatically transmits position and status data in specific sentence structures to ensure seamless compatibility with other onboard equipment. Go to **Menu** → **System Setting** → **NMEA Settings**. Users can configure the transmit interval for NMEA 0183 sentences and select the interface to use in the NMEA settings. For further details on NMEA sentences, See section 15.4.

No.	Item	Description
①	Transmit Interval (sec)	Sets the Transmit interval for the NMEA sentence. Setting range: 1s – 5s
②	RS422	Each of the two RS422 ports can be configured for a total of 4 baud rates (4800, 9600, 19200, 38400). Refer to the Installation Guide for RS422 connection information. Use the same baud rate as the equipment (e.g., CAM) communicating via RS422. Please note that simultaneous use of BAM and NMEA 0183 on the same port is not supported. For instructions on connecting the RS422 cable, see section 11.2.2 of the Installation Guide.
③	Ethernet	Uses the UDP Broadcast protocol to transmit position data as an Other Network Function (ONF). - IP Address: Subnet Directed Broadcast Address. The destination IP is automatically determined based on the device's assigned IP address and subnet mask (e.g., if the device IP is 192.168.250.x with a /24 mask, the broadcast address will be 192.168.250.255). - Port Number: User-configurable (Default: 1). Ensure connected devices use the same port. A private port (49152–65535, e.g., 50000) is recommended to prevent network conflicts.

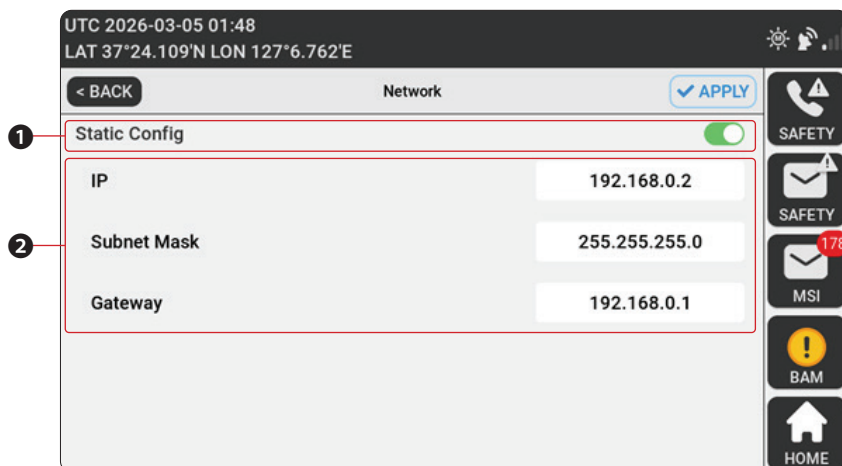


NOTE

This ONF feature safely complies with IEC 61162-450 by operating outside reserved multicast addresses without impacting standard network performance.

11.1.6 Network

Go to **Menu** → **System Setting** → **Network**. The network settings for ETH 450 can be configured through the Network menu.



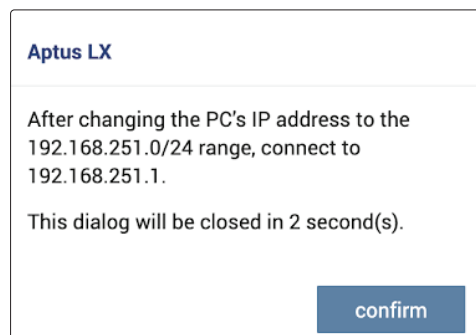
No.	Item	Description
①	Static Config	Sets the static configuration. • Enable: To set a Static IP, enable the Static Config. Configure the IP, Subnet Mask, and Gateway to the desired values. • Disable: To use the automatic IP address assignment method (DHCP), disable the Static Config. (default)
②	Management Network Configuration	Sets the management network configuration. • IP Address: Enter the network IP address (Factory default: 192.168.0.2). • Subnet Mask: Enter the subnet mask (Factory default: 255.255.255.0). • Gateway: Enter the gateway (Factory default: 192.168.0.1). Click the Apply button to apply the settings to the system.



NOTE

When the Static IP is changed to the 192.168.250.xxx IP band already in use by the SCU (Web UI access IP: 192.168.250.1), be aware that the original Web UI access IP will temporarily change to 192.168.251.1.

If the Web UI is accessed and the IP is changed to 192.168.250.xxx, the Web UI will log out and display the pop-up window as shown in the image.

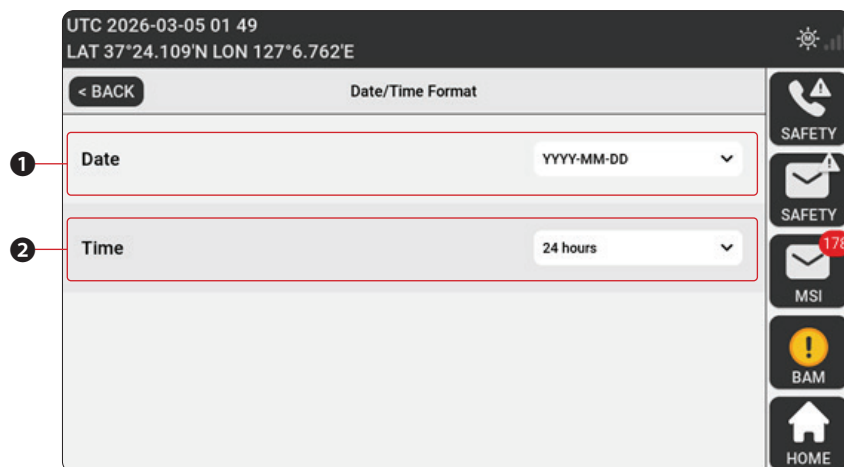


If the band is changed from the 192.168.250.xxx band to another band, the Web UI access IP will revert to its original IP (192.168.250.1).

User Settings (Ship Network IP)	System Automatic Actions	Management Address (Web UI Access IP)
Set the address to an IP outside of the 192.168.250.x band (e.g., 10.0.0.5)	No Change	192.168.250.1 (Default)
Set the address to an IP within the 192.168.250.x band (e.g., 192.168.250.20)	Management IP will be automatically changed upon IP Conflict Detection.	192.168.251.1 (Temporary Change)
Change the address back to an IP outside of the 192.168.250.x band.	Management IP will be automatically recovered upon conflict resolution.	192.168.250.1 (Default Revert)

11.1.7 Date / Time

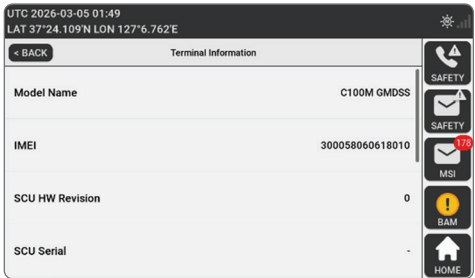
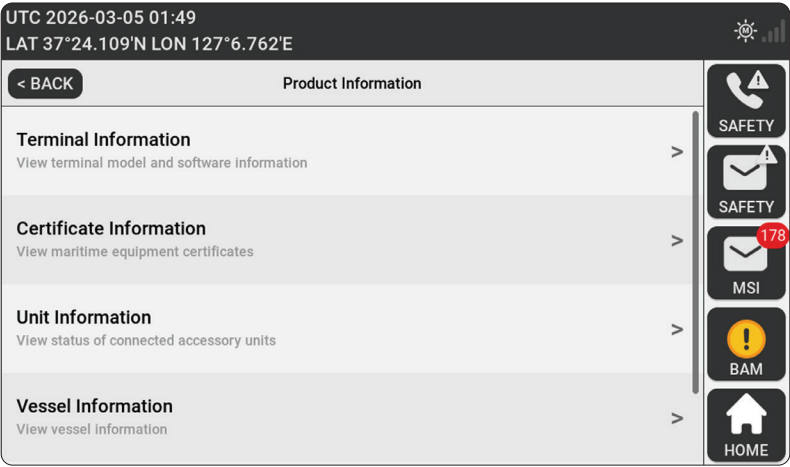
Go to **Menu** → **System Setting** → **Date/Time**. Change the display format for Date and Time on the screen:



No.	Item	Description
①	Date	Select the date format (YYYY-MM-DD, MM-DD-YYYY, DD-MM-YYYY) from the Data drop-down list.
②	Time	Select the time format (12-hour, 24-hour) from the Time drop-down list.

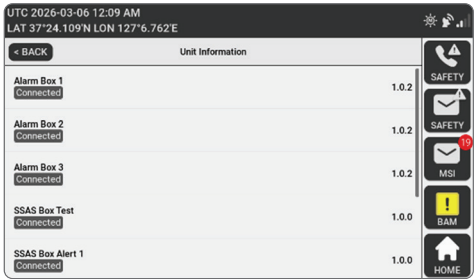
11.1.8 Product Information

In Product Information, verify details about the GMDSS system. This menu consists of four sub-menus: Terminal Information, Certification Information, Unit Information, and Device Environment Information. Go to **Menu** → **Non-GMDSS Function** → **Product Information**.

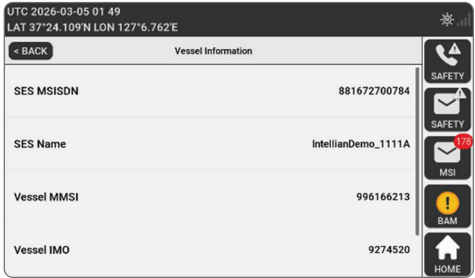


Terminal Information: Information about the C100M GMDSS equipment can be verified. This includes the equipment’s serial number, software version information, and more.

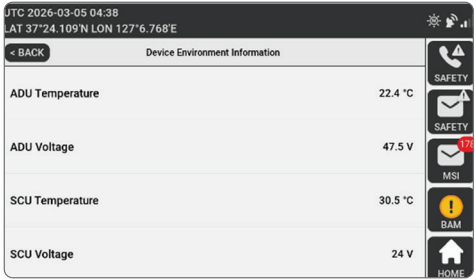
Certification Information: Displays certification-related information, such as FCC ID and KC certification.



Unit Information: Verify accessory information connected to the GMDSS system. This includes connection status, version information, etc.



Vessel Information: Users can check the registration information of the SES (Ship Earth System – regulatory name for the satcom GMDSS systems installed on vessels). The registration information is stored in the device during commissioning at the time of initial activation. The SES Information includes details such as the SES Name, SES MSISDN, Vessel MMSI, Vessel IMO Number, and Vessel Call Sign.



Device Environment Information: Verify the current temperature and voltage for ADU, and SCU.

Chapter 12. Tools

Execute the SCU test and reset the system. Go to **Menu** → **Tools**.

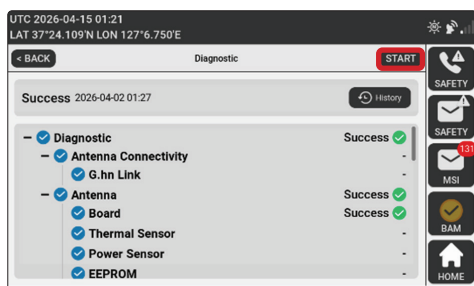
12.1 Diagnostic

C100M GMDSS provides a diagnostic function to verify whether the hardware and accessories are working properly. Users can check the GMDSS system hardware through this function and request technical service if any failures are detected. Each item can be tested individually.

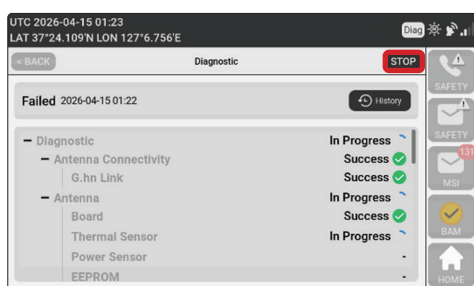
The diagnostic tests include the following:

- Antenna (ADU)
- Interface (LCD, Touch Screen, Distress Button, Handset)
- Audio
- Sensor (Light Sensor, Temperature Sensor)
- Accessories (Alarm Box, Alarm Unit, SSAS Box Alert, SSAS Box Test, Printer, Keyboard, Mouse, USB Memory)

1. Select the checkbox for each test that you want to run on the system. You can select all the tests quickly by selecting the top checkbox.

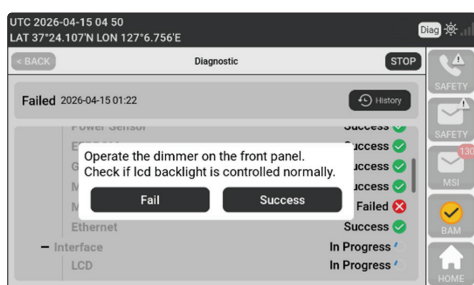


2. Click the **Start** in the upper right hand corner button to begin the diagnostic test

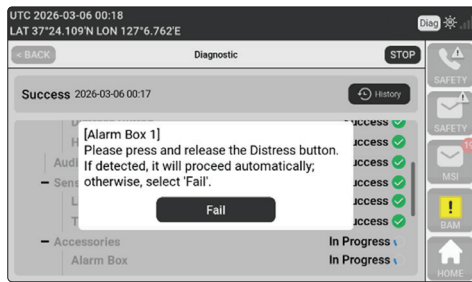


Once the test starts, the page will display “In Progress”.

To stop during the test, click the **STOP** in the upper right hand corner button. Restarting the test may take a few minutes.

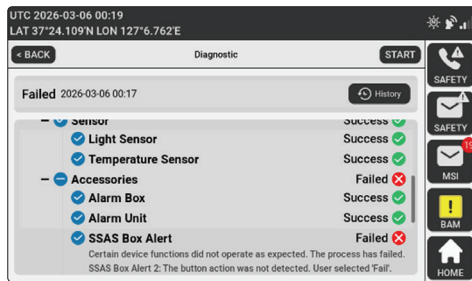


3. Follow the instructions in the pop-up window (1):
 - If a **Fail/Success** button appears, follow the test instructions in the pop-up window.
 - After completing the test, click **Fail or Success** to confirm the result.



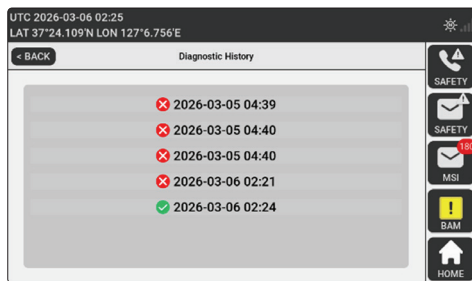
4. Follow the instructions in the pop-up window (2):

- If the **Fail** button appears in the pop-up window, follow the instructions to perform the test manually.
- If the function is working correctly, the system will automatically move to the next test.
- If the function is not working, click the **Fail** button.



5. View test results:

- After the diagnostic test is completed, the system will display the results for each item.



6. View diagnostic history:

- Click the History button to view the diagnostics conducted on each date. Clicking on a date shows the list of diagnostics performed at that time.

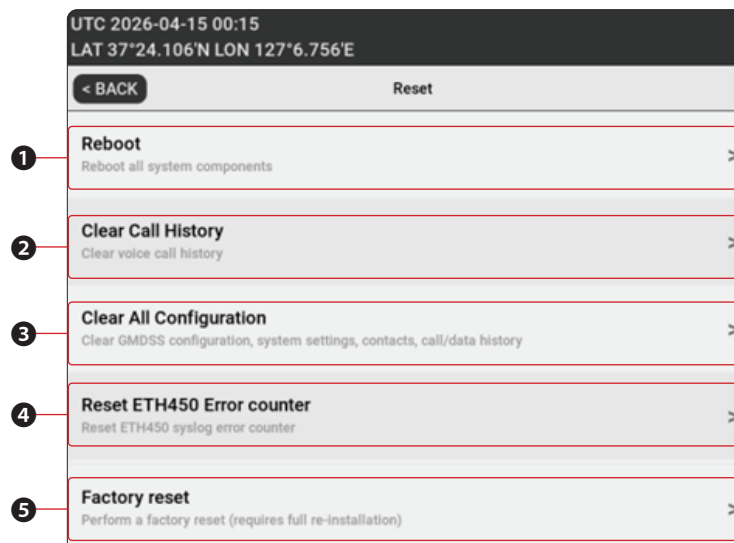


NOTE

When the Diagnostic function starts, the satellite connection will be disconnected and a related BAM alert may occur.

12.2 Reset

Reset SCU information such as Call History, Data History, Configuration, and more.



No.	Item	Description
①	Reboot	Restart SCU
②	Clear Call History	Clears all Routine voice call and Safety call history.
③	Clear All Configuration	Resets all configurations, including call and data history, for the SCU.
④	Reset ETH450 Error counter	Resets the error counter that can be checked in the External Logging.
⑤	Factory Reset	Resets the current system to its factory default, including the deletion of provisioning information. <i>This function resets the terminal to its initial factory state and must only be performed by authorized service personnel.</i>

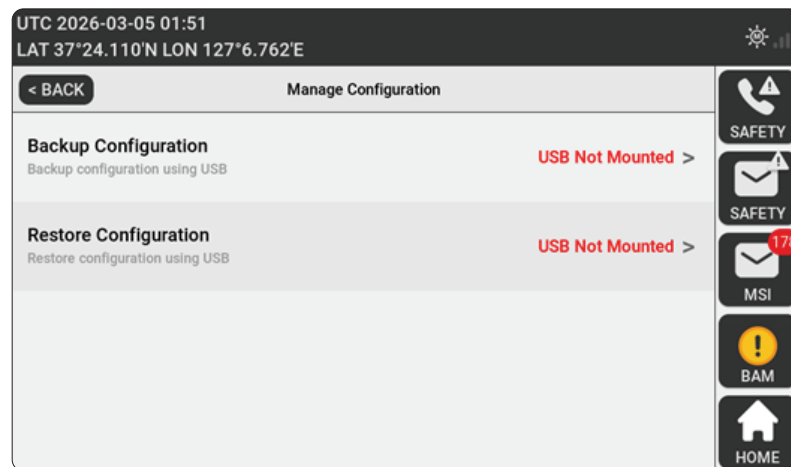
12.3 Manage Configuration

This feature provides a Config Backup & Restore function that allows users to store or load the current SCU settings using a USB flash drive. Before connecting the flash drive to the SCU, it **MUST** be scanned for viruses and other malware.

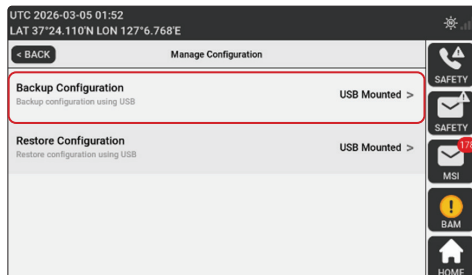


NOTE

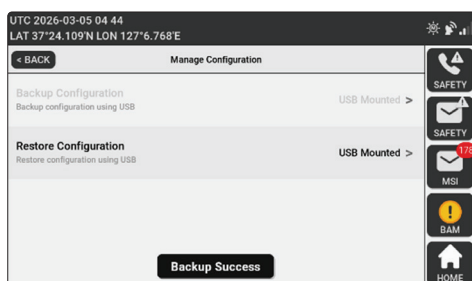
The file system format for USB memory only supports FAT32. It does not support formats like NTFS.



Backup Configuration:

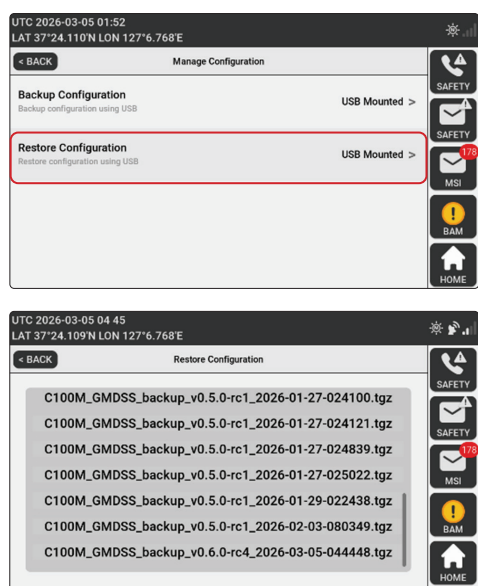


1. Connect the USB flash drive to the USB port on the rear of the SCU. Once connected, “USB Not Mounted” will change to “USB Mounted.”
2. Click the **Backup Configuration** button to save the config file.



If the backup is successful, a message saying “Backup Success” will appear.

Restore Configuration:



1. Connect the USB flash drive to the USB port on the rear of the SCU. Once connected, “USB Not Mounted” will change to “USB Mounted.”
2. Click the **Restore Configuration** button to view the list of config files stored on the USB flash drive.
3. Select the desired config file. Then the system will start rebooting and restore the settings automatically.

Chapter 13. Software Upgrade

The C100M GMDSS provides a software upgrade function. Software upgrades can be performed using a USB flash drive or via the Web UI. If upgrading software using a flash drive, you must perform a virus and malware scan on the flash drive before connecting it to the SCU. For instructions on upgrading the software via the web UI, see section 14.5.1.

13.1 Software Upgrade using USB

The C100M GMDSS software can be easily upgraded using a USB flash drive. Follow these steps:

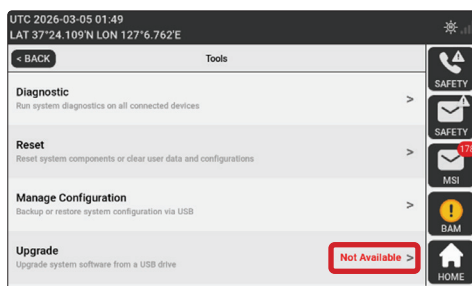
Prepare:

- Get the software file: Obtain the software package file for the C100M GMDSS, ensuring it is the latest version provided by Intellian.
- There are two types of upgrade files: Unified binary file (containing SCU, ADU, and modem), and SCU standalone binary file (containing only SCU).
- Prepare a USB flash drive: Transfer the software package file to a USB flash drive.

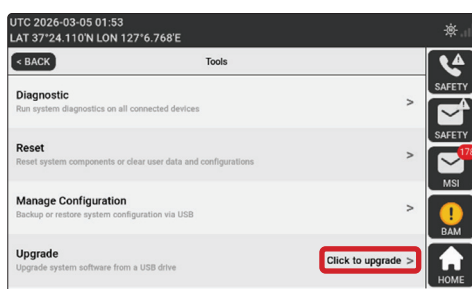
Caution:

- Do not turn off the SCU or remove the USB flash drive from the SCU during the software update. This may cause a malfunction or system damage.
- The software should be upgraded in an environment that guarantees a stable electrical power supply.
- If the upgrade fails, 'Upgrade Fail' will appear in the Status column. Try to upgrade again or use a different upgrade file.
- The file system format for USB flash drive only supports FAT32. It does not support formats like NTFS.

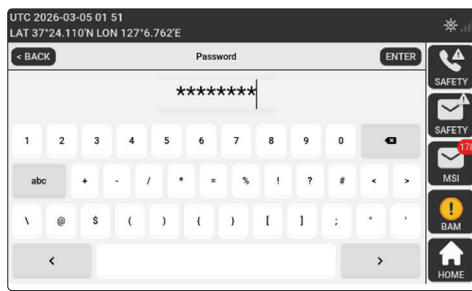
Upgrade Procedure:



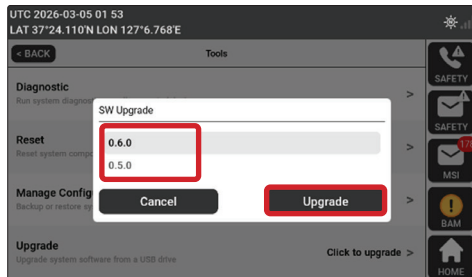
1. Navigate to **Menu** → **Tools**. Verify that the Upgrade menu at the bottom indicates **Not Available**.



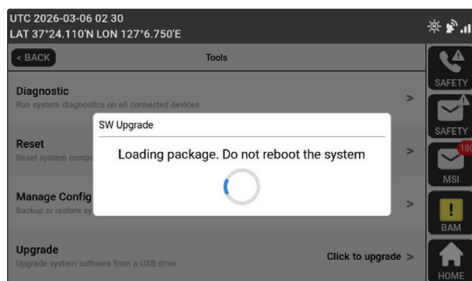
2. Connect the USB flash drive containing the software package file to the USB port on the rear panel of the SCU.
3. Verify that the Upgrade menu at the bottom has changed to **"Click to upgrade"** and click the **Upgrade**.



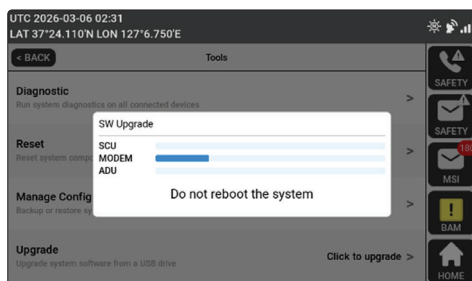
4. Enter your password to upgrade (this is the same as your account password in AptusLX, which defaults to 12345678).



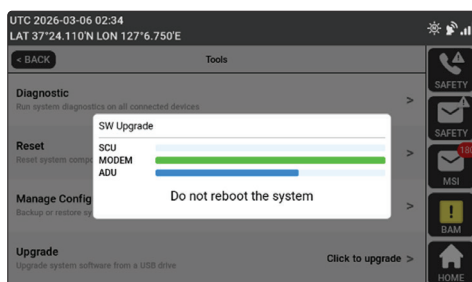
5. Showing the list of software package files, select the desired upgrade file from the list.
6. Verify the file name and click the **Upgrade** button.



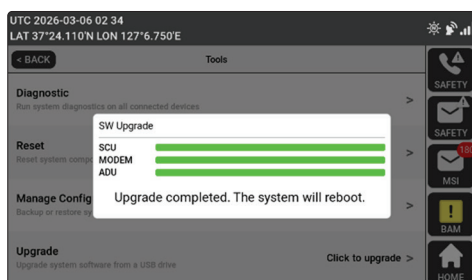
7. Loading The software upgrade package.



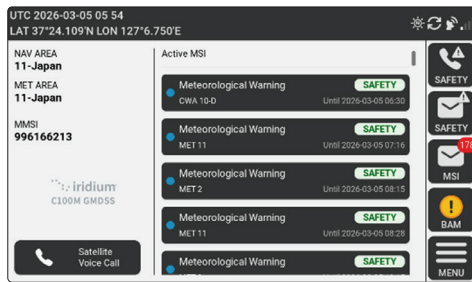
8. The software upgrade will start. During the upgrade process, the window will display the progress and status.



9. The Unified upgrade takes 10 to 12 minutes to complete, while the standalone SCU upgrade takes 5 to 6 minutes.



10. If the software is successfully upgraded, **Upgrade success** will be displayed in the progress window. Then, the SCU will start booting automatically.



11.If the SCU completes the reboot and the window displays the home screen, the upgrade is complete.



NOTE

- When upgrading the software package that includes both the SCU and ADU modules, ensure that neither the SCU nor the ADU is disconnected.
- To verify the applied upgrade status, go to **Menu** → **System Settings** → **Product Information** → **Terminal Information**. User can find the software versions for the SCU, ADU, and Modem.
- Firmware upgrade files can be downloaded from the Intellian Partner Portal.



WARNING

Do not turn off the equipment power during the upgrade.

Chapter 14. Web UI

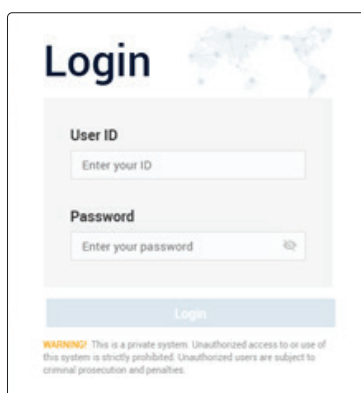
Additional functions not provided by the SCU can be accessed through the Web UI. By default, the address to access the Web UI is <https://192.168.250.1>

14.1 Access Aptus LX

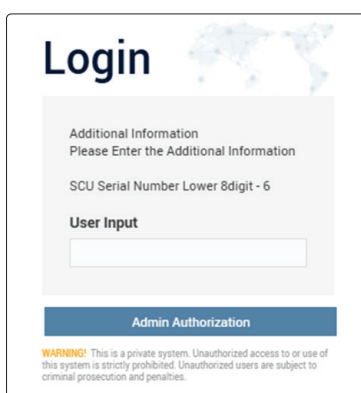
To access the AptusLX web interface for system configuration and management, you must first log in with the factory default credentials.

Accessing the Web UI:

1. Connect your computer to the BAM port.
2. Open a web browser and navigate to the following address: <https://192.168.250.1>
3. Log in using the factory default credentials:
 - Username: intellian
 - Password: 12345678



4. If Two Factor Authentication is enabled in the Enhanced Secure Mode settings, two-step verification is required after logging into the account using the last eight digits of the SCU serial number.



For example, if the SCU serial number is GSCU12341234 and the two-step verification prompts you to subtract 6 from the lower 8 digits of the SCU serial number, you would enter 12341228 (12341234 - 6).

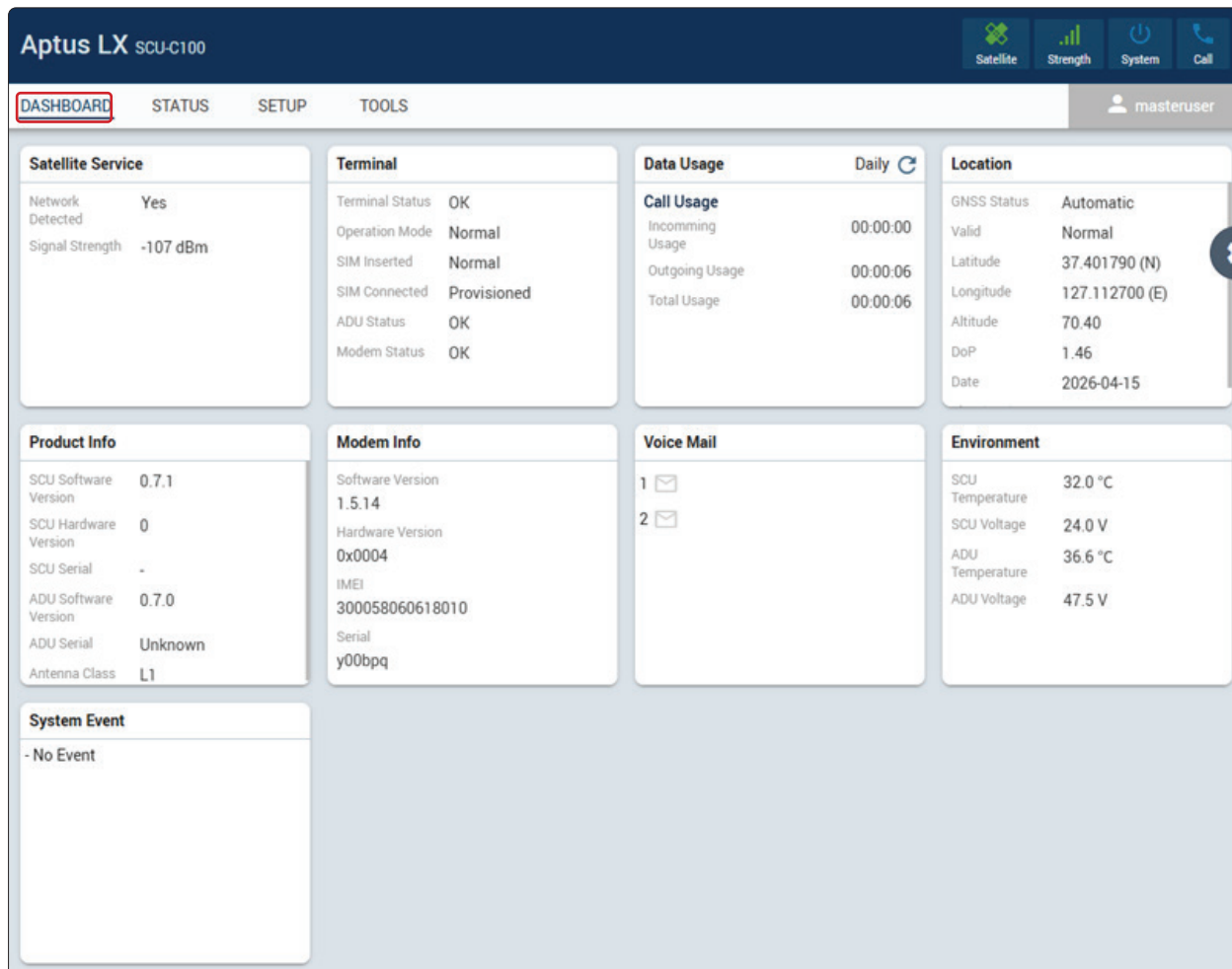


NOTE

- Change the default password immediately after first login to protect the vessel's critical communication system and prevent unauthorized access. Navigate to **Account(intellian)** → **User menu** to set a new, strong password.
- Two Factor Authentication is disabled by default. Please refer to Section 14.4.4 to enable it

14.2 Dashboard

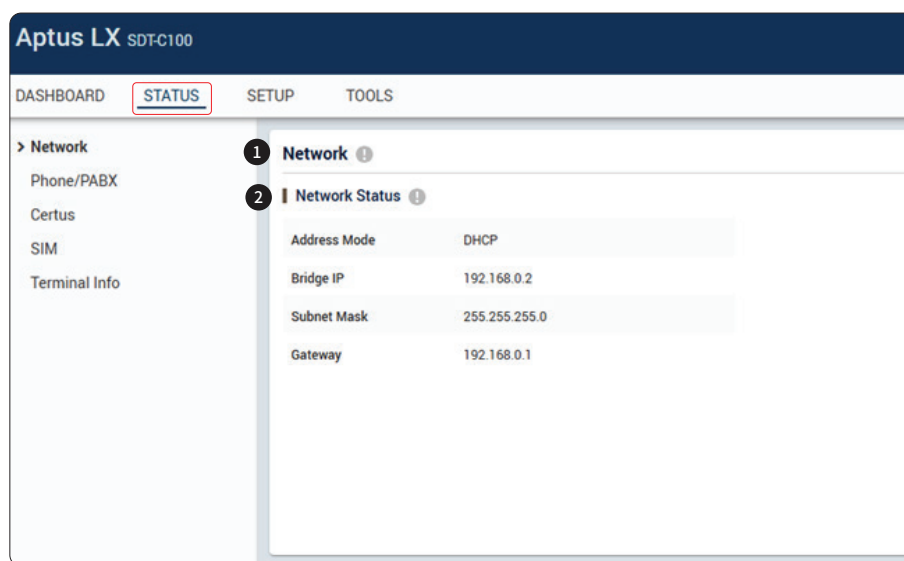
The Dashboard menu item provides access to quick monitoring of the antenna status. Once displayed, the Dashboard helps you arrange panels on a single screen, while providing you with a broad view of a variety of information at once.



14.3 Status

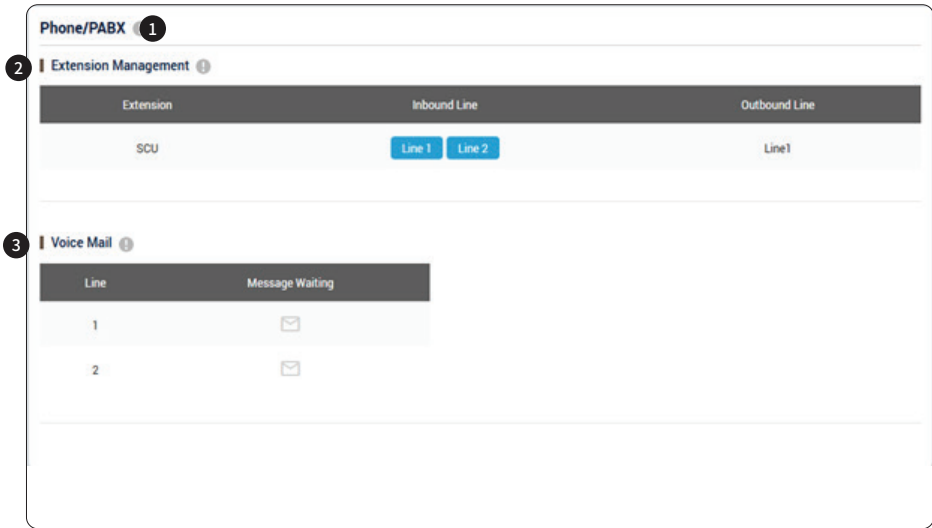
This menu displays the Network, Phone/PBX, Data, SIM and Terminal Info function.

14.3.1 Network



No.	Item	Description
①	Network	Displays the information about a network and IP.
②	Network Status(SCU)	Displays the network information currently in use by the SCU. • Address Mode: Displays the current setting mode (Factory default: DHCP). • Bridge IP: Displays the current IP for the SCU. • Subnet Mask: Displays the subnet mask for the SCU. • Gateway: Displays the gateway for the SCU.

14.3.2 Phone/PABX



No.	Item	Description
①	Phone/PABX	Displays the phone and Private Automatic Branch Exchange (PABX) status.
②	Extension Management	Displays the extension number and details. • Extension: Displays the registered extension. • Inbound Line: Displays the inbound line in use through the blue indicator. • Outbound Line: Displays the outbound line.
③	Voice Mail	Displays the received new voice mail.

14.3.3 CERTUS

The screenshot shows a web interface for 'CERTUS'. It has a sidebar with three items: 'CERTUS' (1), 'Service' (2), and 'Satellite' (3). The 'Service' section is active, showing 'Network Detected' as 'Yes'. The 'Satellite' section shows 'Signal Strength' as '-118 dBm'.

CERTUS 1

2 Service

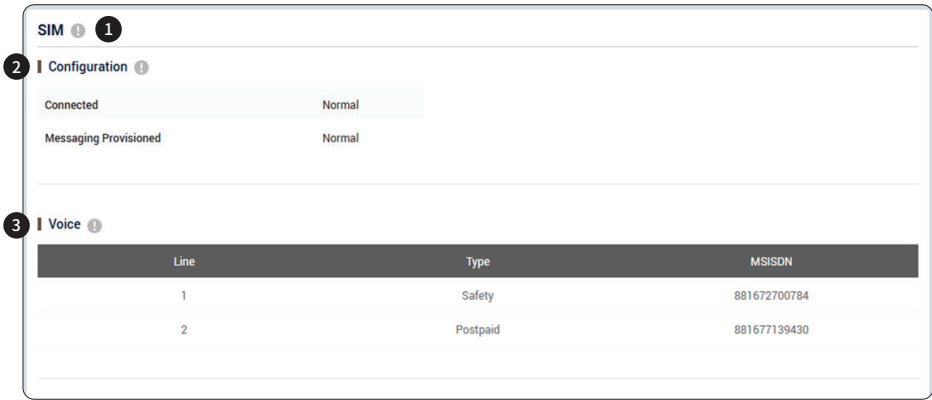
Network Detected Yes

3 Satellite

Signal Strength -118 dBm

No.	Item	Description
①	Certus	Displays the current satellite service.
②	Service	Displays the connection status with the satellite.
③	Satellite	Displays the Satellite signal strength.

14.3.4 SIM



No.	Item	Description
①	SIM	Displays information about the SIM card, and the voice and data status.
②	Configuration	Displays the SIM card information in use. • Connected: Displays the connection status of the SIM card. The SIM must be inserted. • IMSI: Displays a unique identifier to the SIM card.
③	Voice	Displays the active status of the voice.

14.3.5 Terminal info

Terminal Info ⓘ ①

②

SCU ⓘ

Software Version0.7.1

Hardware Version0

Model InfoSCU

Serial-

System MACba:71:9e:4d:d3:72

③

ADU ⓘ

Software Version0.7.0

Antenna ClassL1

SerialUnknown

④

Modem ⓘ

Software Version1.5.14

Hardware Version0x0004

IMEI300058060618010

Serialy00bpq

No.	Item	Description
①	Terminal info	Displays the system terminal information.
②	SCU	Displays SCU information in use.
③	ADU	Displays ADU information in use.
④	Modem	Displays the core module information in use.

14.4 Setup

This menu sets and displays the Network, Phone/PBX, Data Limit, and Location function.

14.4.1 Network

Network 1

2 Bridge Network

3 Static Config

Address Mode

☒ Dynamic ☐ Static

IP

192.168.0.2

Subnet Mask

255.255.255.0

Gateway

192.168.0.1

Apply

No.	Item	Description
①	Network	Sets the information about a network.
②	Bridge Network	Address Mode: Select the network mode to be used for the Bridge Network (Dynamic/Static). Click the Apply button to apply the settings to the system.
③	Static Config	When setting to Static in Address Mode, set the IP manually. • IP: Enter the IP address to be used. • Subnet Mask: Enter the subnet mask. • Gateway: Enter the gateway address. Click the Apply button to apply the settings to the system.



NOTE

- When the Static IP is changed to the 192.168.250.xxx IP band already in use by the SCU (Web UI access IP: 192.168.250.1), be aware that the original Web UI access IP will temporarily change to 192.168.251.1.
- If the band is changed from the 192.168.250.xxx band to another band, the Web UI access IP will revert to its original IP (192.168.250.1).

Aptus LX

After changing the PC's IP address to the 192.168.251.0/24 range, connect to 192.168.251.1.

This dialog will be closed in 2 second(s).

confirm

- If the band is changed from the 192.168.250.xxx band to another band, the Web UI access IP will revert to its original IP (192.168.250.1).

User Settings (Ship Network IP)	System Automatic Actions	Management Address (Web UI Access IP)
Set the address to an IP outside of the 192.168.250.x band (e.g., 10.0.0.5)	No Change	192.168.250.1 (Default)
Set the address to an IP within the 192.168.250.x band (e.g., 192.168.250.20)	Management IP will be automatically changed upon IP Conflict Detection.	192.168.251.1 (Temporary Change)
Change the address back to an IP outside of the 192.168.250.x band.	Management IP will be automatically recovered upon conflict resolution.	192.168.250.1 (Default Revert)

14.4.2 Phone/PABX

Phone/PABX ①

② Extension Management ⓘ

Extension	Inbound Line	Outbound Line	Password
SCU	Line 1 Line 2	Line1	

AptusLX

Extension SCU

Inbound Line

☐ Line 1
 ☒ Line 2

Outbound Line

Line 1

Password

Cancel Update

No.	Item	Description
①	Phone/PABX	Sets the phone and Private Automatic Branch Exchange (PABX).
②	Extensions Management	Sets the extension number and details. Edit  button: To edit the registered extension, click the edit button. Then the pop-up window is opened. You can edit details. - Extension: Displays the registered extension. - Inbound Line: Each inbound line can be controlled and managed by individual selection through the blue indicator. Line 1 can only use SCU, so it cannot be set. - Outbound Line: Select the outbound line from the drop-down list. Line 1 can only use SCU, so it cannot be set. - Password: Displays the password.

14.4.3 Location Setting

Location Setting ①

② Location Setting

Position Mode

☒ Automatic ☐ Manual

Latitude

37.4018

Longitude

127.1126

Time of position

2026 / 4 / 15 0 : 27 : 46

Speed Over Ground

0

Course Over Ground

0

Apply

No.	Item	Description
①	Location Setting	This feature allows you to manually specify a location. This feature is analogous to the manual position feature that can be configured in SCU. You can also verify the location selected in SCU's manual position. (see section 5.4)
②	Location Setting	Change the settings for the current location. • Position Mode: Select the settings for the location information (Automatic/ Manual). When set to Manual, you can enter the following parameters manually: - Latitude: Enter the latitude value. - Longitude: Enter the longitude value. - Speed Over Ground (SOG): Enter the SOG value. - Course Over Ground (COG): Enter the COG value.

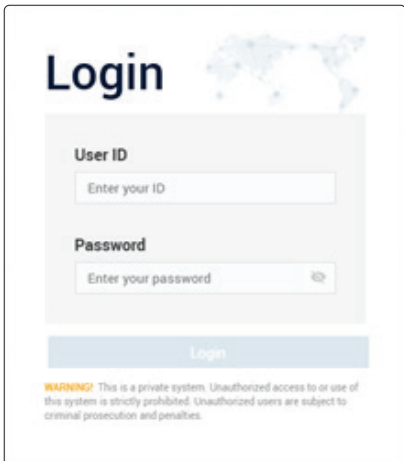
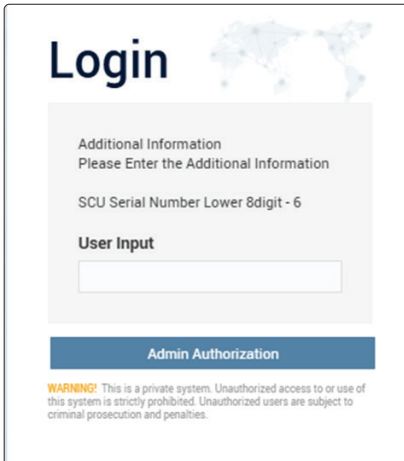
14.4.4 Enhanced Secure Mode

1 Enhanced Secure Mode

2 Enhanced Secure Mode

Enable Two Factor Authentication ☒ Enabled

Apply

No.	Item	Description
①	Enhanced Secure Mode	Enhanced Secure Mode allows you to configure settings for enhanced security.
②	Enable Two Factor Authentication	When enabled, two-step verification using the last 8 digits of the SCU serial number is required for Web UI login, as described in Section 14.1. If disabled, only the ID and password are required. This feature is disabled by default , and any changes will take effect from your next login.  

14.5 Tools

This menu provides various tools, including software upgrades, backup and restore configurations, initialization, log storage, and diagnostics.

14.5.1 Software Upgrade

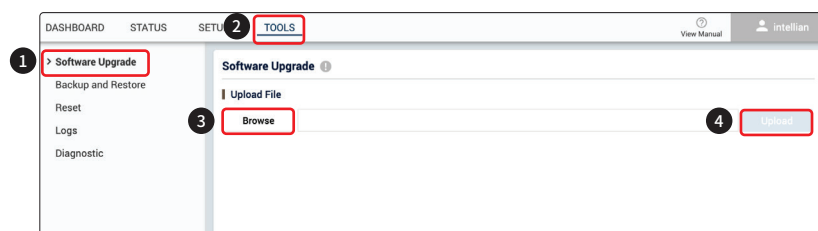
The screenshot shows the 'TOOLS' menu selected. The left sidebar lists several options, with 'Software Upgrade' being the active one. The main content area shows the 'Software Upgrade' section with two sub-sections for uploading files. Numbered callouts 1, 2, and 3 point to the 'Software Upgrade' menu item, the 'Upload Package File' section, and the 'Upload Alarm Box/Alarm Unit/SSAS Box File' section, respectively.

No.	Item	Description
①	Software Upgrade	Upgrades antenna software firmware.
②	Upload Package File	Upgrade the software for the C100M GMDSS.
③	Upload Alarm Box / Alarm Unit / SSAS Box File	Upgrade the firmware for accessories such as the Alarm Box, Alarm Unit, and SSAS Box.

Software Upgrade on AptusLX

The C100M GMDSS software can be upgraded via the web UI. If the SCU and ADU are connected, both can be upgraded using the unified binary file. Additionally, using the SCU standalone binary file allows upgrading only the SCU. (see section 13.1 for detailed upgrade instructions.)

1. After accessing AptusLX, go to **TOOLS** → **Software Upgrade**.
2. **Browse** and select the upgrade package file to upload.
3. Click the **Upload** button to transfer the software upgrade file (*.bin) to the SCU and/or ADU module.



4. A pop-up window will display the software status. Check both the current and new version details:

The screenshot shows a pop-up window titled 'AptusLX'. It contains a table with the following data:

Name	Current Version	New Version
ADU	0.6.1	0.7.0
SCU	0.6.0	0.7.1
Modem	1.5.14	1.5.14

At the bottom right of the window, there are two buttons: 'Cancel' and 'Update'.

5. Click the **Upgrade** button.

During the upgrade, the window will display progress and status.

AptusLX

During the package upgrade, the device can restart automatically and it may take several minutes. ⚠ Please do not turn off the power during the upgrade.

Name	Progress	Status
ADU	0 %	Idle
Modem	14 %	Running
SCU	0 %	Idle

Done

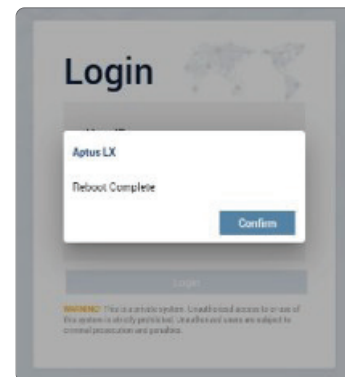
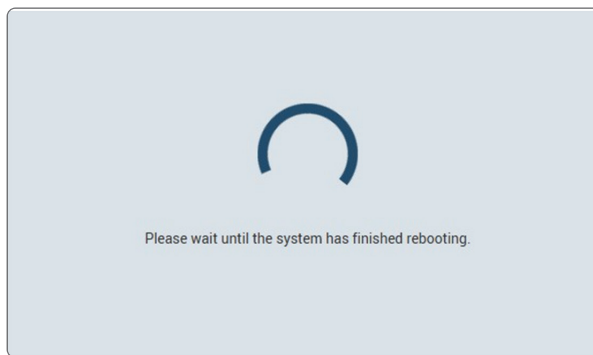
AptusLX

During the package upgrade, the device can restart automatically and it may take several minutes. ⚠ Please do not turn off the power during the upgrade.

Name	Progress	Status
ADU	100 %	Success
Modem	100 %	Success
SCU	100 %	Success

Done

- If the firmware upgrade is successful, “Success” will appear in the Status column, and the system will reboot automatically.
- If the upgrade fails, ‘Upgrade Fail’ will appear in the Status column. Try to upgrade again or use a different upgrade file.



6. Click the Done button to close the pop-up window.

**NOTE**

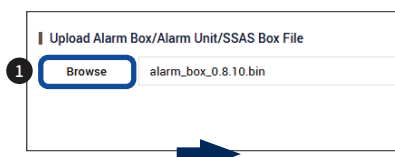
- When upgrading the software package that includes both the SCU and ADU modules, ensure that neither the SCU nor the ADU is disconnected.
- To verify the applied upgrade status, go to **Menu** → **System Settings** → **Product Information** → **Terminal Information**. User can find the software versions for the SCU, ADU, and Modem.
- Firmware upgrade files can be downloaded from the Intellian Partner Portal.

**WARNING**

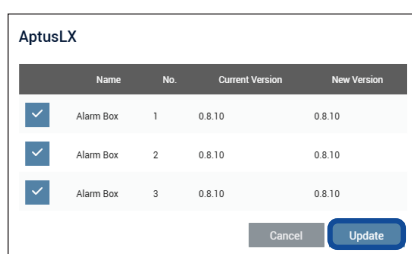
Do not turn off the equipment power during the upgrade.

Accessory Package Update Procedure

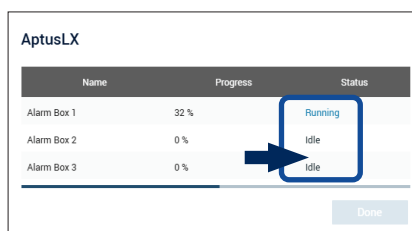
1. Browse and select the accessory upgrade package file to upload.
2. Click the **Upload** button to upload the firmware package file (*.bin). The firmware state will appear in the pop-up window.



3. Check that the firmware is correctly connected to all related accessories. Click the **Update** button.

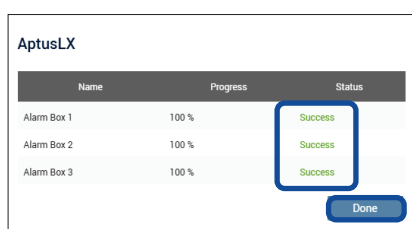


During the upgrade process, the window will display the progress and status.



If the firmware is successfully upgraded, “Success” will be displayed in the Status column.
If the upgrade fails, ‘Upgrade Fail’ will appear in the Status column. Try to upgrade again or use a different upgrade file.

4. Click the **Done** button to close the pop-up window.



NOTE

- Alarm boxes, alarm units, and SSAS boxes can all be upgraded using the same method.
- Firmware upgrade files can be downloaded from the Intellian Partner Portal.



WARNING

Do not turn off the equipment power during the upgrade.

14.5.2 Backup & Restore

Backup and Restore ①

Backup ②

Backup

Restore ③

Browse

No.	Item	Description
①	Backup and Restore	Backs up and restores configuration files for the C100M GMDSS.
②	Backup	Saves configuration files for the C100M to a PC. Click the Backup button to save the settings to your PC.
③	Restore	Restores backed-up configuration files. Browse and select the package restore file to upload, then click the Upload button. Then the system will automatically reboot and apply the setting values.

14.5.3 Reset

Reset ①

Reboot ②

Reboot

User Data Reset ③

User Data Reset

Factory Reset ④

Factory Reset

No.	Item	Description
①	Reset	Resets the systems, user data and factory reset.
②	Reboot	Click the Reboot button to reset the SCU and antenna.
③	User Data Reset	Resets all configurations, including call and data history, for the SCU.
④	Factory Reset	Click the Factory Reset button to initialize the antenna system. The user configuration is initialized.

14.5.4 Logs

Logs 1

Log Download 2

Date

From3/6/2026To3/6/2026

Download Log File

No.	Item	Description
①	Logs	Downloads the antenna log data.
②	Log Download	Displays the antenna log list. Any log data (.gz) within a month can be downloaded. Select the desired category and click the Download Log File button. Date: Sets the date range for which you want to download files. Any log data up to a month old can be downloaded. Category: Select the desired category. - All Log: Downloads all log files, including SCU, ADU and modem logs. - System Event/ADU/etc. (Expect for Modem Log): Downloads antenna log files along with log files for SCU/ADU, excluding modem log files. - Modem Log: Downloads only modem log files.

14.5.5 Diagnostic

The screenshot shows a web interface for the Diagnostic section. It has a title bar 'Diagnostic' with a circled '1'. Below it is a section 'Hardware Test Mode Status' with a circled '2'. This section contains a toggle switch labeled 'Diagnostic Test Mode' which is currently set to 'Active'. Below this is a section 'Self Test' with a circled '3' and a blue 'Start' button. At the bottom is a section 'Self Test Results' with a circled '4' and the text 'No Test Results'.

No.	Item	Description
①	Diagnostic	Executes antenna diagnosis test to check the antenna status.
②	Hardware Test Mode Status	Sets the hardware test function by toggling the activation button (Active/Inactive).
③	Self Test	The activation button must be selected to the "Active" in the previous step. Click the Start button to run the self-test.
④	Self Test Result	Displays the self-test result.



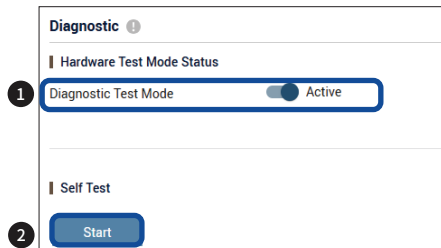
WARNING

While selecting the **Active** button in the H/W Test Mode Activate menu, the system is in the hardware test mode. All satellite connections are interrupted during test mode. Select the **Inactive** button for normal operation.

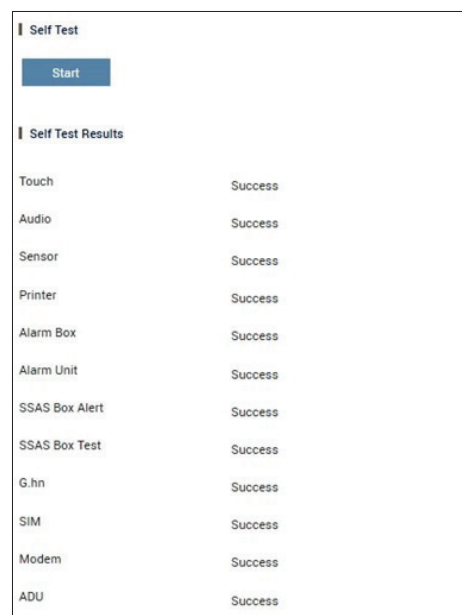
Diagnostic Procedures:

The diagnostic functions available on the WebUI automatically execute items that can be detected from the SCU, excluding those requiring user interaction.

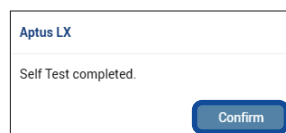
1. Set the Diagnostic Test Mode to Active and click the **Start** button.



Once the diagnostic test starts, the SCU items will complete first, and the antenna items will take a few minutes to complete the test.



2. After the diagnostic test is completed, the system will display a pop-up window. Click the **Confirm** button.



3. Verify the complete success, including the antenna items.

Touch	Success
Audio	Success
Sensor	Success
Printer	Success
Alarm Box	Success
Alarm Unit	Success
SSAS Box Alert	Success
SSAS Box Test	Success
G.hn	Success
SIM	Success
Modem	Success
ADU	Success

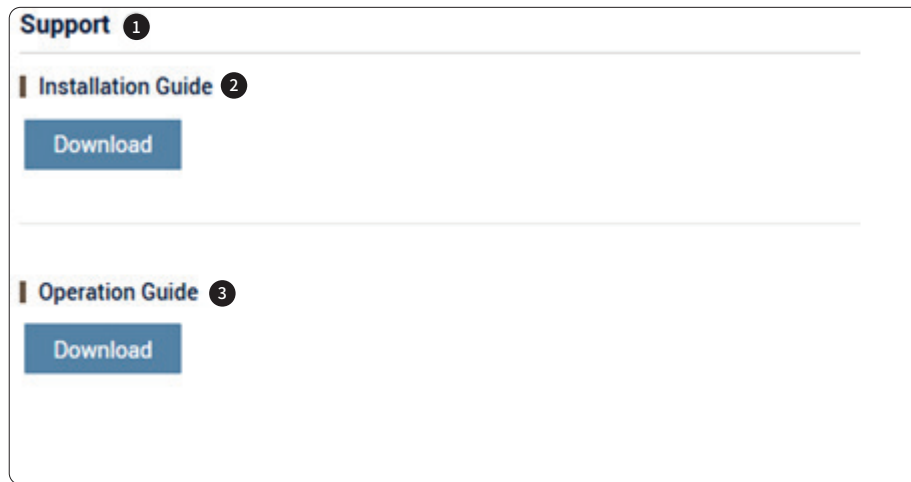
4. Set the Diagnostic Test Mode to Inactive.

Diagnostic ⓘ

Hardware Test Mode Status

Diagnostic Test Mode ☐ Inactive

14.5.6 Support



No.	Item	Description
①	Support	Downloads the installation guide and operation guide files.
②	Installation Guide	The installation guide file (.pdf) can be downloaded. Click the Download button.
③	Operation Guide	The operation guide file (.pdf) can be downloaded. Click the Download button.

Chapter 15. Appendix

15.1 Specification

Interface	
Item	Specification
Display	- Resolution: 1024 X 600 Pixels - Pixel Arrangement: RGB vertical Stripe - Response time: Typ. 30ms
Interface	1 x Ethernet (IEC 61162-450), 2 x RS-422 (IEC 61162-1,2), USB, CAN
LAN	100BASE-TX (RJ-45, IEEE 802.3u (IEC 61162-450)) / IGMP Version 3
Switch	Not supported.
Hub	Not supported.
Datagram	UdPbC
Network function	SF, NF, ONF
Transmission group	RCOM, BAM1, BAM2, NETA
Multicast address	239.192.0.6, 239.192.0.17, 239.192.0.18, 239.192.0.56, 239.192.0.254
Destination port	60006, 60017, 60018, 60056, 514
Input	ACN, HBT, SRP (SBM)
Output	ALC, ALF (MSM), ARC, SRP, SM1, SM2, SM3, SM4, SMB, SMV, GGA, GLL, GNS, RMC, ZDA (SBM)

15.2 BAM Sentences

This appendix provides detailed information about the Bridge Alert Management (BAM) sentences supported by the C100M GMDSS System, according to IEC 62923-1 and IEC 62923-2. For further details, refer to the relevant sections on BAM configuration and operation within this manual.

The C100M GMDSS System transmits BAM sentences using the talker identifier 'CS' (Communications – satellite). For received BAM sentences, the C100M GMDSS System accepts sentences from any talker identifier. For IEC 61162-450 Ethernet communication, this 2-character talker identifier corresponds to the first two characters of the equipment's System Function ID (SFI). Additionally, the system uses the manufacturer mnemonic code 'INL' to identify proprietary alerts (Alert IDs ≥ 10000). For standardized alerts, this field remains null (,).

The table below lists all BAM sentences the C100M GMDSS System can transmit (as a talker):

Sentence Formatter	Function Description	Transmission Interval	Data Latency
ALC	Cyclic alert list	30s	n/a
ALF	Alert sentence	n/a	n/a
ARC	Alert command refused	n/a	n/a

The table below lists all BAM sentences the C100M GMDSS System can receive (as a listener):

Sentence Formatter	Function Description	Presence
ACN	Alert command	Optional
HBT	Heartbeat supervision sentence	Optional

BAM Talker Sentence Formats

ALC \$--ALC,xx,xx,xx,x.x,aaa,x.x,x.x,x.x,.....,aaa,x.x,x.x,x.x*hh<CR><LF>			
Field No.	Field Name	Requirement	Description / Values
1	Total number of sentences	Mandatory	01 to 99.
2	Sentence number	Mandatory	01 to 99.
3	Sequential message ID	Mandatory	00 to 99.
4	Number of alert entries	Mandatory	Number of alert entries within this sentence. Set to 0 when there are no active alerts (e.g., all alerts in 'normal' state or function in stand-by mode).
5, 9...	Manufacturer mnemonic code	Conditional	Used ('INL') for proprietary alerts defined by the manufacturer. Null (,) for standardized alerts. Omitted entirely when Field 4 (Number of alert entries) is 0.
6, 10...	Alert Identifier	Conditional	Alert ID of the active alert. Omitted entirely when number of alert entries is 0.
7, 11...	Alert Instance	Conditional	Alert Instance of the active alert. Omitted entirely when number of alert entries is 0.
8, 12...	Revision counter	Conditional	Current revision counter of the active alert. Omitted entirely when number of alert entries is 0.

ALF \$--ALF,x,x,x,hhmmss.ss,a,a,a,aaa,x.x,x.x,x,x,c---c*hh<CR><LF>\$--			
Field No.	Field Name	Requirement	Description / Values
1	Total number of sentences	Mandatory	1 or 2 (Depends on the length of alert description text).
2	Sentence number	Mandatory	1 or 2.
3	Sequential message ID	Mandatory	0 to 9.
4	Time of last change	Optional	UTC time of last state change in hhmmss.ss format. This field shall be null (,) if the UTC time is unknown. (Null when Sentence Number is 2)
5	Alert category	Conditional	A, B, or C. (Null when Sentence Number is 2)
6	Alert priority	Conditional	E, A, W, or C. (Null when Sentence Number is 2)
7	Alert state	Conditional	A, S, N, O, U, or V. (Null when Sentence Number is 2)
8	Manufacturer mnemonic code	Conditional	Used ('INL') for proprietary alerts defined by the manufacturer. Null (,) for standardized alerts.
9	Alert Identifier	Mandatory	1 to 9999999.
10	Alert Instance	Mandatory	1 to 999999.
11	Revision counter	Mandatory	1 to 99.
12	Escalation counter	Mandatory	0 to 9.
13	Alert text	Mandatory	Alert title (Sentence 1) and optional description text (Sentence 2).

ARC \$--ARC,hhmmss.ss,aaa,x.x,x,x,c*hh<CR><LF>			
Field No.	Field Name	Requirement	Description / Values
1	Time	Optional	Release time of the ARC sentence in UTC (hhmmss.ss format). This field shall be null (,) if the UTC time is unavailable when an alert transitions its state.
2	Manufacturer mnemonic code	Conditional	Used ('INL') for proprietary alerts. Echoes the manufacturer mnemonic code from the refused ACN sentence. Null for standardized alerts.
3	Alert Identifier	Mandatory	Echoes the Alert ID from the refused ACN sentence.
4	Alert Instance	Optional	Echoes the Alert Instance from the refused ACN sentence. (Transmitted as Null if refusing a wildcard command with no instance)
5	Refused Alert Command	Mandatory	Echoes the refused command (A, Q, O, S).

BAM Listener Sentence Formats

ACN \$--ACN,hhmmss.ss,aaa,x.x,x.x,c,a*hh<CR><LF>			
Field No.	Field Name	Requirement	Description / Values
1	Time	Optional	Not required for command processing. Acceptable as Null.
2	Manufacturer mnemonic code	Conditional	Used to match proprietary alerts ('INL') in the internal DB. Acceptable as Null (,) for standardized alerts.
3	Alert Identifier	Mandatory	Used to match the alert ID in the internal DB. Value is 1 to 9999999 for specific alerts. Accepts 0 as a wildcard for "all alerts" command
4	Alert Instance	Optional	Used to match the alert instance in the internal DB. Value is 1 to 999999. Acceptable as Null when the Alert Identifier is 0 (wildcard)
5	Alert Command	Mandatory	Must be A (Ack), Q (Query), O (Responsibility transfer), or S (Silence).
6	Sentence Status Flag	Mandatory	Must be 'C' (Command). Sentences without 'C' are dropped.

HBT \$--HBT,x.x,A,x*hh<CR><LF>			
Field No.	Field Name	Requirement	Description / Values
1	Configured repeat interval	Mandatory	Transmission interval in seconds (e.g., 60).
2	Equipment status	Mandatory	A = Normal operation.
3	Sequential sentence ID	Mandatory	0 to 9, sequentially incremented.

SRP (System function ID resolution protocol) Sentence Formats

SRP \$--SRP,x,hhhhhhhhhh,c--c*hh<CR><LF>			
Field No.	Field Name	Requirement	Description / Values
1	Instance number	Tx: Null Rx: Ignored	Always Null. because only one physical network interface uses the SFI.
2	MAC Address	Tx: Mandatory Rx: Optional	48-bit hexadecimal MAC address of the SCU.
3	IP Address	Tx: Mandatory Rx: Optional	IP address as a text string (e.g., 192.168.0.10).

**NOTE**

- Upon receiving an SRP sentence where all fields are null (\$--SRP,,,*hh), the C100M GMDSS responds by transmitting an SRP sentence populated with its own MAC and IP address.
- Unused fields are set to null. Null fields are used to clearly indicate that no data is being transmitted, and use the symbols “,” or “,*”.

15.3 MSI Sentences

This appendix provides detailed information about the MSI (Maritime Safety Information) sentences supported by the C100M GMDSS System. The C100M GMDSS System transmits MSI sentences using the talker identifier 'CS' (Communications – satellite). The table below lists all MSI sentences the C100M GMDSS System can transmit (as a talker): SM1, SM2, SM3, SM4, SMB, SMV

Sentence Formatter	Function Description	Transmission Interval
SM1	SafetyCast Message – All Ships / NAVAREA	< 1s
SM2	SafetyCast Message – Coastal Warning Area	< 1s
SM3	SafetyCast Message – Circular Area Address	< 1s
SM4	SafetyCast Message – Rectangular Area Address	< 1s
SMB	SafetyCast Message Body	< 1s
SMV	SafetyCast Message – Vessel in Distress Information	< 1s

MSI Talker Sentence Formats

SM1	\$--SM1,A,x.x,xxxxxx,xxx,x,x,xx,xx,xxxx,xx,xx,xx,xx*hh<CR><LF>
SM2	\$--SM2,A,x.x,xxxxxx,xxx,x,x,xx,xx,xxxx,xx,xx,xx,xx,a*hh<CR><LF>
SM3	\$--SM3,A,x.x,xxxxxx,xxx,x,x,xx,xx,xxxx,xx,xx,xx,xx,llll.ll,a,yyyyy.yy,a,xxx*hh<CR><LF>
SM4	\$--SM4,A,x.x,xxxxxx,xxx,x,x,xx,xx,xxxx,xx,xx,xx,xx,llll.ll,a,yyyyy.yy,a,xx,xxx*hh<CR><LF>
SMB	\$--SMB,xxx,xxx,x.x,x,c--c*hh<CR><LF>
SMV	\$--SMV,x,x,x,x.x,xxxxxxxx,c--c,llll.ll,a,yyyyy.yy,a,xxxx,xx,xx,xx,a*hh<CR><LF>



NOTE

Unused fields are set to null. Null fields are used to clearly indicate that no data is being transmitted, and use the symbols “,” or “*”.

15.4 NMEA 0183 Sentences

This appendix provides detailed information about the NMEA 0183 sentences supported by the C100M GMDSS System, according to the NMEA 0183 standard. For details on NMEA 0183 and its setting, please refer to Section 11.1.5, NMEA Settings. The table below lists all NMEA 0183 sentences the C100M GMDSS System can transmit (as a talker): GGA , GLL, GNS, RMC, ZDA

Sentence Formatter	Function Description	Transmission Interval
GGA	Global Positioning System Fix Data	1-5s
GLL	Geographic Position – Latitude/Longitude	1-5s
GNS	GNSS Fix Data	1-5s
RMC	Recommended Minimum Specific GNSS Data	1-5s
ZDA	Time & Date	1-5s

NMEA 0183 Talker Sentence Formats

GGA	\$--GGA,hhmmss.ss,lll.ll,a,yyyy.yy,a,x,xx,x.x,x.x,M,x.x,M,x.x,xxx*hh<CR><LF>
GLL	\$--GLL,lll.ll,a,yyyy.yy,a,hhmmss.ss,A,a*hh
GNS	\$--GNS,hhmmss.ss,lll.ll,a,yyyy.yy,a,c--c,xx,x.x,x.x,x.x,x.x,x.x,a*hh
RMC	\$--RMC,hhmmss.ss,A,lll.ll,a,yyyy.yy,a,x,x,x,xxxxx,x.x,a,a*hh
ZDA	\$--ZDA,hhmmss.ss,xx,xx,xxxx,xx,xx*hh



NOTE

- Unused fields are set to null. Null fields are used to clearly indicate that no data is being transmitted, and use the symbols “,” or “,*”.
- C100M GMDSS transmits sentences with the GN Talker ID by default, indicating the use of multiple satellite constellations for enhanced accuracy.

15.5 List of BAM Alert

Doubtful pos (ID: 3013)	
Priority	Caution
Category	B
Alert Description	GMDSS update manual position
Decision Support	Update the manual position as described in Position Settings.
Raise/Rectify Conditions	Raise: Occurs 4 hours after the user sets Manual Position
	Rectify: On manual position update/cancel or when mode set to Auto. Rectify sent if Auto on boot.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	Raised in manual position mode if set position > 4 hours old.

Lost position (ID: 3016)	
Priority	Caution
Category	B
Alert Description	Check GMDSS terminal for lost position
Decision Support	Change to manual position mode as described in Position Settings.
Raise/Rectify Conditions	Raise: Occurs after 10 minutes of no GNSS information.
	Rectify: When manual position is set or GNSS information is received again. Rectify sent if Manual on boot.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	Raised in auto (GNSS) mode if position lost > 10 min. Cleared to Normal if mode set to manual.

System fault (ID: 3062)	
Priority	Warning
Category	B
Alert Description	Reverted to the factory image due to system error
Decision Support	Please contact technical support in Intellian.
Raise/Rectify Conditions	Raise: Occurs when the application image is a factory partition
	Rectify: Power-cycle system. If that does not help, contact technical support in Intellian.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Printer fault (ID: 3062)	
Priority	Warning
Category	B
Alert Description	Check GMDSS printer
Decision Support	Check printer online/selected. Bring back online/reselect if needed. Consult printer manual if unresolved.
Raise/Rectify Conditions	Raise: Printer disconnected, or unspecified printer error detected, or printer offline/deselected for 60s or more.
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Paper low (ID: 3079)	
Priority	Caution
Category	B

Alert Description	Check GMDSS printer paper
Decision Support	Replace /refill printer paper.
Raise/Rectify Conditions	Raise: Printer out of paper.
	Rectify: Paper refilled.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	-

Lost connection (ID: 3116)	
Priority	Caution
Category	B
Alert Description	Check GMDSS satellite terminal
Decision Support	Verify Antenna Unit has free line of sight to the sky. Remove obstructions.
Raise/Rectify Conditions	Raise: The terminal has been unable to detect or otherwise contact the satellites of the Iridium satellite system for a period of one minute or more.
	Rectify: Iridium satellite system detected.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	-

Distress Rx (ID: 3122)	
Priority	Warning
Category	A
Alert Description	Incoming distress. Check GMDSS display
Decision Support	Read the received Distress Alert Relay (see Maritime Safety Information (MSI)).
Raise/Rectify Conditions	Raise: Distress Alert Relay message (MSI of Distress priority) received.
	Rectify: All Distress Alert Relay messages read.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple messages. Ack'able=N (CAM must send ARC if ACN received).

Urgency Rx (ID: 3122)	
Priority	Warning
Category	A
Alert Description	Incoming urgency warning. Check GMDSS display
Decision Support	Read the received urgency MSI message or urgency priority message (see Maritime Safety Information (MSI) and Safety Messaging).
Raise/Rectify Conditions	Raise: Urgency MSI message or urgency priority message received.
	Rectify: All urgency priority messages read. (MSI or Safety msg)
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple messages. Ack'able=N (CAM must send ARC if ACN received).

Distress missed (ID: 3122)	
Priority	Warning
Category	A
Alert Description	Missed distress call. Check GMDSS display
Decision Support	Open the Call History to see the details on the missed call.
Raise/Rectify Conditions	Raise: Incoming distress priority voice call not answered.
	Rectify: Call History accessed.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple missed calls. Ack'able=N (CAM must send ARC if ACN received).

Urgency missed (ID: 3122)	
Priority	Warning
Category	A
Alert Description	Missed urgency call. Check GMDSS display
Decision Support	Open the Call History to see the details on the missed call.
Raise/Rectify Conditions	Raise: Incoming urgency priority voice call not answered.
	Rectify: Call History accessed.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple missed calls. Ack'able=N (CAM must send ARC if ACN received).

MSI Rx (ID: 3123)	
Priority	Caution
Category	B
Alert Description	Check new received maritime safety information
Decision Support	Read the received MSI message (see Maritime Safety Information (MSI)).
Raise/Rectify Conditions	Raise: Safety priority MSI message received.
	Rectify: All safety priority MSI messages read.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	Only one alert raised for multiple safety messages.

Safety Rx (ID: 3123)	
Priority	Caution
Category	B
Alert Description	Check new received safety message
Decision Support	Read the received safety message (see Safety Messaging).
Raise/Rectify Conditions	Raise: Safety message received (Safety priority).
	Rectify: All safety messages read.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	Only one alert raised for multiple safety messages.

Safety missed (ID: 3123)	
Priority	Caution
Category	B
Alert Description	Missed safety call. Check GMDSS display
Decision Support	Open the Call History to see the details on the missed call.
Raise/Rectify Conditions	Raise: Incoming safety priority voice call not answered.
	Rectify: Call History accessed.
Escalation Properties	Not Applicable
Permitted Exceptions / Other	Only one alert raised for multiple missed calls.

Storage low (ID: 3079)	
Priority	Caution
Category	B
Alert Description	Check GMDSS message storage medium
Decision Support	If the system uses more than 80% of the storage space, it automatically deletes the logs in order, starting with the oldest logs, until the storage space is below 80%.
Raise/Rectify Conditions	Raise: Storage space insufficient (e.g., up to 80% used).
	Rectify: Storage space below threshold (e.g., below 80%).
Escalation Properties	Not Applicable
Permitted Exceptions / Other	-

Invalid antenna (ID: 12001)	
Priority	Warning
Category	B
Alert Description	GMDSS unavailable. Incompatible antenna
Decision Support	If the combination of SCU and ADU is not connected correctly.
Raise/Rectify Conditions	Raise: Control Unit detects incompatible Antenna Unit revision (e.g., C700 ADU on C100M SCU)
	Rectify: Control Unit detected compatible Antenna Unit
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Lost handset (ID: 12002)	
Priority	Warning
Category	B
Alert Description	Voice calls unavailable. Check handset cable.
Decision Support	Check the cable between the handset and the Control Unit.
Raise/Rectify Conditions	Raise: Analog handset not connected or becomes disconnected (poor/intentional). (Control Unit loses connection with Handset).
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Lost antenna ADU (ID: 12002)	
Priority	Warning
Category	B
Alert Description	GMDSS unavailable. Check ADU cable in antenna.
Decision Support	Check the cable connection between SCU the ADU.
Raise/Rectify Conditions	Raise: ADU not connected to or becomes disconnected. (Control Unit loses connection with Antenna Unit).
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Not raised if SCU connection lost.

Lost alarm box (ID: 12002)	
Priority	Warning
Category	B
Alert Description	Alarm box lost. Check alarm box cable.
Decision Support	Check the cable between the Junction box and the Alarm box(s).
Raise/Rectify Conditions	Raise: Not connected to alarm box (from boot) or connection lost (intentional/ CAN failure). (Interface Unit loses connection with Alarm panel).
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple lost Alarm Panels.

Lost alarm unit (ID: 12002)	
Priority	Warning
Category	B
Alert Description	Alarm unit lost. Check alarm unit cable.
Decision Support	Check the cable between the Junction box and the Alarm unit.
Raise/Rectify Conditions	Raise: Not connected to alarm unit (from boot) or connection lost (intentional/ CAN failure).
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Lost SSAS box (ID: 12002)	
Priority	Warning
Category	B
Alert Description	SSAS box lost. Check SSAS box cable.
Decision Support	Check the cable between the Junction box and the SSAS box(s).
Raise/Rectify Conditions	Raise: Not connected to SSAS box (from boot) or connection lost (intentional/ CAN failure).
	Rectify: Connection reestablished.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Invalid SIM card (ID: 12201)	
Priority	Warning
Category	B
Alert Description	GMDSS unavailable. Check SIM subscription information
Decision Support	Check if the SIM supports the GMDSS feature.
Raise/Rectify Conditions	Raise: SIM that does not support GMDSS is inserted.
	Rectify: Insert a SIM that supports GMDSS.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Lost SIM card (ID: 12202)	
Priority	Warning
Category	B
Alert Description	GMDSS unavailable. Check SIM card slot
Decision Support	Verify the SIM card is properly inserted.
Raise/Rectify Conditions	Raise: SIM not inserted or cannot be detected.
	Rectify: SIM card detected.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

GMDSS fault (ID: 21002)	
Priority	Warning
Category	B
Alert Description	GMDSS service blocked (SIM locked)
Decision Support	Contact your service provider.
Raise/Rectify Conditions	Raise: GMDSS System is unavailable by Iridium network.
	Rectify: None specified. Contact your service provider.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

GMDSS fault (ID: 21002)	
Priority	Warning
Category	B
Alert Description	GMDSS service blocked (Unlock device)
Decision Support	Contact your service provider.
Raise/Rectify Conditions	Raise: GMDSS System is unavailable by Iridium network.
	Rectify: None specified. Contact your service provider.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

GMDSS fault (ID: 21002)	
Priority	Warning
Category	B
Alert Description	GMDSS service blocked (IMSI invalid)
Decision Support	Contact your service provider.
Raise/Rectify Conditions	Raise: GMDSS System is unavailable by Iridium network.
	Rectify: None specified. Contact your service provider.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

GMDSS fault (ID: 21002)	
Priority	Warning
Category	B
Alert Description	GMDSS service blocked (IMEI blacklisted)
Decision Support	Contact your service provider.
Raise/Rectify Conditions	Raise: GMDSS System is unavailable by Iridium network.
	Rectify: None specified. Contact your service provider.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Invalid alarm box (ID: 21003)	
Priority	Warning
Category	B
Alert Description	Unrecognized alarm box detected. Check device setup
Decision Support	Check for duplicate Alarm Box IDs within the system. Verify if the connected Alarm Box is a compatible version (non-SES only). Set the Alarm Box or SES number using the internal physical configuration mechanism.
Raise/Rectify Conditions	Raise: Multiple Alarm Boxes with the same ID detected, or an incompatible SES-only Alarm Box is detected.
	Rectify: Alarm Box ID duplication is resolved, or the incompatible SES-only Alarm Box is removed from the system.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Invalid alarm unit (ID: 21003)	
Priority	Warning
Category	B
Alert Description	Unrecognized alarm unit detected. Check device setup
Decision Support	Identify the Alarm Units sharing the same identification ID. Ensure that each ID is unique within the system or disconnect the redundant unit so that only one unit is connected per ID.
Raise/Rectify Conditions	Raise: Multiple Alarm Units with the same identification ID are detected.
	Rectify: The Alarm Unit number duplication issue is resolved (e.g., only one Alarm Unit is connected).
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Invalid SSAS box (ID: 21003)	
Priority	Warning
Category	B
Alert Description	Unrecognized SSAS box detected. Check device setup
Decision Support	Check for duplicate SSAS Box IDs within the system. Verify if the connected SSAS Box is a compatible version (non-SES only). Set the SSAS Box or SES number using the internal physical configuration mechanism.
Raise/Rectify Conditions	Raise: Multiple SSAS Boxes with the same ID detected, or an incompatible SES-only SSAS Box is detected.
	Rectify: SSAS Box ID duplication is resolved, or the incompatible SES-only SSAS Box is removed from the system.
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	-

Safety Tx fail (ID: 22002)	
Priority	Warning
Category	B
Alert Description	Failed to send safety message.
Decision Support	Verify Antenna Unit line of sight. Remove obstructions. Initiate resending (see Safety Messaging).
Raise/Rectify Conditions	Raise: No messages were sent to the Iridium server for 5 minutes after the safety message was sent.
	Rectify: User Acknowledged message transmission failure (transitory alert).
Escalation Properties	Repeated as a warning after 90 seconds.
Permitted Exceptions / Other	Only one alert raised for multiple failed safety message transmissions.

15.6 Abbreviation / Acronym

Abbreviation / Acronym	Meaning
A	
ACK	Acknowledgment
ADU	Above Deck Unit
B	
BAM	Bridge Alert Management
C	
COG	Course Over Ground
CSO	Chief Security Officer
CWA	Coastal Warning Area
D	
DAR	Distress Alert Relay
DTMF	Dual-Tone Multi-Frequency
E	
EIRP	Effective Isotropic Radiated Power
G	
G/T	Gain-to-Noise-Temperature Ratio
GEO	Geostationary Orbit
GMDSS	Global Maritime Distress and Safety System
GNSS	Global Navigation Satellite System
GPS	Global Positioning System
I	
IC	Integrated Circuit
IGS	Iridium GMDSS System
IME	Input Method Editor
IMO	International Maritime Organization
IP	Internet Protocol
L	
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LEO	Low Earth Orbit
M	
MB	Megabit
MET	Meteorological Area
MMSI	Maritime Mobile Service Identity
MoCA	Multimedia over Coax Alliance
MSI	Maritime Safety Information
N	
NAV	Navigation
O	
OTA	Over-the-Air
P	
PABX	Private Automatic Branch Exchange
PBX	Private Branch Exchange
PSU	Power Supply Unit
R	
RCC	Responsible Rescue Coordination Center

Abbreviation / Acronym	Meaning
RF	Radio Frequency
RX	Receive
S	
SAR	Search and Rescue
SDT	Safety Display Terminal
SES	Ship Earth Station
SFA	Safety Function Assessment
SIM	Subscriber Identity Module
SMS	Short Message Service
SOG	Speed Over Ground
SOLAS	Safety of Life at Sea
SSAS	Ship Security Alert System
T	
TNC	Threaded Neill-Concelman
TX	Transmit
U	
UHF	Ultra High Frequency
USB	Universal Serial Bus
USIM	Universal Subscriber Identity Module
V	
VBUS	USB Power Bus
VBW	Vessel Speed Relative to Water
VDC	Volts Direct Current
VHF	Very High Frequency
VHW	Speed Through Water
VTG	Course Over Ground and Ground Speed
W	
WAN	Wide Area Network