ICOM

MF/HF MARINE TRANSCEIVER
GM800

Icom Inc.

Thank you for choosing this Icom product.
The GM800 MF/HF MARINE TRANSCEIVER is designed and built with Icom's state of the art technology and craftsmanship. With proper care, this product should provide you with years of trouble-free operation.

The GM800 has Class A DSC functions for Distress alert transmission and reception, as well as general DSC calls (Individual call, Group call Geographical call, Position Request call, Polling Request call, and Test call).

IMPORTANT

READ ALL INSTRUCTIONS carefully and completely before using the transceiver.

SAVE THIS INSTRUCTION MANUAL — This instruction manual contains important operating instructions for the GM800.

NOTE: This transceiver receives the frequency range 30 kHz ~ 500 kHz in the J3E mode, but it has not been tested and Icom does not warrant the operation in this frequency range. Thus this transceiver does not conform to the permission of the frequency range 415 kHz ~ 526.5 kHz which is permitted by the ITU Radio Regulations [3].

To stabilize the output frequency:
±10 Hz frequency stability requires a warming up time period.
The warming up time period is within 30 minutes after turning ON the transceiver's main power, and it differs depending on the output temperature.

Icom is not responsible for the destruction, damage to, or performance of any Icom or non-Icom equipment, if the malfunction is because of:
• Force majeure, including, but not limited to, fires, earthquakes, storms, floods, lightning, other natural disasters, disturbances, riots, war, or radioactive contamination.
• The use of Icom transceivers with any equipment that is not manufactured or approved by Icom.

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IN CASE OF EMERGENCY

When your ship requires assistance, contact other ships and the Coast Guard by sending a Distress call using DSC (digital selective calling) on an Emergency frequency.

When immediate help is needed:
1. To send a Distress call, hold down [DISTRESS] for 3 seconds until the short beeps become one long beep.
2. Release [DISTRESS] and wait for an acknowledgment.
3. After receiving the acknowledgement call, hold down [PTT] on the microphone and send the following information.
   1 "MAYDAY, MAYDAY, MAYDAY."
   2 "THIS IS . . . . (name of ship)."
   3 "LOCATED AT . . . .(ship's position)."
   4 Give the reason for the distress call.
   5 Explain what assistance you need.
   6 Give additional information about your ship:
      • Type
      • Length
      • Color
      • The number of people on board

EXPLICIT DEFINITIONS

WORD	DEFINITION
⚠DANGER!	Personal death, serious injury or an explosion may occur.
⚠WARNING!	Personal injury, fire hazard or electric shock may occur.
CAUTION	Equipment damage may occur.
NOTE	If disregarded, inconvenience only. No risk of personal injury, fire or electric shock.

PRECAUTIONS

⚠**DANGER HIGH RF VOLTAGE! NEVER** touch an antenna while transmitting. This may result in an electrical shock or burn.

⚠**WARNING! NEVER** operate the transceiver during a lightning storm. It may result in an electric shock, cause a fire or damage the transceiver. Always disconnect the power source and antenna before a storm.

⚠**WARNING! NEVER** directly connect the transceiver to an AC outlet. This may pose a fire hazard or result in an electric shock.

⚠**WARNING! NEVER** mount the transceiver main unit overhead. The weight of the unit is approximately 8.5 kg, and it could easily fall due to wave shocks or vibration. The unit must be mounted on a flat hard surface only.

⚠**WARNING! NEVER** connect a power source of more than 31.2 V DC. This connection could cause a fire or ruin the transceiver.

⚠**WARNING! NEVER** place the transceiver where normal operation of the ship may be hindered, or where it could cause bodily injury.

⚠**WARNING! NEVER** let metal, wire or other objects protrude into the transceiver or into connectors on the rear panel. This may result in an electric shock.

CAUTION: DO NOT use harsh solvents such as benzine or alcohol when cleaning, because they will damage the transceiver's surfaces.

CAUTION: DO NOT use the transceiver in areas with temperatures below –15°C or above +55°C.

CAUTION: DO NOT place the transceiver in excessively dusty environments or in direct sunlight.

CAUTION: DO NOT use non-Icom handsets or microphones. Other manufacturer's handset or microphones have different pin assignments, and connection to the GM800 may damage the transceiver.

CAUTION: DO NOT place the transceiver against walls or putting anything on top of the transceiver. This may overheat the transceiver.

BE CAREFUL! The transceiver main unit will become hot when operating the transceiver continuously for long periods of time.

BE CAREFUL! The remote controller's front panel meets IPX7* requirements for waterproof protection. However, once the transceiver has been dropped, or the waterproof seal is cracked or damaged, waterproof protection cannot be guaranteed because of possible damage to the case or the waterproof seal.
* The connectors on the rear panel do not meet IPX7.

NOTE: The LCD display may have cosmetic imperfections that appear as small dark or light spots. This is not a malfunction or defect, but a normal characteristic of LCD displays.

NOTE: Install the transceiver and handset or microphone as far away as possible, (at least 1 meter), from the magnetic navigation compass, to prevent erroneous indications.

NOTE: Always place unit in a secure place to avoid inadvertent use by unauthorized persons.

RECOMMENDATION

CLEAN THE REMOTE CONTROLLER'S FRONT PANEL THOROUGHLY IN A BOWL OF FRESH WATER after exposure to saltwater, and dry it before operating. Otherwise, the remote controller's keys, switches may become unusable, due to salt crystallization.
ⓘ The connectors on the rear panel do not meet IPX7.

NOTE: If the remote controller's waterproof protection appears defective, carefully clean it with a soft, damp (fresh water) cloth, then dry it before operating. The remote controller may lose its waterproof protection if the case, or connector cover is cracked or broken, or the remote controller has been dropped. Contact your Icom distributor or your dealer for advice.

INSTALLATION NOTE

Installation:
The installation of this equipment should be made in such a manner as to respect the EC recommended electromagnetic field exposure limits. (1999/519/EC)

The maximum RF power available from this device is 150 watts. The antenna should be installed as high as possible for maximum efficiency and the installation height should be at least 2.0 meters above any accessible position. In the case where an antenna cannot be installed at a reasonable height, then the transmitter should neither be continuously operated for long periods if any person is within a distance of 2.0 meters of the antenna, nor operated at all if any person is touching the antenna.

It is recommended that antenna of a maximum gain of 0 dBd is used. If higher gain antenna are required then please contact your Icom distributor for revised installation recommendations.

Operation:
The exposure to RF electromagnetic field is only applicable when this device is transmitting. This exposure is naturally reduced due to the nature of alternating periods of receiving and transmitting. Keep your transmissions to the minimum necessary.

DISPOSAL

The crossed-out wheeled-bin symbol on your product, literature, or packaging reminds you that in the European Union, all electrical and electronic products, batteries, and accumulators (rechargeable batteries) must be taken to designated collection locations at the end of their working life. Do not dispose of these products as unsorted municipal waste. Dispose of them according to the laws in your area.

TABLE OF CONTENTS

1 OPERATING RULES

NOTE: Before transmitting, monitor the channel you want to use to avoid interrupting communications already in progress.

• CALL PROCEDURE
Calls must be properly identified and the time limit must be respected.

1. Give your call sign each time you call another ship or coast guard station. If you have no call sign, identify the station by giving your ship name and the name of the licensee.
2. Give your call sign at the end of each transmission that lasts more than 3 minutes.
3. You must break and give your call sign at least once every 15 minutes during long ship-to-shore calls.
4. Keep your unanswered calls short, less than 30 seconds. Do not repeat a call for 2 minutes.
5. Unnecessary transmissions are not allowed.

• PRIORITIES
1. Read all rules and regulations pertaining to priorities and keep an up-to-date copy handy. Safety and Distress calls take priority over any other calls.
2. False or fraudulent Distress signals are prohibited and punishable by law.

• PRIVACY
1. Information overheard but not intended for you, cannot lawfully be used in any case.
2. Indecent or profane language is prohibited.

• LOGS
1. All Distress, Emergency and Safety calls must be recorded in complete details. Log data activity is usually recorded for 24 hours. Universal Time Coordinated (UTC) is frequently used.
2. Keep adjustments, repairs, channel frequency changes and authorized modifications affecting electrical operation of the equipment in the maintenance log. The entries requires signatures by the authorized licensed technician performing or supervising the work.

• RADIO LICENSES
(1) SHIP RADIO STATION LICENSE
You need a current ship radio station license before using the transceiver. It is unlawful to operate a ship radio station which is not licensed, but required to be.

If required, contact your dealer or the appropriate government agency for a Ship-Radiotelephone license application. This government-issued license states the call sign which is your craft's identification for radio communication purposes.

(2) OPERATOR'S LICENSE
A Restricted Radiotelephone Operator Permit is the license most often held by small vessel radio operators when a radio is not required for safety purposes.

If required, the Restricted Radiotelephone Operator Permit must be posted or kept with the operator. If required, only a licensed radio operator may operate a transceiver.

However, non-licensed individuals may talk over a transceiver if a licensed operator starts, supervises, ends the call and makes the necessary log entries.

A current copy of the applicable government rules and regulations is only required to be on hand for vessels in which a radio telephone is compulsory. However, even if you are not required to have these on hand it is your responsibility to be thoroughly acquainted with all pertinent rules and regulations.

■ Main unit
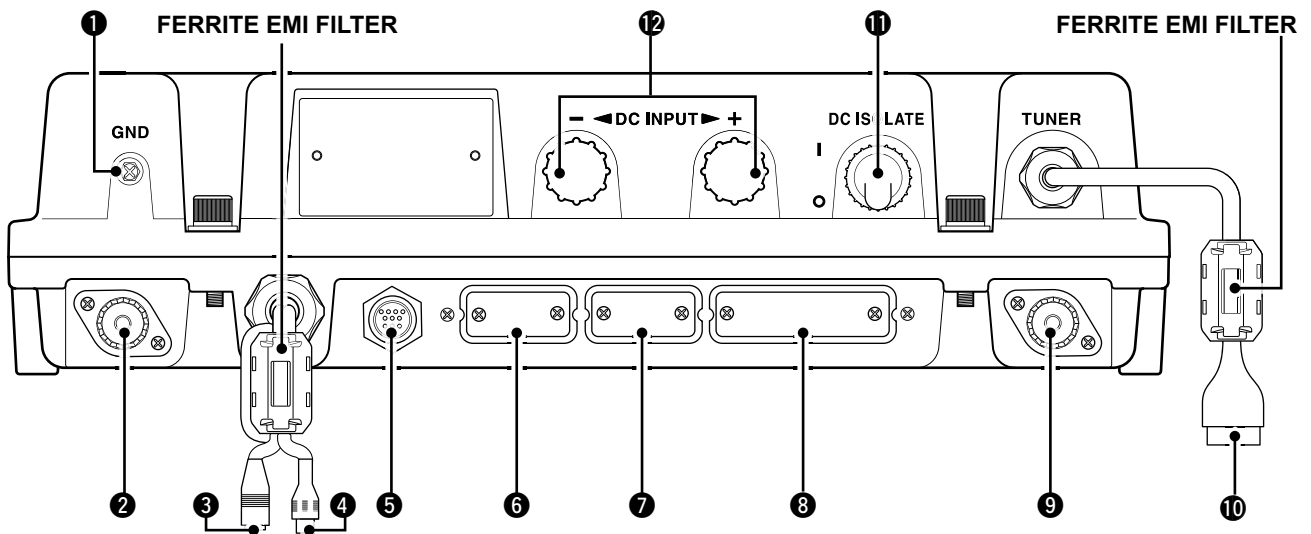
❶ GROUND TERMINAL [GND]
Connect to the ship's ground. (p. 81)

❷ DSC ANTENNA CONNECTER
Connect to a 50 Ω HF marine band antenna through a 50 Ω coaxial cable with a PL-259 plug. This antenna is used for receiving Distress calls.

> **NOTE:** To receive a Distress call, **BE SURE** to connect an HF marine band antenna to this antenna connector. Otherwise, you cannot receive any Distress calls.

❸ SPEAKER JACK [SP]
Connect to the SP-24 (p. 80) or an external speaker.

> **NOTE:** When using an external speaker, **BE SURE** to turn OFF the internal speaker. (p. 5) Audio is output from the external speaker only when the internal speaker is OFF.

❹ GPS JACK [GPS]
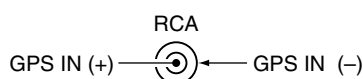Connect to a GPS receiver to input position and UTC data for DSC operations. (IEC 61162-1 Edition 4.0 (2010-11))
• An IEC 61162-1 Edition 4.0 (2010-11) (sentence formatters: GGA) compatible GPS receiver is required. Ask your dealer about suitable GPS receivers.

RCA
GPS IN (+) —⊙— GPS IN (–)

❺ CONTROLLER CONNECTOR [CONTROLLER]
Connect to the supplied controller.

❻ MODEM SOCKET [AF/MOD] (p. 87)
Connect to an external terminal unit for SSB mode operation through an RS-232C cable (D-sub 15-pin).

❼ REMOTE SOCKET [REMOTE] (p. 88)
Connect to a PC through an RS-232C cable (D-sub 9-pin) for remote control.

❽ PRINTER CONNECTOR
Connect to an IBM® centronics or compatible printer to automatically or manually print out received DSC information.

❾ ANTENNA CONNECTOR
Connect to a wire or whip antenna through the AT-141 HF AUTOMATIC ANTENNA TUNER. The antenna is used for transmitting any calls and receiving any calls other than Distress calls.

> ⚠**WARNING! NEVER** directly connect the antenna to this connector.

❿ TUNER CONTROL SOCKET [TUNE]
Connect to the control cable of the supplied AT-141 HF AUTOMATIC ANTENNA TUNER. A female connector kit is supplied to connect the AT-141.

⓫ POWER SWITCH [DC ISOLATE]
Turns the transceiver's main power ON or OFF. When the main power is ON, the power key's backlight is dimly lit.

⓬ DC POWER TERMINALS
Connect to a 24 V DC power source through the supplied DC power cables. The red terminal is positive (+) and the black terminal is negative (–).

■ Remote Controller front panel

SPEAKER   FUNCTION DISPLAY (p. 6)

MIC CONNECTOR   SOFTWARE KEYS (p. 4)
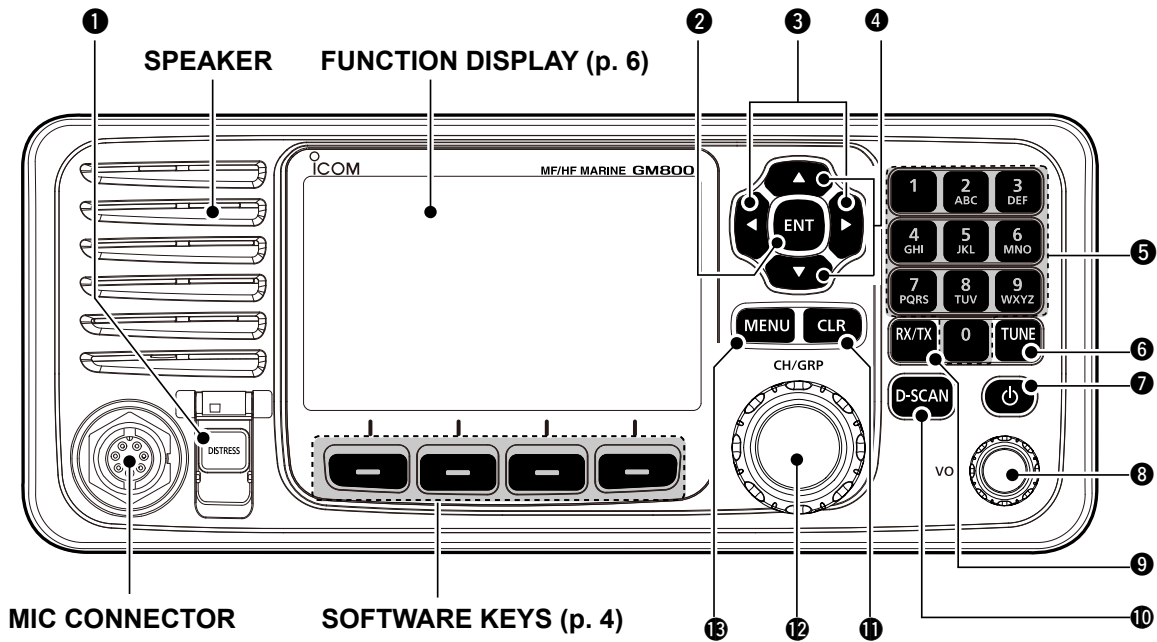
❶ DISTRESS KEY [DISTRESS]
Hold down for 3 seconds to transmit a Distress call. (p. 30)

❷ ENTER KEY [ENT]
Push to set the entered data, selected item, and so on.

❸ LEFT AND RIGHT KEYS [◀]/[▶]
● Push to scroll the Software Key functions. (p. 4)
● In the Character or Number Entry mode, push to select a character or number in the table.

❹ UP AND DOWN KEYS [▲]/[▼]
Push to select an operating channel, menu items, menu settings, and so on.

❺ KEYPAD
Push to enter numbers, letters or symbols.

❻ TUNE KEY [TUNE]
● Push to turn ON the Automatic Antenna Tuner function, or to go through (bypass) the tuning circuit. (p. 16)
● Hold down to start manual tuning.
  ⓘ After tuning is completed, "TUNE" is displayed.
  ⓘ When the tuner cannot tune the antenna, "THRU" is displayed.

❼ POWER KEY [⏻]
Hold down for 1 second to turn the transceiver ON or OFF.

❽ VOLUME DIAL [VOL]
● Rotate to adjust the speaker volume level.
● Push 1 ~ 5 times to display the setting screens.

Pushing once	The Volume Setting window is displayed.
Pushing twice	The NB Level Setting window is displayed.
Pushing 3 times	The S-SQL Level Setting window is displayed.
Pushing 4 times	The RF Gain Setting window is displayed.
Pushing 5 times	The Backlight Settings window is displayed.

❾ RX/TX KEY [RX/TX]
Push to set a temporary operating frequency. (p. 17)

❿ DSC SCAN KEY [D-SCAN]
Push to start a DSC scan. (p. 12)

⓫ CLEAR KEY [CLR]
Push to cancel the entered data, or to return to the previous screen.

⓬ CHANNEL/GROUP SELECTOR [CH/GRP]
● Push to select the Channel Select mode or the Group Select mode. (p. 11)
● Push to set the entered data, selected item, and so on.
● Rotate to select the operating channel, menu items, menu settings, and so on.

⓭ MENU KEY [MENU]
Push to enter or exit the Menu screen.

■ Handset

◇ About the Speaker Switch

When the switch is set to the "▽" position:
You can hear the receive audio from the remote controller's speaker.

When the switch is set to the "▽" position:
Mutes the remote controller speaker output.
• You can hear the receive audio from the handset.
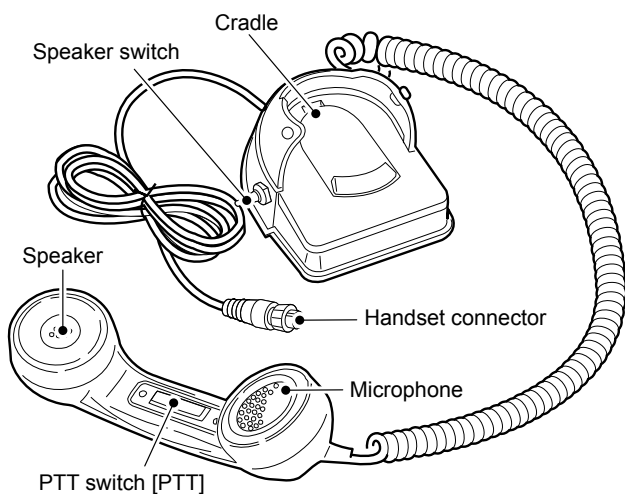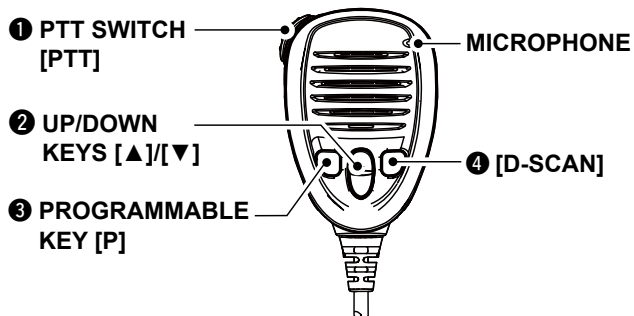
Put the handset into the cradle to output the hear audio from the remote controller's speaker.

Cradle
Speaker switch
Speaker
Handset connector
Microphone
PTT switch [PTT]

■ Optional HM-214H

❶ PTT SWITCH [PTT]
❷ UP/DOWN KEYS [▲]/[▼]
❸ PROGRAMMABLE KEY [P]
❹ [D-SCAN]
MICROPHONE

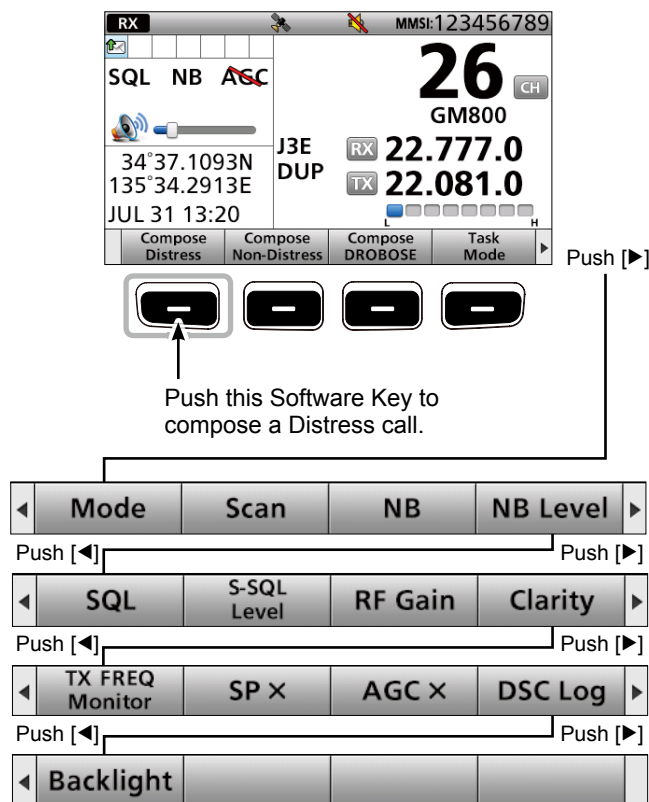❶ **PTT SWITCH**
Hold down to transmit, release to receive.

❷ **UP/DOWN KEYS [▲]/[▼]**
Push to select an operating channel or group.

❸ **PROGRAMMABLE KEY [P]**
Push to activate the preset Software Key function. Ask your dealer for details.
You can reassign some Software Key functions to the key. (p. 20)

❹ **DSC SCAN KEY [D-SCAN]**
Push to start the DSC scan. (p. 12)

■ Software Key function

The transceiver has Software Keys for various functions. The key's function is displayed above them, as shown below.

◇ Selecting the Software Key function

When "◄" or "►" is displayed beside the key icon, pushing [◄] or [►] scrolls the Software Key functions. When you push [◄] or [►] once, 4 functions scroll together.

Push this Software Key to compose a Distress call.

Mode	Scan	NB	NB Level
SQL	S-SQL Level	RF Gain	Clarity
TX FREQ Monitor	SP ×	AGC ×	DSC Log
Backlight			

■ Software Key function

◇ Functions

You can use various Software Key functions that are assigned to the Software Keys, as described below.

Compose Distress

Push to compose a Distress call. (pp. 30 ~ 42)

Compose Non-Distress

Push to compose DSC calls other than Distress calls. (pp. 43 ~ 56)

Compose DROBOSE

Push to compose a Distress Relay On Behalf Of Someone Else (DROBOSE) call. (p. 37)

Task Mode

When the transceiver has any DSC tasks, push to enter the DSC Task mode. (p. 29)

Mode

Push to select the J3E, H3E, LSB, J2B, F1B, or A1A operating mode.

Scan

Push to start or stop a scan. (p. 14)

NB

Push to turn the Noise Blanker (NB) function ON or OFF. (p. 15)

NB Level

Push to adjust the NB level. (p. 15)

SQL

Push to turn the Squelch function ON or OFF. (p. 15)

S-SQL Level

Push to adjust the S-meter Squelch (S-SQL) level. (p. 15)

RF Gain

Push to adjust the Radio Frequency (RF) gain level. (p. 16)

Clarity

Push to turn the Clarity Control function ON or OFF. (p. 16)

TX Freq Monitor

Push to check and monitor the transmit frequency. (p. 15)

SP ×

Push to turn the speaker output ON or OFF.

AGC ×

Push to turn the Automatic Gain Control (AGC) function ON or OFF. (p. 16)

DSC Log

Push to check the received DSC calls. (p. 69)
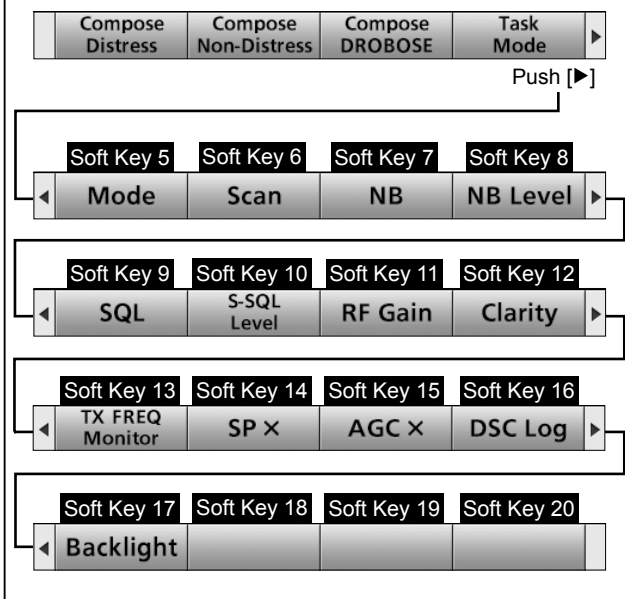
Backlight

Push to change the brightness of the backlight. (p. 13)

TIP: You can reassign the functions' place to meet your needs. (Soft Key 5 ~ Soft Key 20). For details about how to assign them, see page 20.
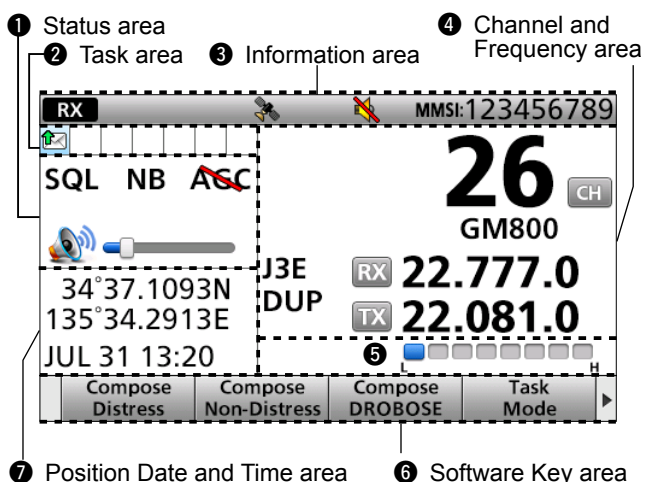

ⓘ**Information**
The first set of Software Key functions ([Compose Distress], [Compose Non-Distress], [Compose DROBOSE], and [Task Mode]) are fixed and cannot be reassigned.

Push [▶] to select the second set (Soft Key 5 ~ Soft Key 8), the third set (Soft Key 9 ~ Soft Key 12), the forth set (Soft Key 13 ~ Soft Key 16), and the fifth set (Soft Key 17 ~ Soft Key 20) of Software Key functions.

| Compose Distress | Compose Non-Distress | Compose DROBOSE | Task Mode | ▶ |

Push [▶]

| Soft Key 5 | Soft Key 6 | Soft Key 7 | Soft Key 8 |
| Mode | Scan | NB | NB Level |

| Soft Key 9 | Soft Key 10 | Soft Key 11 | Soft Key 12 |
| SQL | S-SQL Level | RF Gain | Clarity |

| Soft Key 13 | Soft Key 14 | Soft Key 15 | Soft Key 16 |
| TX FREQ Monitor | SP × | AGC × | DSC Log |

| Soft Key 17 | Soft Key 18 | Soft Key 19 | Soft Key 20 |
| Backlight | | | |

■ Function display (Main screen)

❶ Status area
❷ Task area ❸ Information area
❹ Channel and Frequency area

❼ Position Date and Time area ❻ Software Key area

Display area	Description
❶ **Status area**	Displays the current status.
❷ **Task area**	Displays up to 7 task icons.
❸ **Information area**	Displays various icons and the MMSI code.
❹ **Channel and Frequency area**	Displays the selected operating channel information.
❺ **S/RF Meter**	• Displays the relative signal strength of the receive signal. • Displays the output power level of the transmit signal.
❻ **Software Key area**	Displays the key function for each Software Key.
❼ **Position Date and Time area**	Displays the current position, date and time.

◇ Status area

Indication	Description
Scan	Displayed during a scan.
NB	Displayed when the Noise Blanker function is ON.
SQL	Displayed when the Squelch function is ON.
AGC	Displayed when the AGC function is OFF.

◇ Information area

The 9 digit MMSI (Maritime Mobile Service Identity: DSC self ID) code and the following indications are displayed in the Information area.

Indication	Description
RX	Displayed when receiving a signal or when the squelch is open.
TX	Displayed while transmitting.
(satellite icon)	Displayed when the GPS receiver is activated and valid position data is received. Blinks while invalid position data is being received.
✉	Blinks when there is an unread DSC message.
(speaker off icon)	Displayed when the internal speaker is OFF.

◇ Channel and Frequency area

Indication	Description
CH	Displayed when the Channel Select mode is selected.
GRP	Displayed when the Group Select mode is selected.
CLARITY + 20	Displayed when the Clarity function is ON. The number displays the added or subtracted frequency.
SIMP	Displayed when a Simplex channel is selected.
DUP	Displayed when a Duplex channel is selected.
J3E/H3E/ LSB/J2B/ F1B/A1A	Displays the selected operating mode.

◇ Task area

Up to 7 task icons are displayed in the Task area when the transceiver has a task.

Indication	Description
RT	Displayed while in the Radio Telephone (RT) mode. • "RT" is displayed when the RT mode task is activated. • Disappears if no operation occurs during the preset period of time.
(down envelope icon)	Displayed after receiving a DSC call. • "↓✉" is displayed when the RX call task is activated.
(up envelope icon)	Displayed after making a DSC call. • "↑✉" is displayed when the TX call task is activated.

■ Function display (Main screen)

◇ Position Date and Time area

POSITION AREA

The current position is displayed when valid GPS data is received, or when you manually enter your position.

Indication	Description
NO POSITION	Displayed when a GPS receiver is not connected and the position has not been manually entered.
??	Blinks every 2 seconds instead of the position when the GPS position data is invalid. • The last position is held for only 23.5 hours. After that, "NO POSITION" will be displayed.
	Blinks every 2 seconds instead of the position after 4 hours have passed since you manually entered the position. • The manually entered position is held for only 23.5 hours. After that, "NO POSITION" will be displayed.

DATE AND TIME AREA

• The current time is displayed when valid GPS data is received, or manually enter the time.
• The date information is displayed when the RMC GPS sentence formats are included in the GPS signal.

| Indication	Description
NO TIME	Displayed when a GPS receiver is not connected and the time has not been manually entered.
Local	Displayed when the offset time is set.
Manual	Displayed when the time is manually entered.
UTC	Displayed when the GGA, GLL or GNS GPS sentence formats are included in the GPS signal.
??	Blinks every 2 seconds instead of the time when the GPS current time is invalid. • After 23.5 hours has passed, "NO TIME" will be displayed.
	Blinks every 2 seconds instead of the time after 4 hours have passed since you manually entered the time. • The manually entered time is held for only 23.5 hours. After that, "NO TIME" will be displayed.

■ Entering the MMSI code

First, you must enter your 9 digit MMSI (Maritime Mobile Service Identity: DSC self ID) code at power ON.

You can perform this initial code entry ONLY ONCE. After entry, only your dealer or distributor can change it. If you have already entered your MMSI code, these procedures are not necessary.
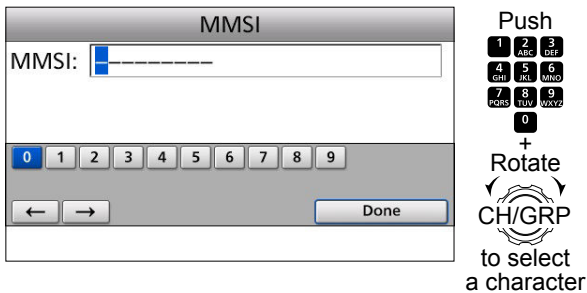
Example: Entering the MMSI code (123456789).
1. Hold down [⏻] for 1 second to turn ON the transceiver.
   • Three short beeps sound.
   • "Push [ENT] to Register Your MMSI" is displayed.

2. Push [ENT].

   Push **ENT** to Register
   Your MMSI
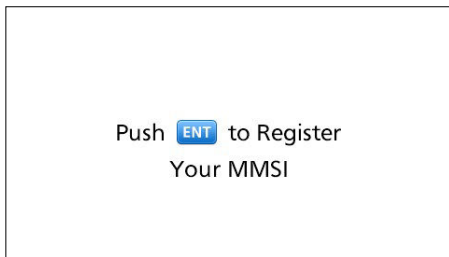
   NOTE: Push [CLR] to cancel the entry. In that case, the transceiver displays "Push [ENT] to Register Your MMSI" again.

3. Enter your 9 digit MMSI code.

   MMSI
   MMSI: ▌————————
   0 1 2 3 4 5 6 7 8 9
   ← →   Done

   Push [keypad]
   +
   Rotate CH/GRP to select a character

4. After entering the 9th digit, push [ENT].

   MMSI
   MMSI: 12345678**9**
   0 1 2 3 4 5 6 7 8 9
   ← →   Done
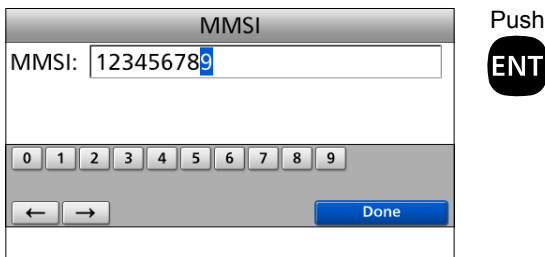
   Push **ENT**

   • The MMSI CONFIRMATION screen is displayed.

5. Reenter your MMSI code to confirm.

   MMSI CONFIRMATION
   MMSI: ▌————————
   0 1 2 3 4 5 6 7 8 9
   ← →   Done

   Push [keypad]
   +
   Rotate CH/GRP to select a character

6. After entering the 9th digit, push [ENT].

   MMSI CONFIRMATION
   MMSI: 12345678**9**
   0 1 2 3 4 5 6 7 8 9
   ← →   Done
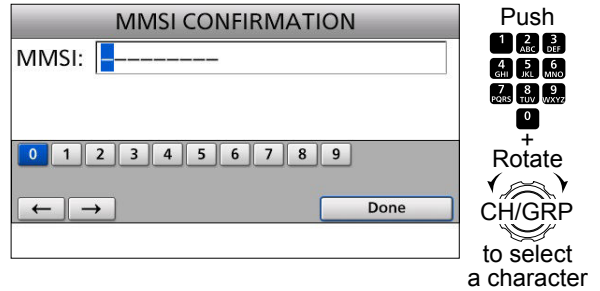
   Push **ENT**
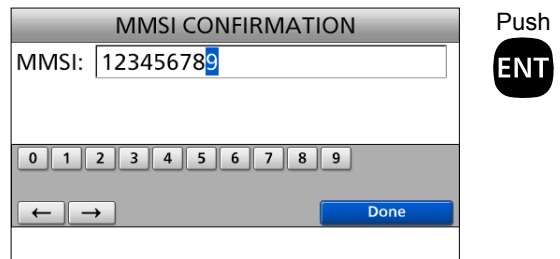
   • The MMSI code is registered.

   NOTE:
   When you successfully enter your MMSI code, the following screen is displayed.

   123456789

   MMSI Successfully
   Registered

   After that, the Main screen is displayed.
   The registered MMSI code is displayed at the top of the screen.

ⓘ**Information**

Rotate CH/GRP :   Rotate [CH/GRP] to select.

Push **ENT** :   Push [ENT] to enter or set.

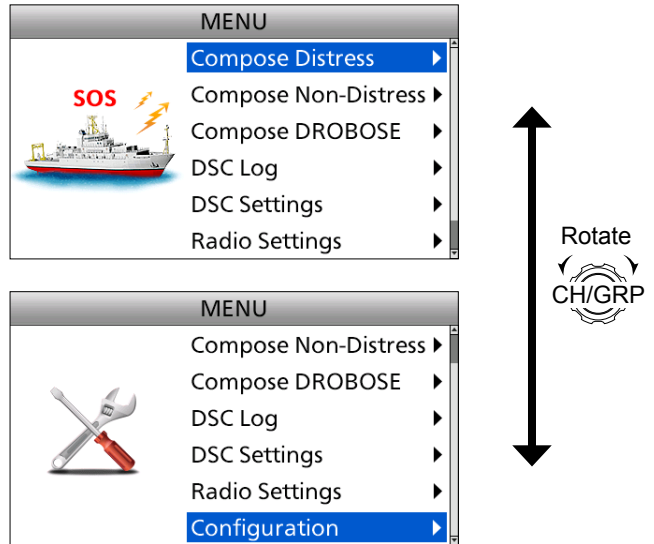Push [keypad] :   Push the keypad keys to enter a digit or text.

MENU SCREEN

You can use the Menu screen to set infrequently changed values or function settings.

■ Menu Construction

The Menu screen is constructed in a tree structure. You can go to the next tree level by pushing [ENT], or go back a level by pushing [CLR]. See the next page for details.

To select an item, rotate [CH/GRP].

MENU
- Compose Distress ▶
- Compose Non-Distress ▶
- Compose DROBOSE ▶
- DSC Log ▶
- DSC Settings ▶
- Radio Settings ▶

MENU
- Compose Non-Distress ▶
- Compose DROBOSE ▶
- DSC Log ▶
- DSC Settings ▶
- Radio Settings ▶
- Configuration ▶

Rotate
CH/GRP

Compose Distress
Nature of Distress
Position
• Latitude
• Longitude
• UTC
Mode
Attempt

Compose Non-Distress
Message Type
Address*1
Area*1
• Latitude*1
• Longitude*1
• Radius*1
• Behind You*1
• To Your Right*1
Category
Call Frequency
• RX Frequency
• TX Frequency
Mode*1
Comm Frequency*1
• RX Frequency*1
• TX Frequency*1

Compose DROBOSE
Message Type
Address
Area*1
• Latitude*1
• Longitude*1
• Radius*1
• Behind You*1
• To Your Right*1
Distress ID
Nature of Distress
Position
• Latitude
• Longitude
• UTC
Call Frequency
• RX Frequency
• TX Frequency
Mode
Comm Frequency
• RX Frequency
• TX Frequency

DSC Log
Received Call Log
• Distress
• Others
Transmitted Call Log

DSC Settings
Position Input*2
Individual ID
Group ID
DSC Frequency
Individual ACK
Position ACK
Polling ACK
Test ACK
Medical Transports
Ships and Aircraft
Distress Scanning Receiver
10 Second Delay
Alarm Status
• Safety
• Routine
• Warning
• Self-Terminate
• Discrete
Auto Print
DSC Loop Test

Radio Settings
User CHAN
ITU Simplex CHAN
Max User CHAN
Auto Tune
Scan
Voice SQL

Configuration
Key Beep
NMEA Data Output
• DSC Data Output
Assignment
UTC Offset
Inactivity Timer
• Not DSC Related
• DSC Related
• RT Related-J3E/ H3E/LSB/J2B/F1B/ A1A
• Distress Related
MIC Key
Software Version

*1 These items may not be displayed, depending on the "Message Type" option.
*2 This item is not displayed when valid GPS data is received.
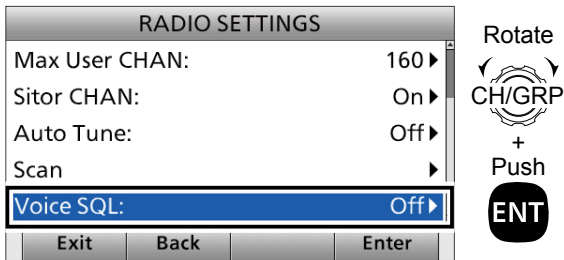
■ Selecting the item

Follow the procedures described below to select a Menu item.

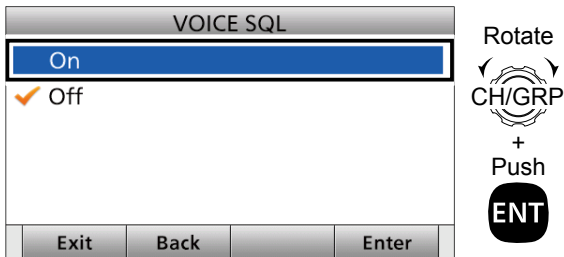Example: Turning ON the Voice Squelch function.

1. Push [MENU].
2. Select "Radio Settings."
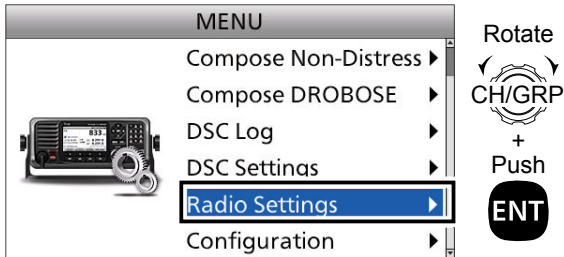
3. Select "Voice SQL."

4. Select "On."

• Returns to the "RADIO SETTINGS" screen.
5. Push [MENU] to return to the Main screen.

ⓘ**Information**

You can use the following key functions in the MENU screen.

FUNCTION	ACTION
Select	Rotate [CH/GRP], or Push [▲] or [▼]
Enter	Push [ENT], Push [CH/GRP], or Push [Enter] ▬
Go to the next tree level	Push [ENT] or Push [▶]
Go back to the previous tree level	Push [CLR], Push [◀], or Push [Back] ▬
Cancel	Push [CLR]
Exit	Push [Exit] ▬

Rotate : Rotate [CH/GRP] to select.

Push 〔ENT〕 :   Push [ENT] to enter or set.

Push :   Push the keypad keys to enter a digit or text.

5 BASIC OPERATION

■ Selecting a Channel or Group

◇ Using the channel and group selector

1. Push [CH/GRP] to toggle the Channel Select mode or the Group Select mode.
   • " CH " or " GRP " is displayed.

2. Rotate [CH/GRP] to select a channel or group.
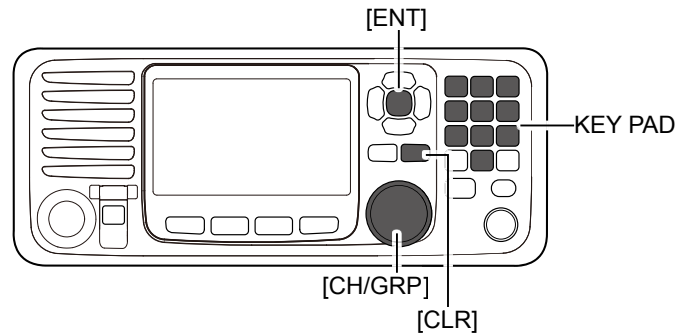
Example
When selecting the Group Select mode, the User channels change in 20 channel steps.

NOTE: See the Channel and Channel Group list below.

[ENT]

KEY PAD

[CH/GRP]

[CLR]

• **Channel Select mode**

MMSI:123456789
26 CH
GM800
RX **22.777.0**
TX **22.081.0**
L   H
Compose   Task
DROBOSE   Mode

• **Group Select mode**
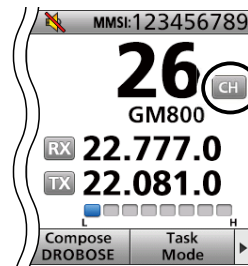
MMSI:123456789
26 GRP
GM800
RX **22.777.0**
TX **22.081.0**
L   H
Compose   Task
DROBOSE   Mode
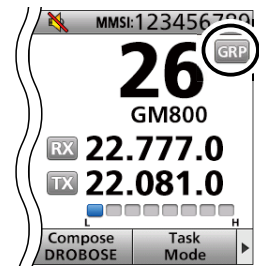
◇ Using the keypad

• **When selecting a User channel**

1. Push the keypad keys to enter the channel number.
2. Push [ENT] to set.

Example
• Selecting CH 41:   [4 GHI] → [1] → [ENT]
• Selecting CH 128: [1] → [2 ABC] → [8 TUV] → [ENT]

• **When selecting an ITU duplex channel**

1. Push the keypad keys to enter the channel number.
2. Push [ENT] to set.

Example
• Selecting CH 401:   [4 GHI] → [0] →[1]→ [ENT]
• Selecting CH 2505: [2 ABC] → [5 JKL] →[0] →
                          [5 JKL] → [ENT]

NOTE:
• See the Channel and Channel Group list below.
• Pushing [CLR] clears the entered digits and return to the previous channel.

• **When selecting an ITU simplex channel**

1. Push the keypad keys to select a frequency band.
2. Push the left most Software Key to enter "– " (dash).

RX   MMSI:123456789
SQL   NB   ACC   **4**
                    J3E   RX **22.777.0**
 34°37.10°°N
135°34.29   Selected frequency band is
JUL 31 13:   briefly displayed.
    4–
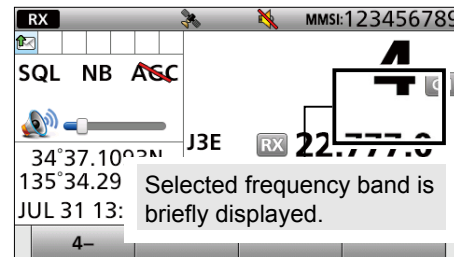
3. Push the keypad keys to enter the channel number.   Push
4. Push [ENT] to set.

Example
• Selecting CH 4-1:   [4 GHI] → ▬ →[1]→ [ENT]
• Selecting CH 25-2: [2 ABC] → [5 JKL] → ▬ →
                          [2 ABC] → [ENT]

• **Channel and Channel Group list**

Channel No.	Description	Channel No.	Description	Channel No.	Description
1 ~ 160	User CH*	1201 ~ 1241	12 MHz ITU duplex CH	22-1 ~ 22-9	22 MHz ITU simplex CH
401 ~ 429	4 MHz ITU duplex CH	12-1 ~ 12-9	12 MHz ITU simplex CH	2501 ~ 2510	25 MHz ITU duplex CH
4-1 ~ 4-9	4 MHz ITU simplex CH	1601 ~ 1656	16 MHz ITU duplex CH	25-1 ~ 25-9	25 MHz ITU simplex CH
601 ~ 608	6 MHz ITU duplex CH	16-1 ~ 16-9	16 MHz ITU simplex CH	C1-1 ~ C1-21	C1 channels
6-1 ~ 6-9	6 MHz ITU simplex CH	1801 ~ 1815	18 MHz ITU duplex CH	C2-1 ~ C2-31	C2 channels
801 ~ 837	8 MHz ITU duplex CH	18-1 ~ 18-9	18 MHz ITU simplex CH		
8-1 ~ 8-9	8 MHz ITU simplex CH	2201 ~ 2253	22 MHz ITU duplex CH		

* [GRP] changes in 20 channel steps.

■ Receiving and transmitting

◇ Receiving

1. Select a channel by rotating [CH/GRP], or pushing the keypad keys. (p. 11)
2. When receiving a call, rotate [VOL] to adjust the audio output level.

TIP:
When a call is received:
• The RX icon is displayed.
• You can hear receive audio from the speaker.
• The S-meter displays the received signal strength.

Software Keys   [CH/GRP] [VOL]
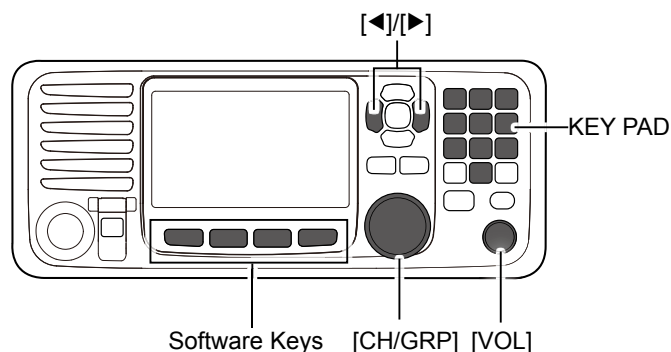
◇ Transmitting

1. Select a channel by rotating [CH/GRP] or pushing the keypad keys. (p. 11)
2. Push [◄] or [►] to display "TX FREQ Monitor" in the Software Key area.
3. Hold down [TX FREQ Monitor] ▭ to temporarily monitor the transmit frequency of the selected channel.
   • The transmit frequency is displayed and TX blinks.

   NOTE: If the channel is busy, wait until it becomes clear, or change to another channel.

4. Hold down [PTT] on the handset to transmit.
   • TX is displayed.

   NOTE: If "SWR" is displayed during the transmission, check your antenna system.

5. Speak into the microphone at your normal voice level.
6. Release [PTT] to receive.
   • RX is displayed.

NOTE: For the Time-out Timer (TOT) function
The TOT function inhibits continuous transmission beyond a preset time period after the transmission starts. 10 seconds before transmission is cut off, a beep sounds to indicate the transmission will be cut off. Release [PTT] once to end your transmission and reset the timer. You cannot transmit for 10 seconds after it is cut off.

IMPORTANT: To maximize the readability of your transmitted signal, pause for a second after pushing [PTT], and then hold the handset 5 to 10 cm from your mouth and speak at your normal voice level.

■ DSC scan

To receive a DSC call, such as an Individual call or a Group call, push [D-SCAN] to enter the DSC watch mode.

DSC watch mode

[D-SCAN]
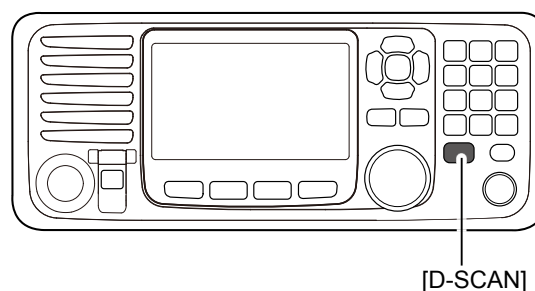
NOTE: The following frequencies are always automatically monitored with this transceiver.

2187.5, 4207.5, 6312.0, 8414.5, 12577.0, and 16804.5 kHz

OTHER FUNCTIONS AND OPERATIONS

■ Backlight function

The function display and keys can be backlit for better visibility under low light conditions.
You can set the Backlight mode to Day mode or Night mode. The Day mode is for the daytime operation, and the screen items are in color. The Night mode is for the nighttime operation, and the screen items are in black and red.

1. Push [◄] or [►] until "Backlight" is displayed in the Software Key area.

2. Push [Backlight] ⬛ to open the Backlight setting window.
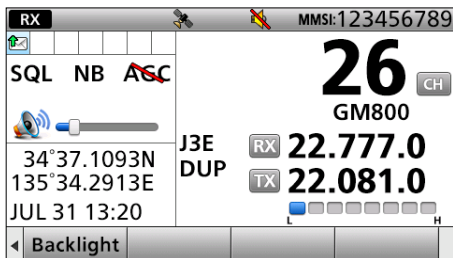
⬛ Push

3. Push [▲] or [▼] to select "Day Mode" or "Night Mode."
   Ⓛ In the Backlight Setting window, if you push no key for about 5 seconds, the transceiver automatically returns to the Main screen.

Day mode

Night mode
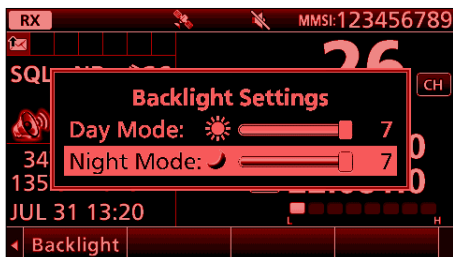
4. Rotate [CH/ENT] to adjust the backlight level, then push [ENT].

Rotate
CH/GRP
+
Push
ENT

Ⓛ The backlight level is adjustable in 7 levels and "OFF." "OFF" is selectable only in the Day mode.

ⓘInformation

Rotate ⟨CH/GRP⟩ : Rotate [CH/GRP] to select.

Push ENT :   Push [ENT] to enter or set.

Push [keypad] :   Push the keypad keys to enter digits or text.

■ Scan

The transceiver has automatic channel or frequency scan capabilities (Scan function). There are 3 types of scan functions.

• Channel scan
• Channel Resume scan
• Programmed scan

Select a scan type in the Menu screen.
See page 76 for details.

◇ Channel scan and Channel Resume scan

Channel scan and Channel Resume scan channels within a 20 channel range, such as Ch 1 to Ch 20, Ch 141 to Ch 160, and so on, in user channels, or all channels in the group of ITU channels.
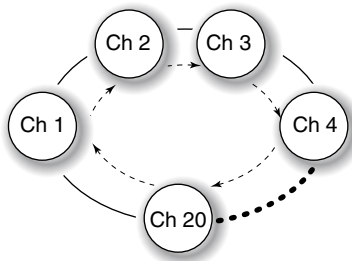
Channel scan:
The scan does not pause, even if a signal is received.

Channel Resume scan:
The scan pauses for 10 seconds, then resumes, or resumes after 2 seconds from when the signal disappears.

1. Rotate [GRP/CH] to select a channel group. (p. 11)
2. Push [◀] or [▶] until "Scan" is displayed in the Software Key area.
3. Push [Scan] to start a scan.
4. Push [Scan] again to stop the scan.

◇ Programmed scan

The Programmed scan scans frequencies in the frequency range between user channels.
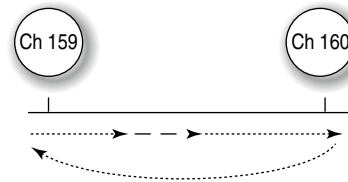
Example:
Scans the frequencies between channels 159 and 160.
Scans quickly when the squelch is closed.
Scans slowly when the squelch is open.

1. Push [◀] or [▶] until "SQL" is displayed in the Software Key area.
2. Push [SQL] to turn OFF the squelch function.
3. Push [◀] or [▶] until "Scan" is displayed in the Software Key area.
4. Push [Scan] to start a scan.
5. Push [Scan] again to stop the scan.

6

■ Other functions

◇ Transmit Frequency Monitor function

When selecting a duplex channel, the transmit frequency differs from the receive frequency.
To prevent from interference to other stations, the transmit frequency should be monitored before you transmit.

1. Push [◀] or [▶] until "TX FREQ Monitor" is displayed in the Software Key area.
2. Hold down [TX FREQ Monitor] ▬ to monitor the transmit frequency.
   ① " TX " blinks and the transmit frequency is displayed.

◇ Squelch function

The Squelch function mutes unwanted signals such as noise or unmodulated beat signals. This function enables quiet standby.
However, when you need to receive weak signals, adjust the Squelch level, or turn OFF the function.

1. Push [◀] or [▶] until "SQL" is displayed in the Software Key area.
2. Push [SQL] ▬ to turn the function ON or OFF.
   ① When the function is ON, **SQL** is displayed.

◇ S-meter squelch level

When the Squelch function is ON, only signals stronger than this set level are received.
Set to between 1 (open) and 100 (tight).

1. Push [◀] or [▶] until "S-SQL Level" is displayed in the Software Key area.
2. Push [S-SQL Level] ▬
   • The S-SQL level setting window is displayed.
3. Rotate [CH/GRP] to adjust the S-meter squelch level.

◇ Noise Blanker function

The Noise Blanker function reduces pulse-type noises that come from engine ignitions.
However, when the received strong signals are distorted, adjust the Noise blanker level or turn OFF the function.

1. Push [◀] or [▶] until "NB" is displayed in the Software Key area.
2. Push [NB] ▬ to turn the function ON or OFF.
   ① When the function is ON, "NB" is displayed.

◇ Noise blanker level

When the Noise Blanker function is ON, adjust the Noise blanker level to reduce various pulse-type noises.
Set to between 1 and 10.

1. Push [◀] or [▶] until "NB Level" is displayed in the Software Key area.
2. Push [NB Level] ▬.
   • The NB level setting window is displayed.
3. Rotate [CH/GRP] to adjust the Noise Blanker level.

◇ Automatic Gain Control OFF

The Automatic Gain Control (AGC) function prevents distortion from strong signals and maintains a constant output level.
To receive weak signals, turn OFF the Automatic Gain Control function.

1. Push [◄] or [►] until "AGC ×" is displayed in the Software Key area.
2. Push [AGC ×] ▬ to turn OFF the function.
   ⓘ When the function is OFF, "AGC ×" is displayed.

◇ RF gain level

To receive weak signals, you can set the minimum RF (Radio Frequency) gain level needed.
Set to between 0 and 9.

1. Push [◄] or [►] until "RF Gain" is displayed in the Software Key area.
2. Push [RF Gain] ▬
   • The RF gain level setting window is displayed.
3. Rotate [CH/GRP] to adjust the RF gain level.

◇ Clarity Control function

With the Clarity Control function, you can slightly shift the receive frequency without changing the operating frequency to finely tune. When the Clarity Control function is ON, adjust the clarity control level.

1. Push [◄] or [►] until "Clarity" is displayed in the Software Key area.
2. Push [Clarity] ▬ to turn the function ON or OFF.
   ⓘ When the function is ON, " CLARITY +20 " is displayed.
3. Rotate [CH/GRP] to adjust the clarity control.

◇ Automatic Antenna Tuner function

When using the AT-141 with the GM800, you can use the Tuner Through function.

● Push to turn ON the Automatic Antenna Tuner function, or to bypass the tuning circuit.

● Hold down to start manual tuning.
ⓘ After tuning is completed, "TUNE" is displayed.
ⓘ When the tuner cannot tune the antenna, "THRU" is displayed.

6

■ Setting a temporary operating frequency

You can temporarily change the operating frequency of the selected channel. The frequency returns to the preset value after you select another channel, or turn OFF the transceiver.

1. Select a channel that is programmed near the frequency you want to receive.
2. Push [RX/TX] to select the RX mode.
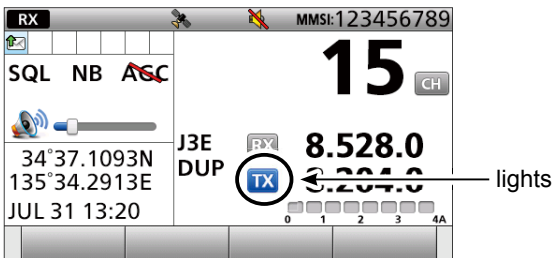   • The RX icon lights blue.
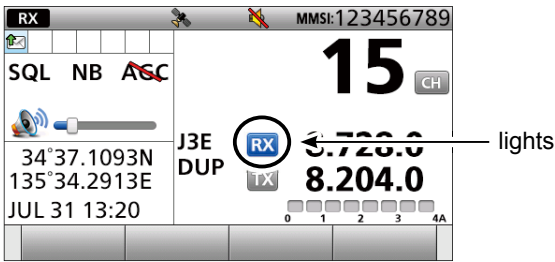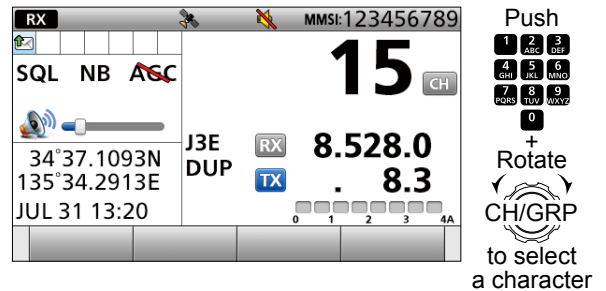

lights

3. Enter an RX frequency, then push [ENT].

Push

Rotate
CH/GRP
to select
a character
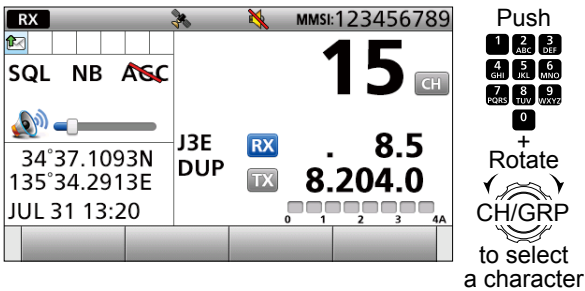
NOTE: Quickly enter a temporary operating RX frequency and push [ENT]. Otherwise, it automatically returns to the preset value soon.

4. Push [RX/TX] to select the TX mode.
   • The TX icon lights blue.

lights

5. Enter a TX frequency, then push [ENT].

Push

Rotate
CH/GRP
to select
a character

NOTE: Quickly enter a temporary operating TX frequency and push [ENT]. Otherwise, it automatically returns to the preset value soon.

NOTE:
• If you enter a frequency that is out of the frequency range, an error beep sounds and it automatically returns to the preset value.
• **BE SURE** to push [ENT] after entering a frequency. Otherwise, it automatically returns to the preset value after 2 seconds.

■ Setting a User channel or an ITU Simplex channel

Your dealer has already preset User channels and ITU Simplex channels.
Follow the instructions as described below, only when you need to edit the channels.

You can edit the following information of a User channel or an ITU Simplex channel.
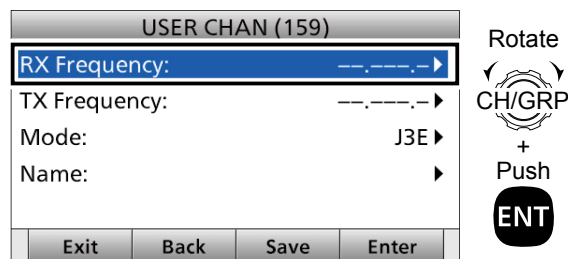
• Operating frequency
• Operating mode
• Channel name

NOTE:
• If you edit the preset channels, you may not be able to communicate with other ships.
• The following instructions are for a User channel Editing. However, you can set an ITU Simplex channel name in the same way.

1. Entering the Channel Edit screen

1. Push [MENU].
2. Select "Radio Settings."

MENU	
Compose Non-Distress	▶
Compose DROBOSE	▶
DSC Log	▶
DSC Settings	▶
Radio Settings	▶
Configuration	▶

Rotate

CH/GRP
+
Push

ENT
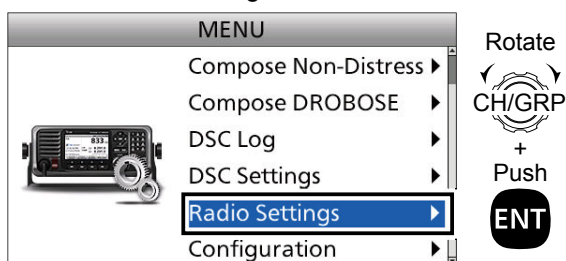
3. Select "User CHAN" or "ITU Simplex CHAN." (Example: User CHAN)"

RADIO SETTINGS	
User CHAN	▶
ITU Simplex CHAN	▶
Max User CHAN:	160 ▶
Sitor CHAN:	Off ▶
Auto Tune:	Off ▶
Exit	Back		Enter

Rotate

CH/GRP
+
Push

ENT
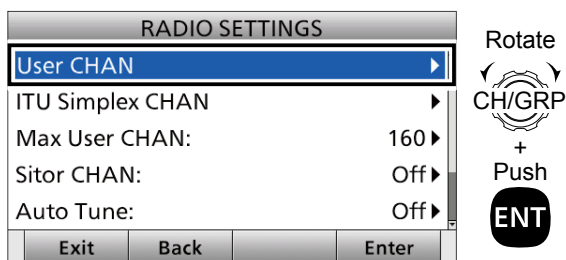
4. Select a channel you want to edit and push [Edit] ▭. (Example: CH 159)

USER CHAN	
156	RX: 2.535.0 / TX: 2.535.0
157	RX: 2.638.0 / TX: 2.638.0
158	RX: 2.738.0 / TX: 2.738.0
159	RX:––.–––.– / TX:––.–––.–
160	RX:––.–––.– / TX:––.–––.–
	Edit	Delete	

Rotate

CH/GRP

▭ Push

2. Setting an RX and TX operating frequencies

NOTE: The RX and TX operating frequency are the same when you select an ITU Simplex channel.

5. Select "RX frequency."

USER CHAN (159)	
RX Frequency:	––.–––.– ▶
TX Frequency:	––.–––.– ▶
Mode:	J3E ▶
Name:	▶
Exit	Back	Save	Enter

Rotate

CH/GRP
+
Push

ENT

6. Enter an RX frequency.
After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].
(Example: 4.390.0)
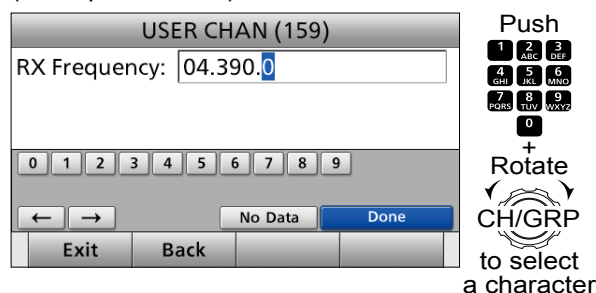
USER CHAN (159)	
RX Frequency:	04.390.0
0 1 2 3 4 5 6 7 8 9	
← →	No Data	Done
Exit	Back	

Push

+
Rotate

CH/GRP
to select
a character

7. Select "TX frequency."

USER CHAN (159)	
RX Frequency:	4.390.0 ▶
TX Frequency:	––.–––.– ▶
Mode:	J3E ▶
Name:	▶
Exit	Back	Save	Enter

Rotate

CH/GRP
+
Push

ENT

6
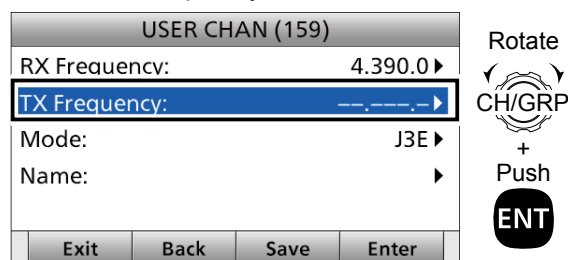
■ Setting a User channel or an ITU Simplex channel

2. Setting an RX and TX operating frequencies (continued)

8. Enter a TX frequency.
   After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT]. (Example: 4.098.0)
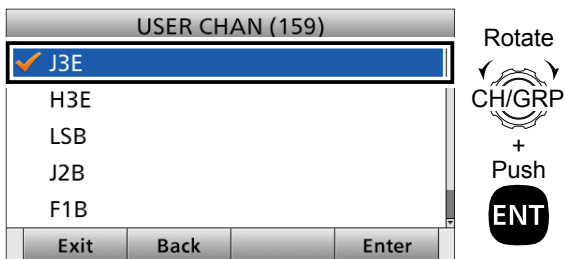
USER CHAN (159)
TX Frequency: 04.098.0

   0 1 2 3 4 5 6 7 8 9

   ← → No Data Done

   Exit Back

   Push
   1 2 3
   4 5 6
   7 8 9
   0
   +
   Rotate
   CH/GRP
   to select
   a character
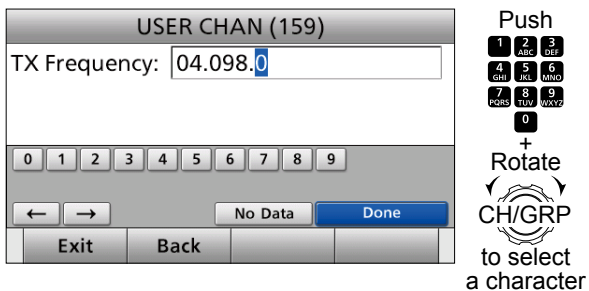
3. Setting an operating mode

9. Select "Mode."

USER CHAN (159)	
RX Frequency:	4.390.0 ►
TX Frequency:	4.098.0 ►
Mode:	J3E ►
Name:	►

   Exit Back Save Enter

   Rotate
   CH/GRP
   +
   Push
   ENT
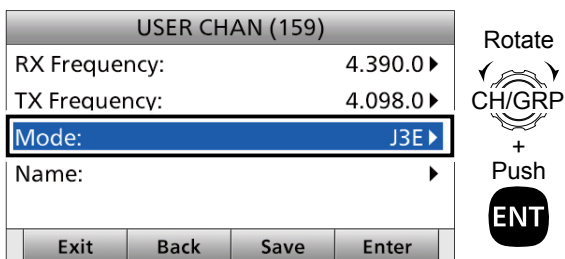
10. Select an operating mode. (Example: J3E)

USER CHAN (159)
✓ J3E
H3E
LSB
J2B
F1B

    Exit Back Enter

    Rotate
    CH/GRP
    +
    Push
    ENT

4. Setting a channel name

You can set a channel name of up to 10 characters for each User and ITU channel. This may be helpful to indicate the frequency's use, or a ship's name.

11. Select "Name."

USER CHAN (159)	
RX Frequency:	4.390.0 ►
TX Frequency:	4.098.0 ►
Mode:	J3E ►
Name:	►

    Exit Back Save Enter

    Rotate
    CH/GRP
    +
    Push
    ENT
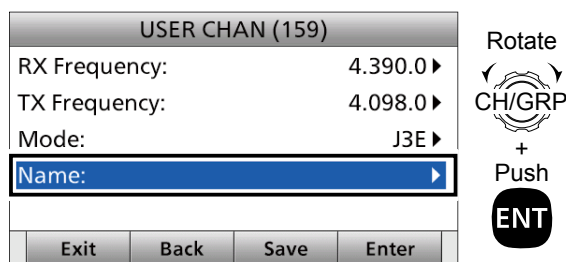
12. Enter a channel name.
    After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

USER CHAN (159)	9/10
NAME: CHANNEL Z	

    A B C D E F G H I J K L M
    N O P Q R S T U V W X Y Z
    0 1 2 3 4 5 6 7 8 9
    ← → Space Delete Done

    Exit Back !$?

    Push
    1 2 3
    4 5 6
    7 8 9
    0
    +
    Rotate
    CH/GRP
    to select
    a character

13. Push [Save].

USER CHAN (159)	
RX Frequency:	4.390.0 ►
TX Frequency:	4.098.0 ►
Mode:	J3E ►
Name:	CHANNEL Z ►

    Exit Back Save Enter
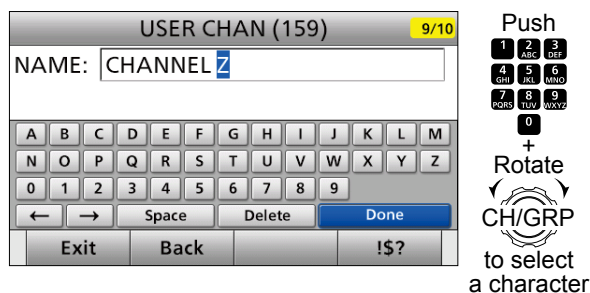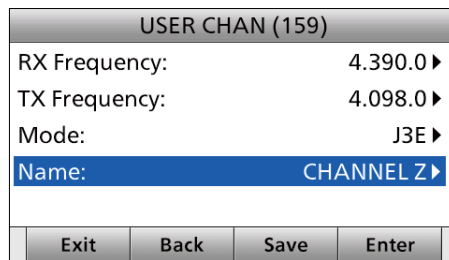
    Push

    • "Are you sure ?" is displayed.

14. Push [OK] to save the name.
15. Push [MENU] to return to the Main screen.

■ Assigning a function

You can assign some different Software Key functions to a key between Soft Key 5 and Soft Key 20. (p. 5)

You can also assign some Software Key functions to [VOL] on the controller and [P] on the optional HM-214H MICROPHONE.

◇ Assigning a Software Key function to a Software Key

Example: Assigning "NB" to "Soft Key 18."

1. Push [MENU].
2. Select "Configuration."

MENU	
	Compose Non-Distress ▶
	Compose DROBOSE ▶
	DSC Log ▶
	DSC Settings ▶
	Radio Settings ▶
	Configuration ▶

Rotate
CH/GRP
+
Push
ENT

3. Select "Assignment."

CONFIGURATION	
Key Beep:	On ▶
NMEA Data Output	▶
Assignment	▶
UTC Offset:	00:00 ▶
Inactivity Timer	▶
Exit	Back	Enter
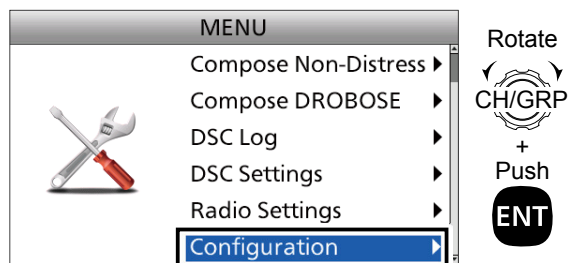
Rotate
CH/GRP
+
Push
ENT

4. Select "Key Assignment."

ASSIGNMENT	
Key Assignment	▶
Dial Assignment	▶
P Key Assignment:	NB ▶
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
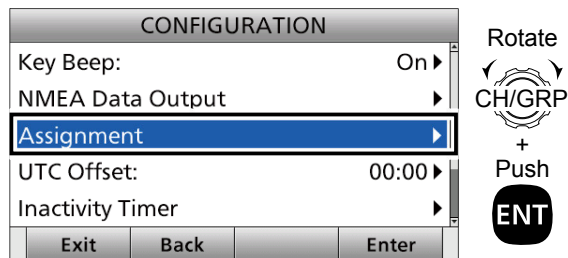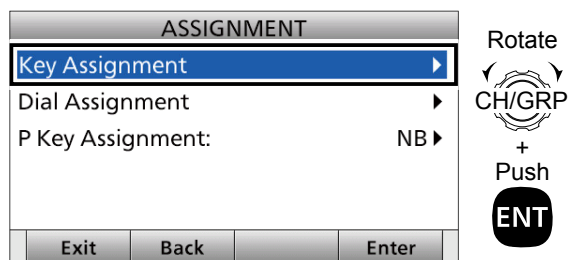
5. Select a place. (Example: Soft Key 18)

ASSIGNMENT	
Soft Key17:	Backlight ▶
Soft Key18:	Not Used ▶
Soft Key19:	Not Used ▶
Soft Key20:	Not Used ▶
Set Default	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

6. Select a Software Key function. (Example: NB)

ASSIGNMENT	
Mode	
Scan	
NB	
NB Level	
SQL	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
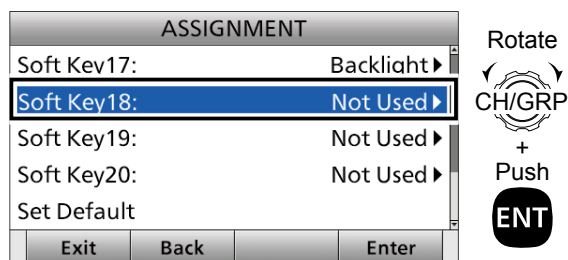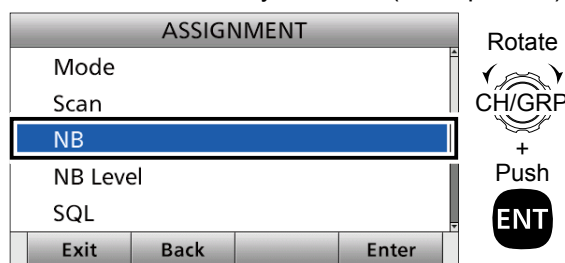
• "NB" is assigned to "Soft Key 18."

7. Push [Exit] ➖ to return to the Main screen.

ASSIGNMENT	
Soft Key17:	Backlight ▶
Soft Key18:	NB ▶
Soft Key19:	Not Used ▶
Soft Key20:	Not Used ▶
Set Default	
Exit	Back	Enter
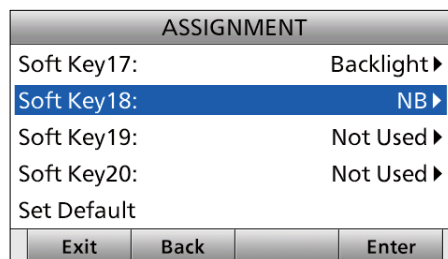
➖ Push

TIP: You can confirm "NB" is assigned to a Software Key after returning to the Main screen.

Push [◀] or [▶] to the Soft Key 18's place.
• "NB" is displayed in the Software Key area.

RX   MMSI:123456789
SQL   NB   AGC
15 CH
34°37.1093N   J3E   RX **8.728.0**
135°34.2913E   DUP   TX **8.204.0**
JUL 31 13:20   0 1 2 3 4A
◀ Backlight | NB

NB is assigned.
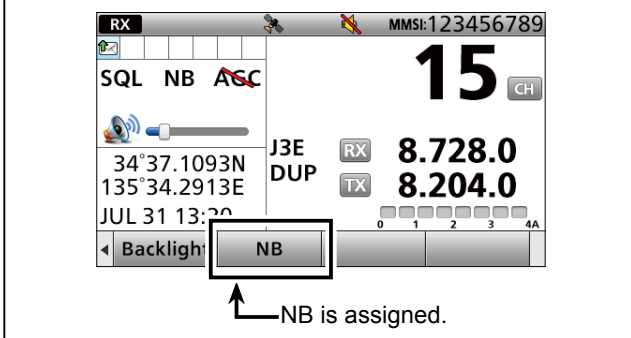
■ Assigning a function

◇ Assigning a Software Key function to [VOL]

Example: Assigning "Backlight" to "Push ×3."

1. Push [MENU].
2. Select "Configuration."

MENU	
Compose Non-Distress	▶
Compose DROBOSE	▶
DSC Log	▶
DSC Settings	▶
Radio Settings	▶
Configuration	▶

Rotate

CH/GRP

+

Push

ENT

3. Select "Assignment."

CONFIGURATION	
Key Beep:	On ▶
NMEA Data Output	▶
Assignment	▶
UTC Offset:	00:00 ▶
Inactivity Timer	▶
Exit	Back	Enter

Rotate

CH/GRP

+
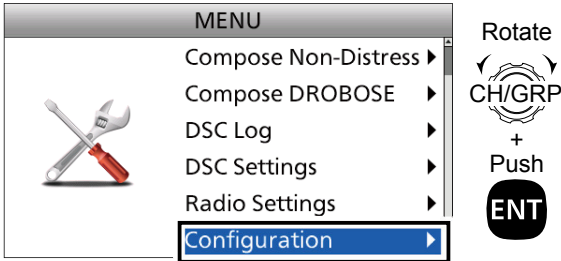
Push

ENT
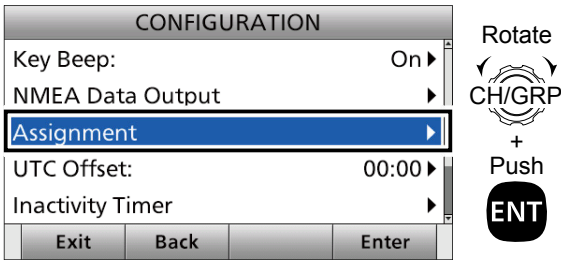
4. Select "Dial Assignment."

ASSIGNMENT	
Key Assignment	▶
Dial Assignment	▶
P Key Assignment:	NB ▶
Exit	Back	Enter

Rotate

CH/GRP

+

Push

ENT

5. Select a place. (Example: Push ×3)

ASSIGNMENT	
Push x1 ◉:	Volume ▶
Push x2 ◉:	NB Level ▶
Push x3 ◉:	S-SQL Level ▶
Push x4 ◉:	RF Gain ▶
Push x5 ◉:	Backlight ▶
Exit	Back	Enter

Rotate

CH/GRP

+

Push

ENT
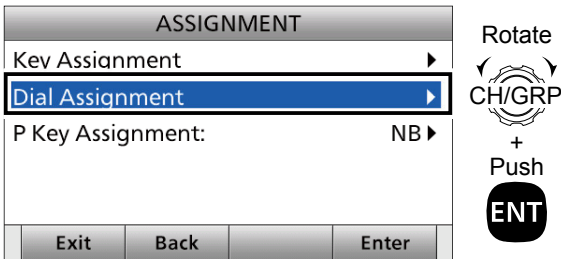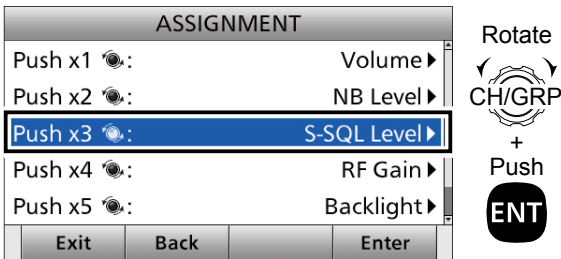
6. Select a Software Key function. (Example: Backlight)

ASSIGNMENT	
Volume	
RF Gain	
NB Level	
✓ S-SQL Level	
Backlight	
Exit	Back	Enter

Rotate

CH/GRP

+

Push

ENT

• "Backlight" is assigned to "Push ×3."

7. Push [Exit] ▬ to return to the Main screen.

ASSIGNMENT	
Push x1 ◉:	Volume ▶
Push x2 ◉:	NB Level ▶
Push x3 ◉:	Backlight ▶
Push x4 ◉:	RF Gain ▶
Push x5 ◉:	Backlight ▶
Exit	Back	Enter
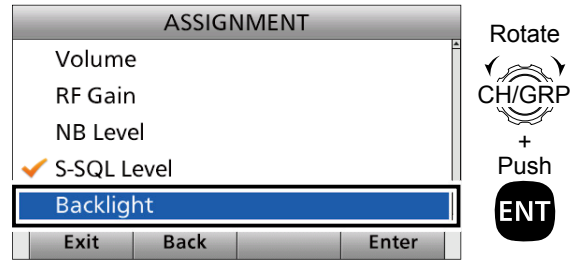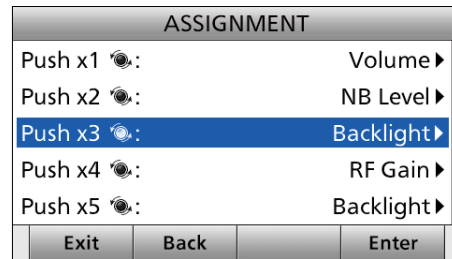
Push

TIP: You can confirm "Backlight" is assigned to "Push ×3" after returning to the Main screen.

Push [VOL] 3 times.
• Backlight setting window is displayed.

Backlight Settings	
Day Mode:	7
Night Mode:	7
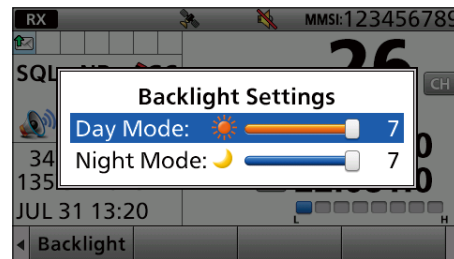
◇ **Assigning a Software Key function to [P] on the HM-214H** MICROPHONE

Example: Assigning "Mode" to [P].

1. Push [MENU].
2. Select "Configuration."

MENU	
Compose Non-Distress	▶
Compose DROBOSE	▶
DSC Log	▶
DSC Settings	▶
Radio Settings	▶
Configuration	▶

Rotate
CH/GRP
+
Push
ENT

3. Select "Assignment."

CONFIGURATION	
Key Beep:	On ▶
NMEA Data Output	▶
Assignment	▶
UTC Offset:	00:00 ▶
Inactivity Timer	▶
Exit	Back	Enter
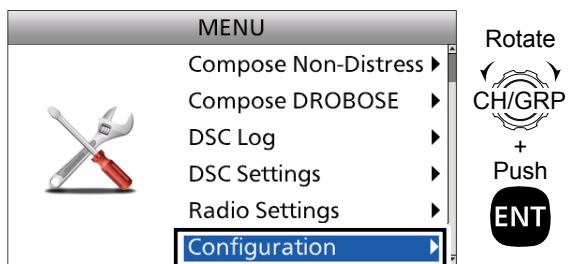
Rotate
CH/GRP
+
Push
ENT
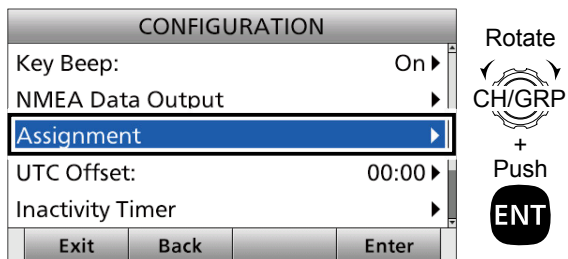
4. Select "P Key Assignment."

ASSIGNMENT	
Key Assignment	▶
Dial Assignment	▶
P Key Assignment:	NB ▶
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

5. Select a Software Key function. (Example: Mode)

ASSIGNMENT	
Tune	
Mode	
✓ NB	
SQL	
Scan	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
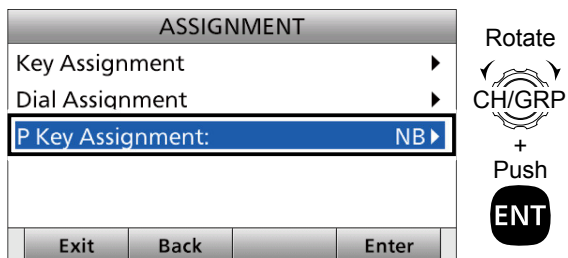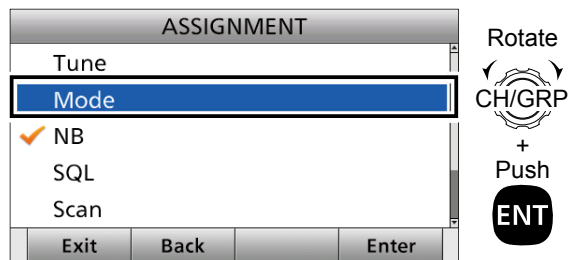
• "Mode" is assigned to [P].

6. Push [Exit] ▬ to return to the Main screen.

ASSIGNMENT	
Key Assignment	▶
Dial Assignment	▶
P Key Assignment:	Mode ▶
Exit	Back	Enter
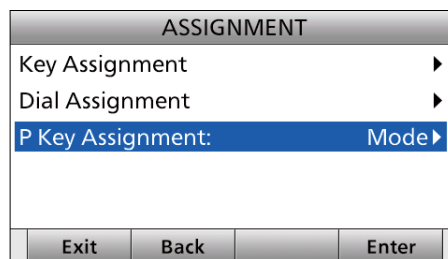
▬ Push

TIP: You can confirm "Mode" is assigned to [P] after returning to the Main screen.

Push [P] on the HM-214H MICROPHONE.
• The operating mode changes.

6

■ DSC adress ID

You can enter a total of 100 DSC address IDs, and assign a name of up to 10 characters to each ID.

ⓘ**Information**

Rotate ⟲CH/GRP⟳ : Rotate [CH/GRP] to select.

Push **ENT** : Push [ENT] to enter or set.
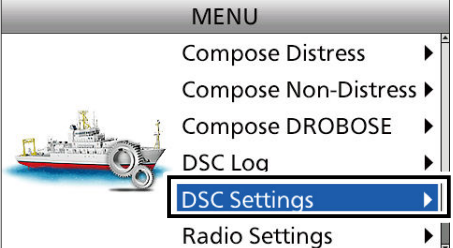
Push ⌨ : Push the keypad to enter digits or text.

TIP: You can use the following key operations in the Menu screen.

ACTION	OPERATION
Select	Rotate [CH/GRP] Push [▲] or [▼]
Enter	Push [ENT], [CH/GRP], or [Enter] ▬
Cancel	Push [CLR]
Exit	Push [Exit] ▬
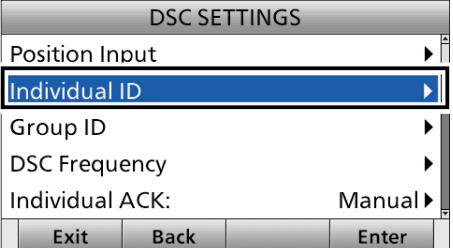
◇ Entering an Individual ID

1. Push [MENU].
2. Select "DSC Settings."
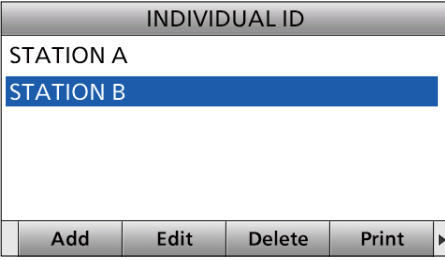
   MENU
   Compose Distress ▶
   Compose Non-Distress ▶
   Compose DROBOSE ▶
   DSC Log ▶
   DSC Settings ▶
   Radio Settings ▶

   Rotate ⟲CH/GRP⟳ + Push **ENT**

3. Select "Individual ID."

   DSC SETTINGS
   Position Input ▶
   Individual ID ▶
   Group ID ▶
   DSC Frequency ▶
   Individual ACK: Manual ▶
   Exit   Back   Enter

   Rotate ⟲CH/GRP⟳ + Push **ENT**

4. Push [Add] ▬.

   INDIVIDUAL ID
   STATION A
   STATION B
   Add   Edit   Delete   Print ▶

   ▬ Push

5. Select "Address."

   INDIVIDUAL ID
   Address: –––––––––▶
   Call Frequency ▶
   RX Frequency: –––––.–
   TX Frequency: –––––.–
   Name: ▶
   Exit   Back   Save   Enter

   Rotate ⟲CH/GRP⟳ + Push **ENT**
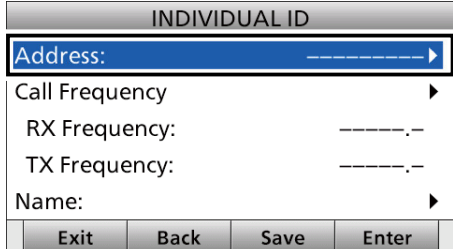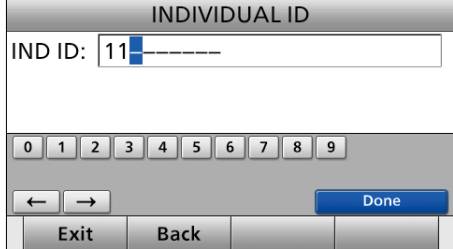
6. Enter a 9 digit Individual ID.
   After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

   INDIVIDUAL ID
   IND ID: 11▮–––––––
   0 1 2 3 4 5 6 7 8 9
   ← →   Done
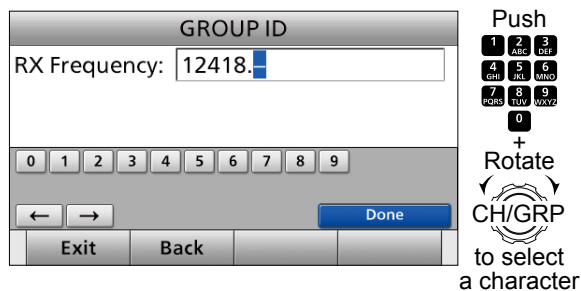   Exit   Back

   Push ⌨ + Rotate ⟲CH/GRP⟳ to select a character

   ⓘ The first digit is specified as '0' for a Group ID.
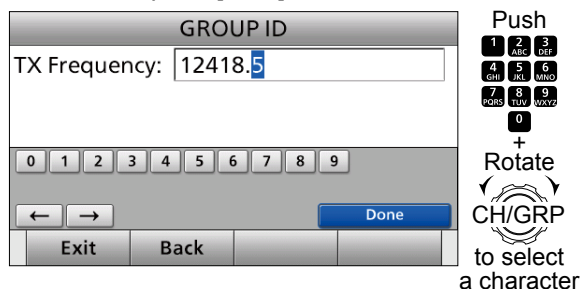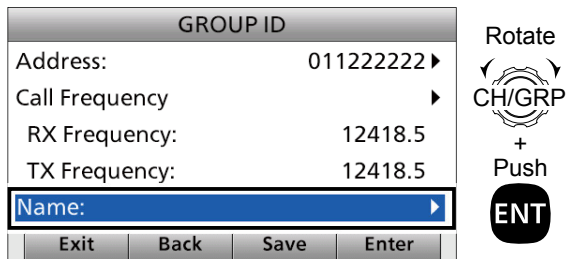   ⓘ The first 2 digits are '0' for any Coast station ID.

7. Select "Call Frequency."

   INDIVIDUAL ID
   Address: 112345678 ▶
   Call Frequency ▶
   RX Frequency: –––––.–
   TX Frequency: –––––.–
   Name: ▶
   Exit   Back   Save   Enter

   Rotate ⟲CH/GRP⟳ + Push **ENT**

8. Enter an RX frequency.
   After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

   INDIVIDUAL ID
   RX Frequency: 16300.0
   0 1 2 3 4 5 6 7 8 9
   ← →   Done
   Exit   Back

   Push
   1 2 3
   4 5 6
   7 8 9
   0
   +
   Rotate
   CH/GRP
   to select
   a character

9. Enter a TX frequency.
   After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

   INDIVIDUAL ID
   TX Frequency: 16300.0
   0 1 2 3 4 5 6 7 8 9
   ← →   Done
   Exit   Back

   Push
   1 2 3
   4 5 6
   7 8 9
   0
   +
   Rotate
   CH/GRP
   to select
   a character

10. Select "Name."

    INDIVIDUAL ID
    Address: 112345678 ►
    Call Frequency   ►
     RX Frequency: 16350.0
     TX Frequency: 16350.0
    Name: ►
    Exit   Back   Save   Enter

    Rotate
    CH/GRP
    +
    Push
    ENT

11. Enter an Individual ID name.
    After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

    INDIVIDUAL ID   3/10
    NAME: STA
    A B C D E F G H I J K L M
    N O P Q R S T U V W X Y Z
    0 1 2 3 4 5 6 7 8 9
    ← → Space Delete   Done
    Exit   Back   !$?

    Push
    1 2 3
    4 5 6
    7 8 9
    0
    +
    Rotate
    CH/GRP
    to select
    a character

12. Push [Save] ▭.

    INDIVIDUAL ID
    Address: 112345678 ►
    Call Frequency   ►
     RX Frequency: 16350.0
     TX Frequency: 16350.0
    Name: STATION C ►
    Exit   Back   Save   Enter

    ▭ Push

13. Push [OK] ▭ to save the ID.

    INDIVIDUAL ID
    Add   8 ►
    Cal   ►
    RX   Are You Sure?   0
    TX   0
    Name.   STATION C ►
    OK   Cancel

    ▭ Push

    ⬇

    INDIVIDUAL ID
    STATION A
    STATION B
    STATION C
    Add   Edit   Delete   Print ►

    • The entered Individual ID is added to the ID list.

14. Push [MENU] to return to the Main screen.

■ DSC adress ID

◇ **Entering a Group ID**

1. Push [MENU].
2. Select "DSC Settings."

MENU	
Compose Distress	▶
Compose Non-Distress	▶
Compose DROBOSE	▶
DSC Log	▶
DSC Settings	**▶**
Radio Settings	▶

Rotate
CH/GRP
+
Push
ENT

3. Select "Group ID."

DSC SETTINGS	
Position Input	▶
Individual ID	▶
Group ID	**▶**
DSC Frequency	▶
Individual ACK:	Manual ▶
Exit	Back		Enter

Rotate
CH/GRP
+
Push
ENT

4. Push [Add] ▭.

GROUP ID
GROUP 1
Add	Edit	Delete	Print ▶

Push

5. Select "Address."

GROUP ID	
Address:	**0–––––––▶**
Call Frequency	▶
RX Frequency:	–––––.–
TX Frequency:	–––––.–
Name:	▶
Exit	Back	Save	Enter

Rotate
CH/GRP
+
Push
ENT
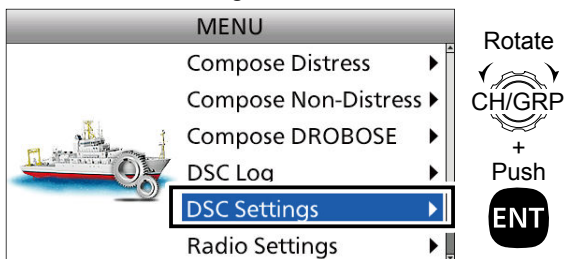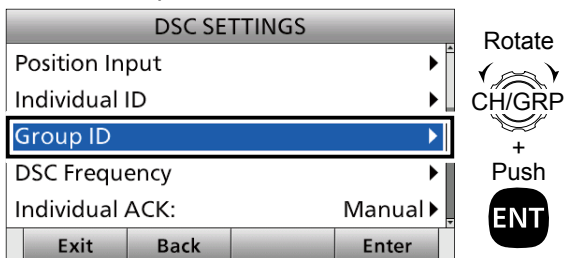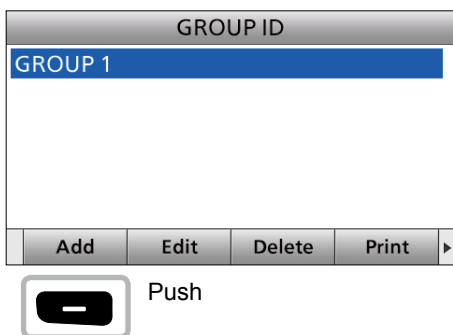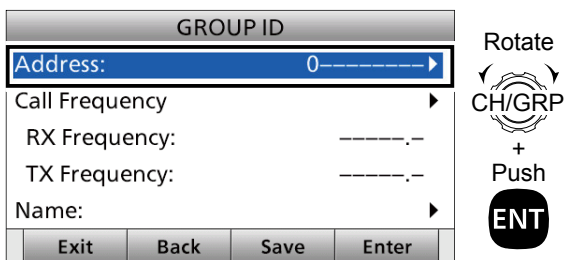
6. Enter a 9 digit Group ID.
   After entering, push [▲], [▼], [◀], or [▶] to select "Done" and push [ENT].
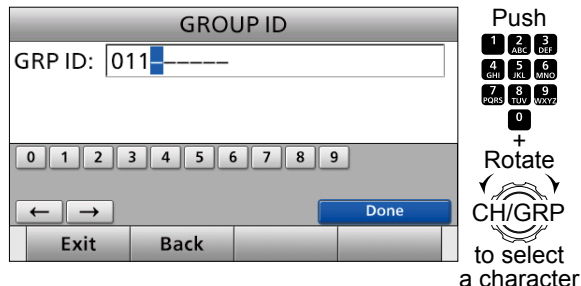
GROUP ID	
GRP ID:	011▮––––––
0 1 2 3 4 5 6 7 8 9	
← →	Done
Exit	Back	

Push
[keypad]
+
Rotate
CH/GRP
to select
a character

ⓘ The first digit is specified as '0' for a Group ID.
ⓘ The first 2 digits are '0' for any Coast station ID.

7. Select "Call Frequency."

GROUP ID	
Address:	011222222 ▶
Call Frequency	**▶**
RX Frequency:	–––––.–
TX Frequency:	–––––.–
Name:	▶
Exit	Back	Save	Enter

Rotate
CH/GRP
+
Push
ENT

8. Enter an RX frequency.
   After entering, push [▲], [▼], [◀], or [▶] to select "Done" and push [ENT].

GROUP ID	
RX Frequency:	12418.▮
0 1 2 3 4 5 6 7 8 9	
← →	Done
Exit	Back	

Push
[keypad]
+
Rotate
CH/GRP
to select
a character

9. Enter a TX frequency.
   After entering, push [▲], [▼], [◀], or [▶] to select "Done" and push [ENT].
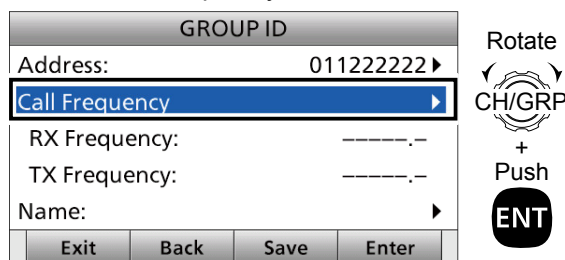
GROUP ID	
TX Frequency:	12418.5
0 1 2 3 4 5 6 7 8 9	
← →	Done
Exit	Back	

Push
[keypad]
+
Rotate
CH/GRP
to select
a character

10. Select "Name."

11. Enter a Group ID name.
    After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

12. Push [Save] ▬.
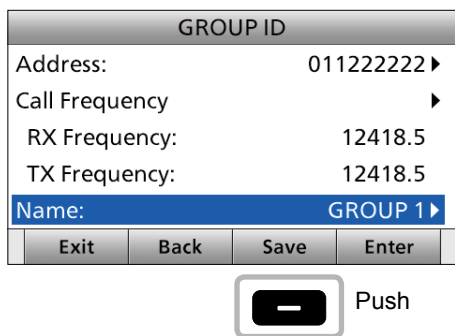
13. Push [OK] ▬ to save the ID.
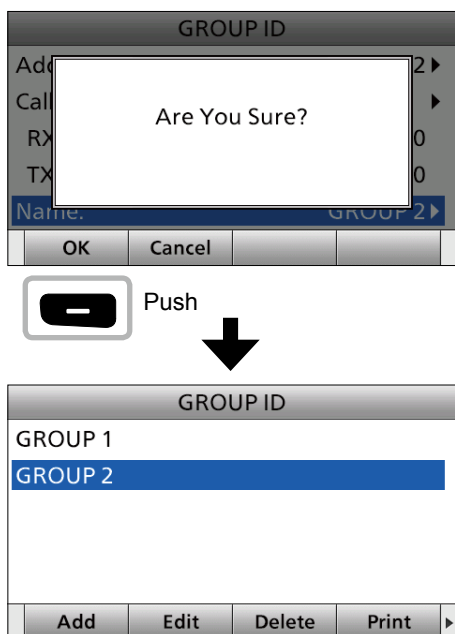
• The entered Group ID is added to the ID list.
14. Push [MENU] to return to the Main screen.

◇ **Deleting an entered ID**

1. Push [MENU].
   • "MENU" screen is displayed.
2. Rotate [CH/GRP] to select "DSC Settings."
   • "DSC SETTING" screen is displayed.
3. Select "Individual ID" or "Group ID."
   • "INDIVIDUAL ID" or "GROUP ID" screen is displayed.
4. Rotate [CH/GRP] to select the ID to delete.
5. Push [Delete] ▬.
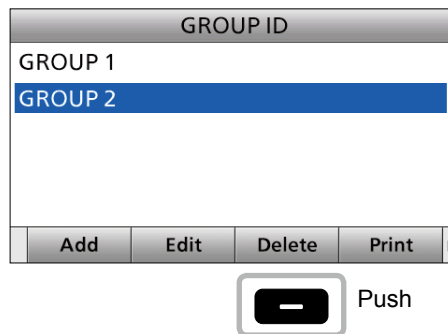
6. Push [OK] ▬.
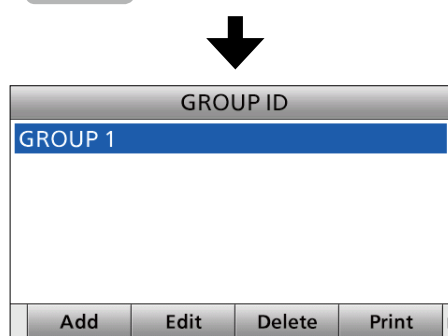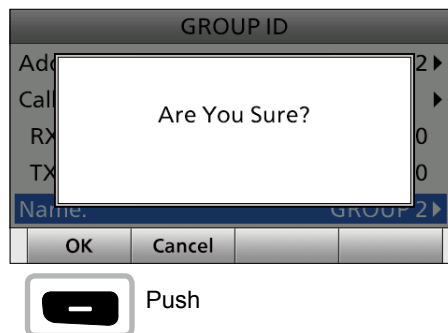
• The selected ID is deleted from the ID list.
7. Push [MENU] to return to the Main screen.

■ Entering position data and time

A Distress call should include the ship's position data and time. If a GPS receiver compatible with the IEC61162-1 Ed.4 (2010-11) format is connected, position and UTC time are automatically included. If no GPS is connected, you should manually enter your position data and UTC (Universal Time Coordinated) time.

NOTE:
• Manual entry is invalid when a GPS receiver is connected.
• Manually entered position data and time are valid for only 23.5 hours.

1. Push [MENU].
2. Select "DSC Settings."

MENU	
Compose Distress	▶
Compose Non-Distress	▶
Compose DROBOSE	▶
DSC Log	▶
DSC Settings	▶
Radio Settings	▶

Rotate
CH/GRP
+
Push
ENT

3. Select "Position Input."

DSC SETTINGS	
Position Input	▶
Individual ID	▶
Group ID	▶
DSC Frequency	▶
Individual ACK:	Manual ▶
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

4. Enter your latitude.

POSITION INPUT
LAT: 2■°––.––––N
Enter
0 1 2 3 4 5 6 7 8 9
N S
← → No Data Done
Exit Back

Push (numeric keypad)

POSITION INPUT
LAT: 2■°––.––––N
Cursor moves
0 1 2 3 4 5 6 7 8 9
N S
← → No Data Done
Exit Back

Rotate
CH/GRP

POSITION INPUT
LAT: 25°35.1234N
Set 'N' (North) or 'S' (South)
0 1 2 3 4 5 6 7 8 9
N S
← → No Data Done
Exit Back

Push (numeric keypad)
(any key)

ⓘ To select 'N' (North latitude) or 'S' (South latitude), push any key when the cursor is on the 'N' or 'S' position.

5. After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].
6. Enter your longitude.

POSITION INPUT
LON: 1■–°––.––––W
Enter
0 1 2 3 4 5 6 7 8 9
W E
← → No Data Done
Exit Back

Push (numeric keypad)

POSITION INPUT
LON: 135°–■.––––W
Cursor moves
0 1 2 3 4 5 6 7 8 9
W E
← → No Data Done
Exit Back

Rotate
CH/GRP

POSITION INPUT
LON: 135°23.4321E
Set 'W' (West) or 'E' (East)
0 1 2 3 4 5 6 7 8 9
W E
← → No Data Done
Exit Back

Push (numeric keypad)
(any key)
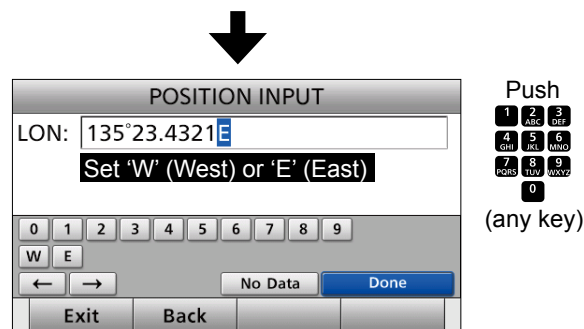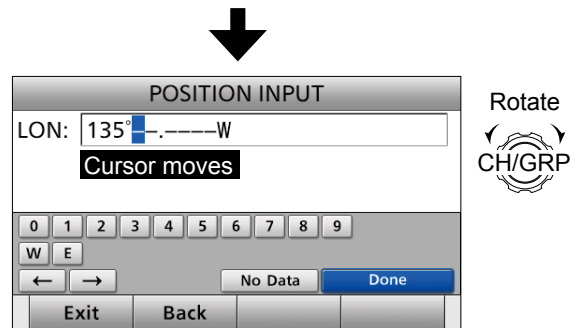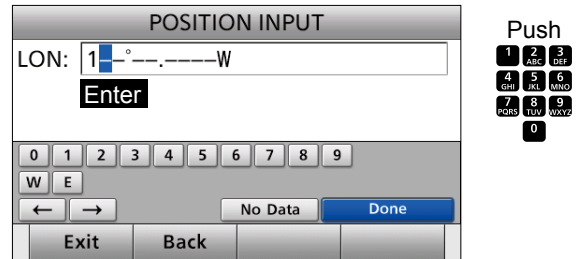
7. After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].

8. Enter your UTC time.

POSITION INPUT

UTC: 1:––

Enter

0 1 2 3 4 5 6 7 8 9

← →   No Data   Done

Exit   Back

Push

POSITION INPUT

UTC: 12:––

Cursor moves

0 1 2 3 4 5 6 7 8 9

← →   No Data   Done

Exit   Back

Rotate

CH/GRP

POSITION INPUT

UTC: 12:00

0 1 2 3 4 5 6 7 8 9

← →   No Data   Done

Exit   Back
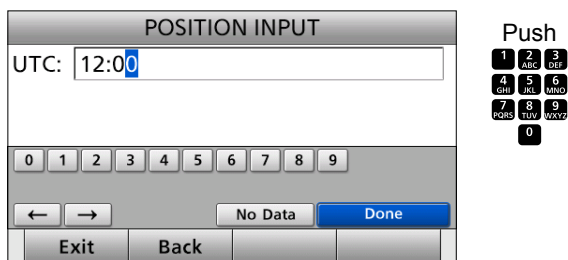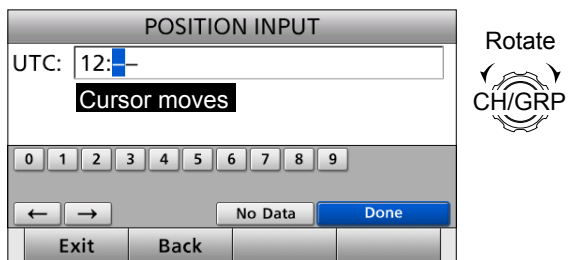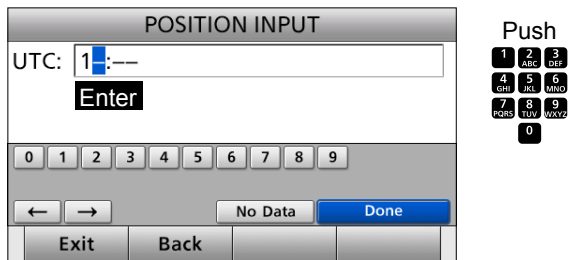
Push

9. After entering, push [▲], [▼], [◄], or [►] to select "Done" and push [ENT].
   • The DSC setting screen is displayed.
10. Push [MENU] to return to the Main screen.

TIP:
When position data and time are set, Latitude, Longitude and UTC Time are displayed.

RX   MMSI:123456789
26 CH
SQL NB AGC   GM800
J3E RX 22.777.0
34°37.1093N DUP TX 22.081.0
135°34.2913E
JUL 31 13:20
Compose   Compose   Compose   Task
Distress   Non-Distress DROBOSE Mode
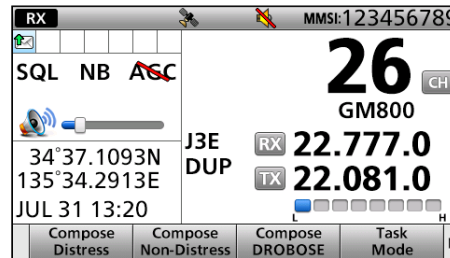
• Latitude: 34°37.1093N
• Longitude: 135°34.2913E
• UTC Time: 13:20

When no position data and time are set, "No Position" and "No Time" are displayed.

RX   MMSI:123456789
26 CH
SQL NB AGC   GM800
J3E RX 22.777.0
No Position DUP TX 22.081.0
No Time
Compose   Compose   Compose   Task
Distress   Non-Distress DROBOSE Mode
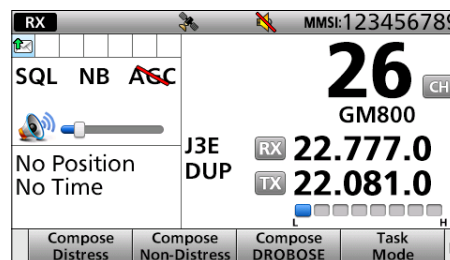
ⓘ**Information**
While entering:
• To move the cursor:
  Rotate [CH/GRP].
• To correct the entry:
  Move the cursor to the character. And then, enter the correct character.
• To clear the entry:
  Push [▲], [▼], [◄], or [►] to select "No Data." And then push [ENT].
  When the following screen is displayed, push [ENT].

POSITION INPUT

No Position Data

No Time Data

Exit   Back   Enter
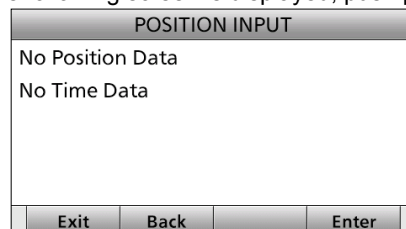
• To return to the Main screen:
  Push [Exit]   .
• To go back to the previous screen:
  Push [Back]   .

■ DSC Task mode

After sending or receiving the DSC call, the transceiver enters the DSC Task mode.
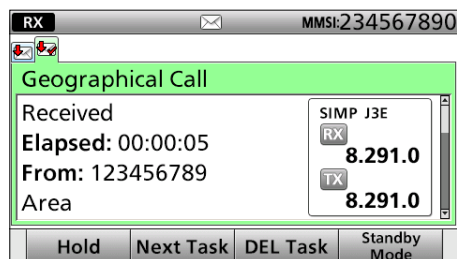
(Example: After receiving a Geographical call)

In the DSC Task mode, you can resend the call, or send an acknowledgement to the caller station.
• The transceiver can hold up to 7 DSC tasks.
• In the Standby mode, a task icon is displayed in the Task area, when the transceiver has a DSC task. (p. 6)
• When any DSC task icon is displayed in the Standby mode, you can enter the DSC Task mode by pushing [Task Mode] ▭.

NOTE: The DSC Task mode has the Time-out Timer (TOT) function. When you push no key for a preset period, the transceiver automatically cancels the DSC Task mode.
The count down alarm sounds 10 seconds before the TOT activates.
No count down alarm sounds before Radio Telephone TOT activates.
The default settings of the TOT function:
• DSC Related: 15 minutes
• Distress Related: OFF

◊ About "Active" and "Hold"

The DSC Task mode has 2 statuses, "Active" and "Hold." When you send the repeat call, or send an acknowledgement to the caller station, push [Active] ▭ to display the Active window.

• Active window
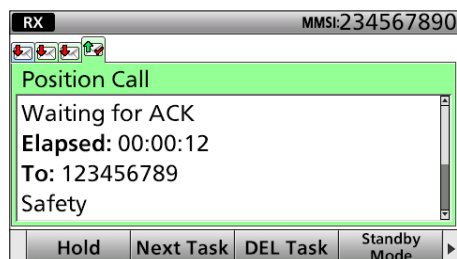
ⓘ "✔" is displayed on the active Task tab.
ⓘ To view the contents, rotate [CH/GRP].

• Hold window
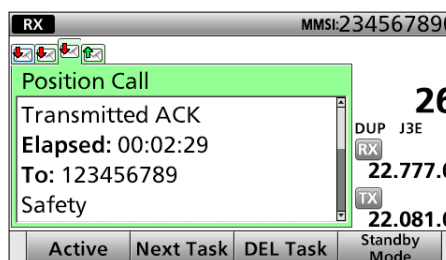
ⓘ To view the contents, push [▲] or [▼].

◊ Software Key functions

While in the DSC Task mode, the following functions are displayed first.

FUNCTION	DESCRIPTION
Hold	Push to cancel the Active Task window.
Active	Push to activate the selected Task window.
Next Task	Push to select other Task window.
DEL Task	Push to delete the Task window.
Standby Mode	Push to enter the Standby mode.

The following functions may be displayed, depending on the call type.

FUNCTION	DESCRIPTION
Cancel	Push to send a Cancel call.
Resend	Push to resend the call.
Pause	Push to pause the Call Repeat function.
Finish	Push to return to the Main screen.
ACK	Push to send an acknowledgement.
History	Push to display the Distress call history screen.
Relay	Push to send a Distress Relay call.

See the following pages for details of the DSC Task mode operation for each DSC call.

■ Sending a Distress call

NOTE: **NEVER** make a Distress call if your ship or a person is not in an emergency.
A Distress call should be made only when immediate help is needed.

You should send a Distress call if, in the opinion of the Master, the ship or a person is in distress and requires immediate assistance.
ⓘ One of the Emergency frequencies is automatically selected to send a Distress call.

◇ Simple call

1. Confirm no Distress call is being received.
2. Lift up the key cover, then hold down [DISTRESS] until "Transmitting" is displayed to send a Distress call.
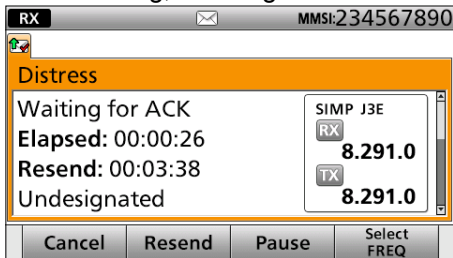
!! DISTRESS !!

Hold Down
for 3 sec.

3. After sending, "Waiting for ACK" is displayed.

| RX | ✉ | MMSI:234567890 |

Distress
Waiting for ACK   SIMP J3E
Elapsed: 00:00:26   RX 8.291.0
Resend: 00:03:38   TX 8.291.0
Undesignated

| Cancel | Resend | Pause | Select FREQ |

4. When receiving the acknowledgement:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▭.

| RX | | MMSI:234567890 |

Received Distress ACK
From: STATION A
Undesignated
Elapsed: 00:00:05

Alarm Off

▭ ▭ ▭ ▭   Push any

5. Push any [Close Call RCVD Window] ▭.

| RX | | MMSI:234567890 |

Received Distress ACK
From: STATION A
Undesignated
New FREQ after 8 sec.
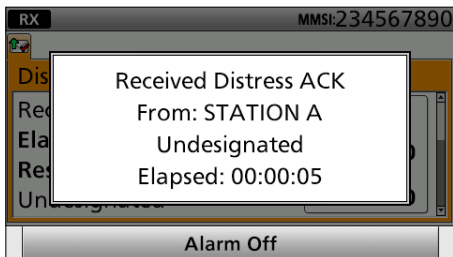
Close Call RCVD Window

▭ ▭ ▭ ▭   Push any
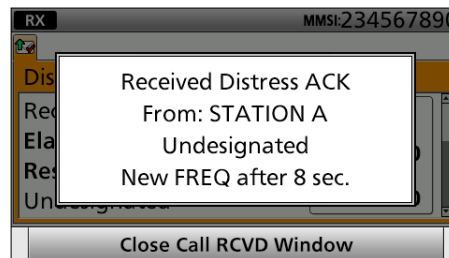
6. Hold down [PTT] to announce your situation.
7. Push [Standby Mode] ▭ to return to the Standby mode.

NOTE:
A Distress alert default contains:
- Nature of distress:
  Undesignated distress
- Position data:
  The latest GPS or manual input data is held for 23.5 hours, or until turning OFF the transceiver.

7

■ Sending a Distress call

◇ **Regular call**

1. Push [Compose Distress] ▭ to display the COMPOSE DISTRESS screen.

RX 🛰 🔇 MMSI:123456789
26 CH
SQL NB AGC
GM800
J3E RX **22.777.0**
34°37.1093N DUP TX **22.081.0**
135°34.2913E
JUL 31 13:20 L ▢▢▢▢▢▢ H
Compose Distress | Compose Non-Distress | Compose DROBOSE | Task Mode ▶

▭ Push
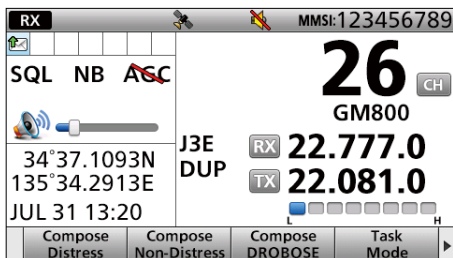
Step.1 Setting a "Nature of Distress"

2. Select "Nature of Distress."
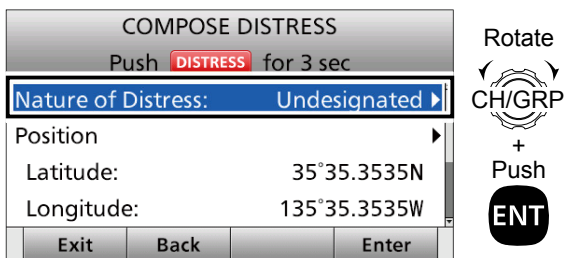
COMPOSE DISTRESS
Push DISTRESS for 3 sec
Nature of Distress: Undesignated ▶
Position ▶
Latitude: 35°35.3535N
Longitude: 135°35.3535W
Exit | Back | Enter

Rotate
⤺ CH/GRP ⤻
+
Push
ENT

3. Select an option.
(Example: Fire, Explosion)

NATURE OF DISTRESS
✓ Undesignated
Fire,Explosion
Flooding
Collision
Grounding
Capsizing
Sinking
Adrift
Abandoning Ship
Piracy
Man Overboard
Exit | Back | Enter

Rotate
⤺ CH/GRP ⤻
+
Push
ENT
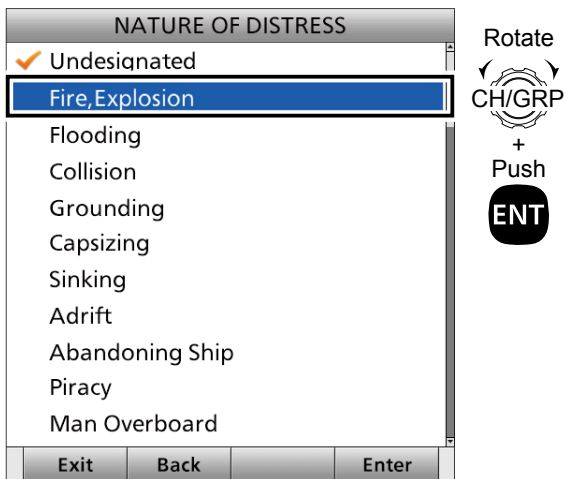
ⓘ The transceiver stores this setting for 30 seconds.

Step 2. Entering a "Position"

NOTE: You can skip this step if your position data and time are valid. In that case, go to Step 3.

4. Select "Position."
   • The Latitude Position Entry screen is displayed.
5. Enter your position data and time.
   • See page 27 for entering details.

Step 3. Setting a communication frequency

6. Select "Attempt."

COMPOSE DISTRESS
Push DISTRESS for 3 sec
Longitude: 135°35.3535W
UTC: 09:00
Mode: Telephony
Attempt: Multi Frequency ▶
Exit | Back | Enter

Rotate
⤺ CH/GRP ⤻
+
Push
ENT
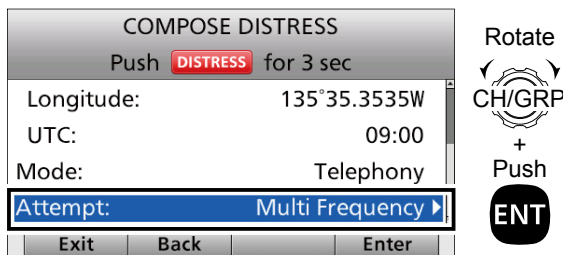
7. Select an option.
(Example: Multi Frequency)

ATTEMPT
✓ Multi Frequency
Six Frequency
2187.5 kHz
4207.5 kHz
6312.0 kHz
8414.5 kHz
12577.0 kHz
16804.5 kHz
Exit | Back | Enter

Rotate
⤺ CH/GRP ⤻
+
Push
ENT
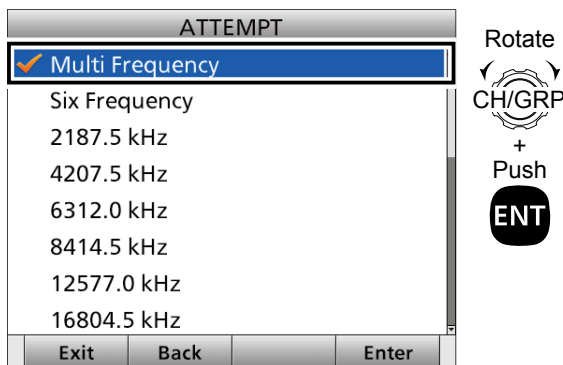
Step 4. Sending

8. Lift up the key cover, then hold down [DISTRESS] until "Transmitting" is displayed to send the Distress call.
   • While holding down [DISTRESS], count down beeps sound and both the key and display backlighting blink.

!! DISTRESS !!

Hold Down
for 3 sec.

⬇

!! DISTRESS !!

Transmitting
Distress Alert
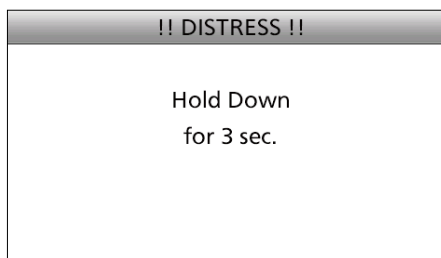
Cancel

NOTE: To cancel a Distress call while transmitting see page 34.

9. After sending, the following screen is displayed.
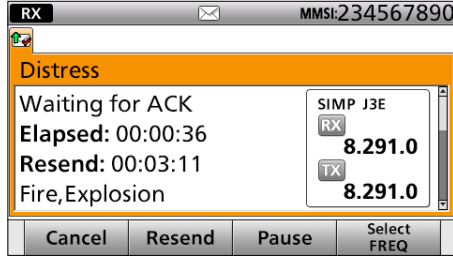
Step. 5 Replying

10. When receiving the acknowledgement:
   • Alarms sound.
   • The following screen is displayed.
   Push any [Alarm Off] ▬.
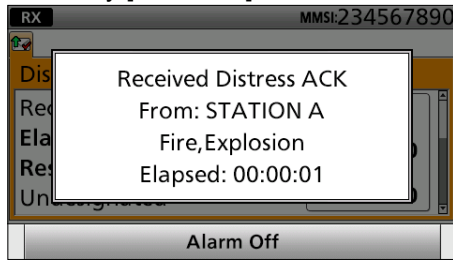
Push any

11. Push any [Close Call RCVD Window] ▬.

Push any
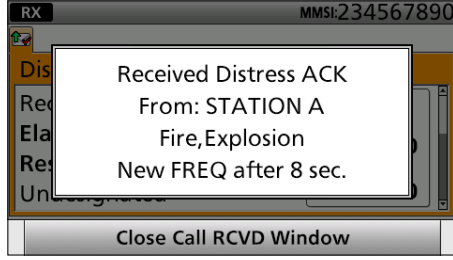
12. Hold down [PTT] to announce your situation.
13. Push [Standby Mode] ▬ to return to the Standby mode.

NOTE:
Transmitting:
• A Distress call default contains:
   - Nature of distress:
      Undesignated distress
   - Position data:
      The latest GPS or manual input position data is retained for 23.5 hours, unless you turn OFF the transceiver.

• While holding down [DISTRESS], count down beeps sound, and both the key and display backlights blink.

• The Distress call is transmitted in one of the DSC Emergency frequencies.

Waiting for an Acknowledgement:
• The Distress call is automatically transmitted every 3.5 to 4.5 minutes, until an acknowledgement is received (Call Repeat function), or you make a Distress Cancel call. (p. 35)

• To manually transmit a Distress repeat call, push [Resend] ▬ .

• To display the transmitted Distress call information, push [▲] or [▼].

• To pause the Call Repeat function, push [Pause] ▬.
To resume it, push [Resume Countdown].

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■ Sending a Distress call

◇ **Resending a Distress call**

While waiting for an acknowledgement, you can resend the call (Repeat call).

1. When "Waiting for ACK" is displayed, push [Resend] ▬.

   | RX | ✉ | MMSI:234567890 |

   Distress

   Waiting for ACK   SIMP J3E
   Elapsed: 00:00:37   RX
   Resend: 00:03:14   **8.291.0**
   Fire,Explosion   TX
   8.291.0

   Cancel   Resend   Pause   Select FREQ

   ▬ Push
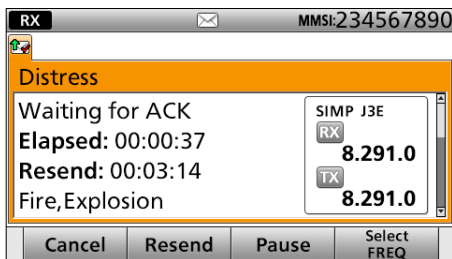
   ⓘ See page 29 for details of the Software Key functions in the DSC Task mode.

2. Lift up the key cover, then hold down [DISTRESS] until "Retransmitting" is displayed to resend the call.
   • While holding down [DISTRESS], count down beeps sound and both the key and display backlighting blink.

   !! DISTRESS !!

   Hold Down
   for 3 sec.

   ⬇

   !! DISTRESS !!

   Transmitting
   Distress Alert

   Cancel

   NOTE: To cancel a Distress call while transmitting see page 34.

3. When receiving the acknowledgement:
   • Alarms sound.
   • The following screen is displayed.
   Push any [Alarm Off] ▬.

   | RX | | MMSI:234567890 |

   Received Distress ACK
   From: STATION A
   Fire,Explosion
   Elapsed: 00:00:01

   Alarm Off

   ▬ ▬ ▬ ▬   Push any

4. Push any [Close Call RCVD Window] ▬.

   | RX | | MMSI:234567890 |

   Received Distress ACK
   From: STATION A
   Fire,Explosion
   New FREQ after 5 sec.
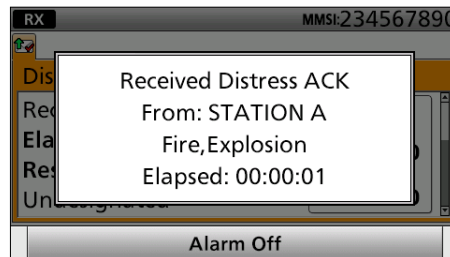
   Close Call RCVD Window

   ▬ ▬ ▬ ▬   Push any
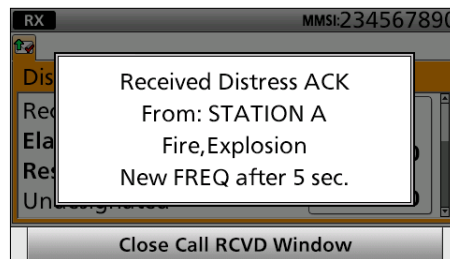
5. Hold down [PTT] to announce your situation.
6. Push [Standby Mode] ▬ to return to the Standby mode.

◇ Sending a Distress Cancel call

You can send the Distress Cancel call while transmitting a Distress call or while waiting for a Distress Acknowledgement.

While transmitting a Distress call:

1. While transmitting a Distress call push [Cancel] ▬.

!! DISTRESS !!

Transmitting
Distress Alert

Cancel

▬ Push

2. Confirm the content and push [Continue] ▬.
   ⓘ The frequencies that you have to send voice cancel messages are displayed.
   (Example: 2/4/8/12/16 MHz)

!! DISTRESS !!

DISTRESS CANCEL will
transmit DSC cancel and
guide voice cancel.
2/4/8/12/16 MHz

Back Continue
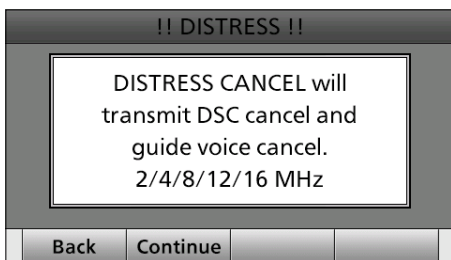
▬ Push

ⓘ To cancel the Distress Cancel call, push [Back] ▬.
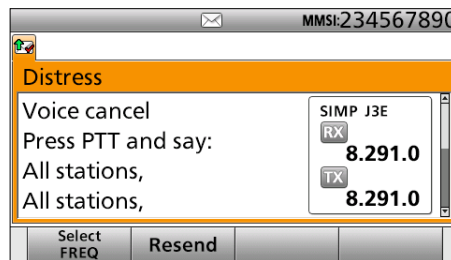
⬇

!! DISTRESS !!

Distress Alert
transmission is canceled.

⬇

!! DISTRESS CANCEL !!

Transmitting
Distress Cancel

3. After sending, the following screen is displayed. Push [Select FREQ] ▬.

MMSI:234567890
Distress
Voice cancel
Press PTT and say: SIMP J3E
All stations,   RX 8.291.0
All stations,   TX 8.291.0
Select FREQ Resend

▬ Push

4. Select a frequency to send a voice cancel message and push [ENT].
   ⓘ The check mark shows that the Distress call on the selected frequency is canceled by sending voice cancel message.

VOICE CANCEL FREQUENCY
✔ 2187.5 kHz
  4125.0 kHz
✔ 8291.0 kHz
  12290.0 kHz
  16804.5 kHz
Exit Back Enter

Rotate
CH/GRP
+
Push
ENT

5. Hold down [PTT] to announce your situation.
   ⓘ You can confirm the statement of the Distress Cancel call by rotating [CH/GRP].
6. Repeat steps 3 to 5 to cancel for all frequencies.
7. After sending a voice cancel message for all frequencies, [Finish] ▬ is displayed. Push [Finish] ▬.

MMSI:234567890
Distress
Voice cancel
Press PTT and say: SIMP J3E
All stations,   RX 16.420.0
All stations,   TX 16.420.0
Finish Select FREQ Resend

▬ Push

8. Push [Standby Mode] ▬ to return to the Main screen.

MMSI:234567890
Distress
Cancel procedure done SIMP J3E
Elapsed: 00:02:13   RX 8.291.0
Undesignated   TX 8.291.0
No Position Data
Hold Next Task DEL Task Standby Mode
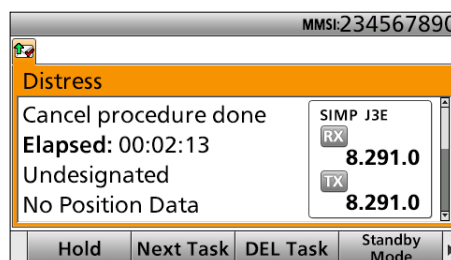
▬ Push

■ Sending a Distress call

◇ Sending a Distress Cancel call (continued)

While waiting for a Distress Acknowledgement:

1. When "Waiting for ACK" is displayed, push [Cancel] ▭.

| RX | ✉ | MMSI:234567890 |

Distress
Waiting for ACK
Elapsed: 00:00:15
Resend: 00:03:36
Undesignated

SIMP J3E
RX **8.291.0**
TX **8.291.0**

| Cancel | Resend | Pause | Select FREQ |
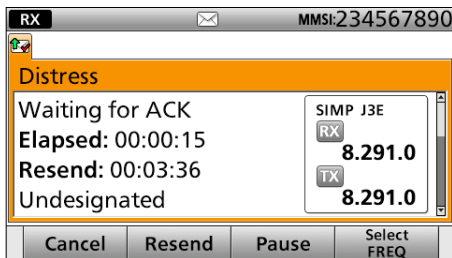
▭ Push

ⓘ See page 29 for details of the Software Key functions in the DSC Task mode.

2. Push [Continue] ▭ to send the Distress Cancel call.
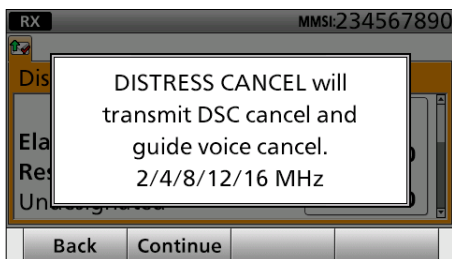
| RX | MMSI:234567890 |

DISTRESS CANCEL will transmit DSC cancel and guide voice cancel.
2/4/8/12/16 MHz

| Back | Continue |

▭ Push

↓

!! DISTRESS CANCEL !!

Transmitting
Distress Cancel

3. After sending, the following screen is displayed. Push [Select FREQ] ▭.

| ✉ | MMSI:234567890 |

Distress
Voice cancel
Press PTT and say:
All stations,
All stations,

SIMP J3E
RX **8.291.0**
TX **8.291.0**

| Select FREQ | Resend |

▭ Push

4. Select a frequency to send a voice cancel message and push [ENT].
   ⓘ The check mark shows that the Distress call on the selected frequency is canceled by sending voice cancel message.

VOICE CANCEL FREQUENCY
✓ 2187.5 kHz
  4125.0 kHz
✓ 8291.0 kHz
  12290.0 kHz
  16804.5 kHz

| Exit | Back | Enter |

Rotate
CH/GRP
+
Push
ENT

5. Hold down [PTT] to announce your situation.
   ⓘ You can confirm the statement of the Distress Cancel call by rotating [CH/GRP].

6. Repeat steps 3 to 5 to cancel for all frequencies.

7. After sending a voice cancel message for all frequencies, [Finish] ▭ is displayed. Push [Finish] ▭.

| MMSI:234567890 |

Distress
Voice cancel
Press PTT and say:
All stations,
All stations,

SIMP J3E
RX **16.420.0**
TX **16.420.0**

| Finish | Select FREQ | Resend |

▭ Push

8. Push [Standby Mode] ▭ to return to the Main screen.

| MMSI:234567890 |

Distress
Cancel procedure done
Elapsed: 00:02:13
Undesignated
No Position Data

SIMP J3E
RX **8.291.0**
TX **8.291.0**

| Hold | Next Task | DEL Task | Standby Mode |

▭ Push
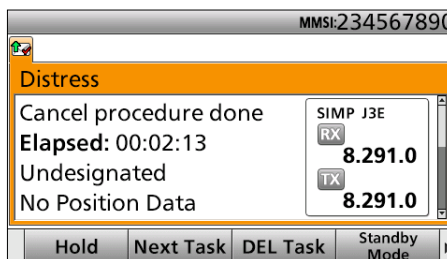
◊ Sending a Distress acknowledgement

Distress call reception should stop after one sequence because the coast station should send back an 'acknowledgement' to the ship.
If the distress call continues even the coast station send back an 'acknowledgement,' the ship in distress may not be receiving the call.
In such cases, you should contact the coast station via the phone and send back an 'acknowledgement' on behalf of the coast station if the coast station requires.

IMPORTANT: Distress acknowledgements should be transmitted only on the 2187.5 kHz, according to regulations (ITU-R 493-13). When you receive a Distress call on other frequency bands, [ACK (Distress)] is not displayed in the software key area.

Quick ACK:
1. When a Distress call is received:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▭.

   Push any

2. Push [Accept] ▭.

   Push

   • Enters the DSC Task mode.
3. Push [▶] to scroll the software key functions.

4. Push [ACK (Distress)] ▭.

   Push

5. Push [OK] ▭.

   Coast station
   normally transmits.
   Proceed anyway ?
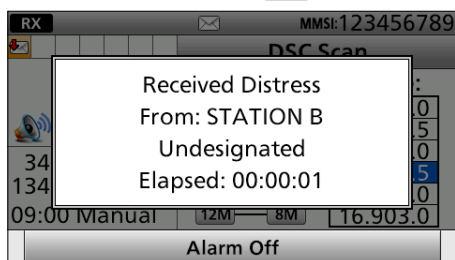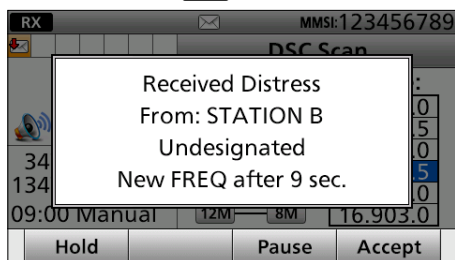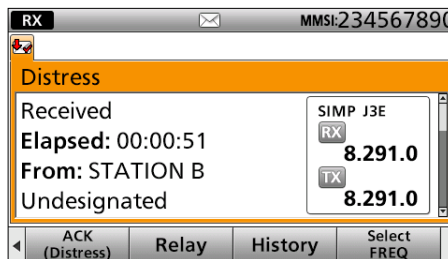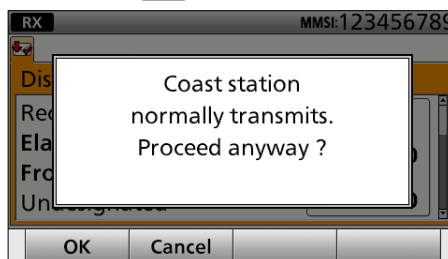
   Push

   • The DSC call contents screen is displayed.
   ⓘ Rotate [CH/ENT] to view the call contents.
6. Push [Call] ▭ to send a Distress acknowledgement.
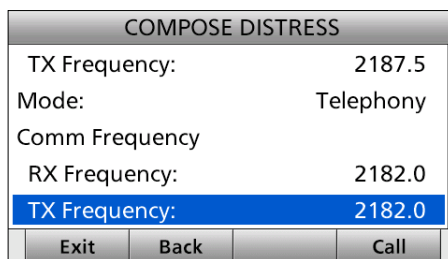
   COMPOSE DISTRESS

TX Frequency:	2187.5
Mode:	Telephony
Comm Frequency	
RX Frequency:	2182.0
TX Frequency:	2182.0

   | Exit | Back | | Call |

   Push

   DISTRESS ACK

   Transmitting
   Distress ACK

■ Sending a Distress call

◇ Sending a Distress acknowledgement (continued)

7. After sending, the following screen is displayed.
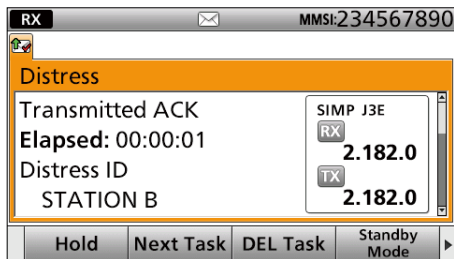
8. Hold down [PTT] to communicate with the ship in distress.
9. Push [Standby Mode] ⬛ to return to the Standby mode.

TIP: When you push [Pause] ⬛ in step 2, the countdown will be paused. Push [Resume] ⬛ to restart the countdown.

Received Distress
From: STATION B
Undesignated
Paused
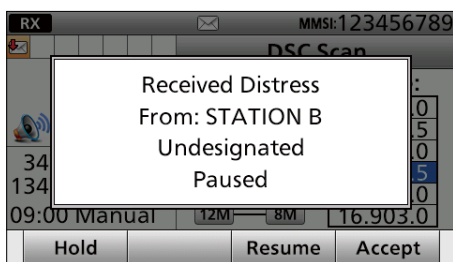
◇ **Sending a Distress Relay call**

There are 2 ways to transmit the distress relay call— "DROBOSE (Distress Relay On Behalf Of Someone Else)" and "Distress Relay Call with Distress Call Log".

NOTE: DO NOT push [DISTRESS] to transmit a distress relay call. It is used for only your own distress calls.

To transmit the Distress Relay call with "DROBOSE":

You may transmit a Distress Relay call when a ship in distress is in a situation where the Distress call cannot be transmitted, or when you find a ship in distress and quick help is needed.
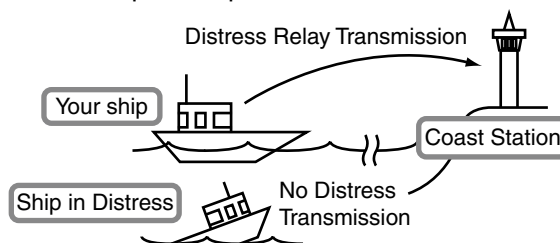
1. Push [Compose DROBOSE] ⬛.

Push
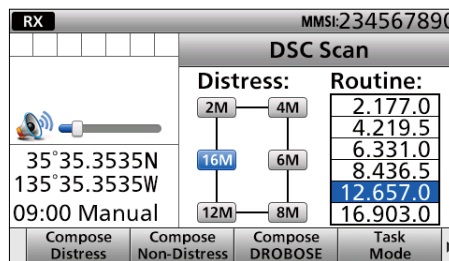
ⓘ To display the screen from the Menu screen:
([MENU] > **Compose DROBOSE**)

2. Select "Message Type."
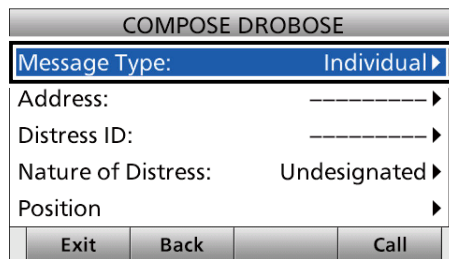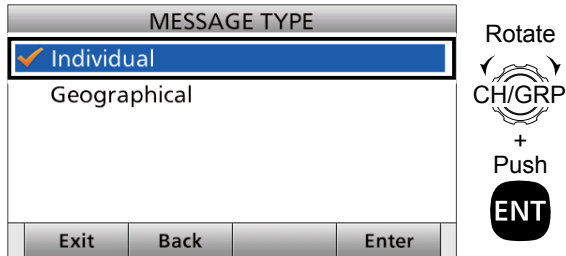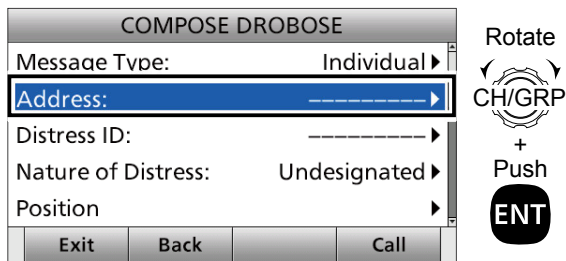
Rotate
CH/GRP
+
Push
ENT

3. Select a message type.
   (Example: Individual)

MESSAGE TYPE	
✔ Individual	
Geographical	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

4. Select "Address."

COMPOSE DROBOSE	
Message Type:	Individual ▶
Address:	––––––––– ▶
Distress ID:	––––––––– ▶
Nature of Distress:	Undesignated ▶
Position	▶
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

5. Select a coast station address or "Manual Input."
   (Example: COAST A)

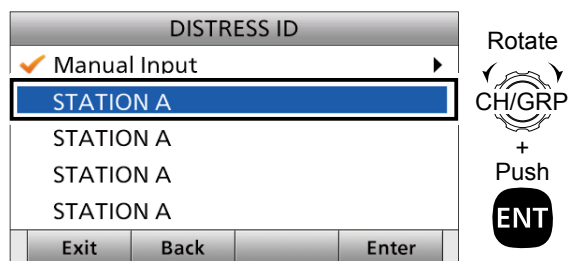| ADDRESS	
✔ Manual Input	▶
COAST A	
STATION A	
STATION B	
STATION C	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter an Individual ID.

6. Select "Distress ID."

COMPOSE DROBOSE	
Message Type:	Individual ▶
Address:	COAST A ▶
Distress ID:	––––––––– ▶
Nature of Distress:	Undesignated ▶
Position	▶
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT
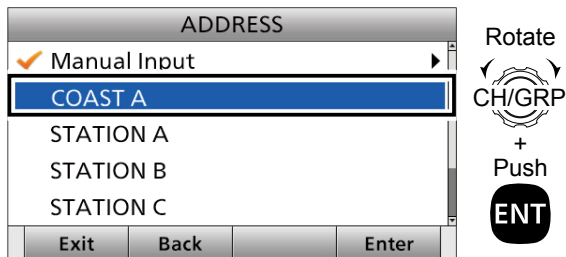
7. Select "Manual Input."

DISTRESS ID	
✔ Manual Input	▶
STATION A	
STATION A	
STATION A	
STATION A	
Exit	Back	Enter
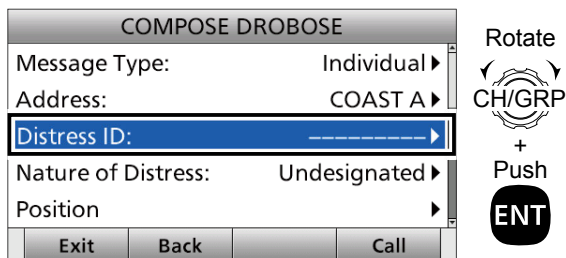
Rotate
CH/GRP
+
Push
ENT
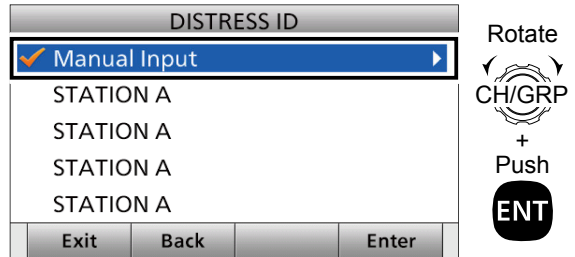
NOTE: Distress Call Log is displayed after receiving the Distress call. **DO NOT** select displayed Individual IDs for DROBOSE.

8. Enter the 9 digit Distress ID (MMSI ID) code of the ship in distress that you want to help.
   After entering, select "Done" and push [ENT].
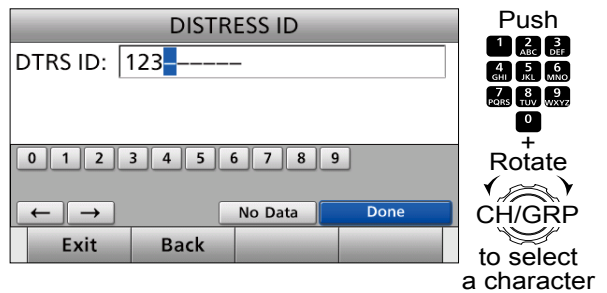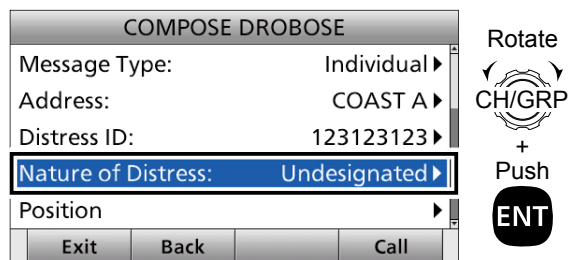
DISTRESS ID	
DTRS ID:	123▌––––––
0 1 2 3 4 5 6 7 8 9	
← → No Data Done	
Exit	Back	

Push
1 2ABC 3DEF
4GHI 5JKL 6MNO
7PQRS 8TUV 9WXYZ
0
+
Rotate
CH/GRP
to select
a character

9. Select "Nature of Distress."

COMPOSE DROBOSE	
Message Type:	Individual ▶
Address:	COAST A ▶
Distress ID:	123123123 ▶
Nature of Distress:	Undesignated ▶
Position	▶
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

10. Select an option.
    (Example: Fire, Explosion)
    ⓘ The transceiver stores this setting for 30 seconds.

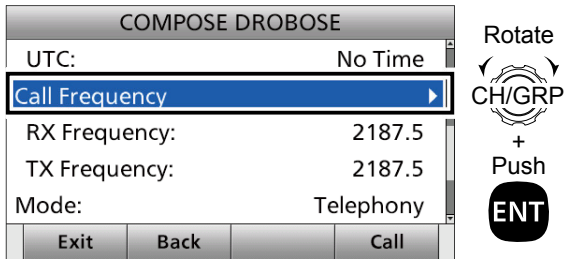| NATURE OF DISTRESS	
✔ Undesignated	
Fire,Explosion	
Flooding	
Collision	
Grounding	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
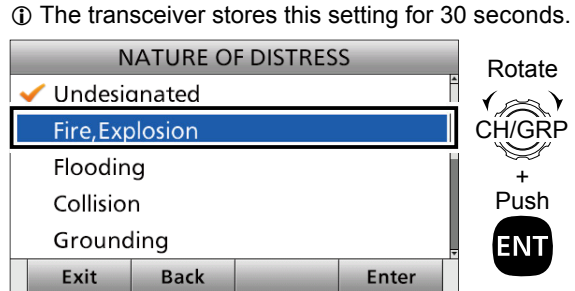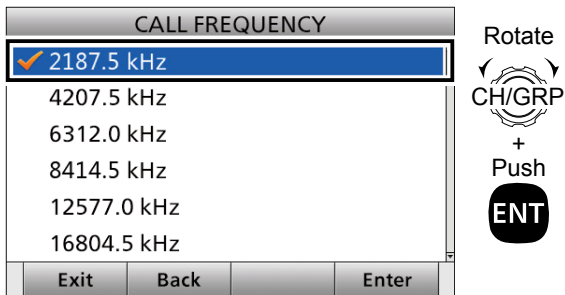
■ Sending a Distress call

◇ Sending a Distress Relay call (continued)

11. Select "Position."

COMPOSE DROBOSE
Distress ID:	123123123 ▶
Nature of Distress:	Fire, Explosion ▶
Position	▶
Latitude:	35˚35.3535N
Longitude:	135˚35.3535W
Exit	Back		Call

Rotate
CH/GRP
+
Push
ENT
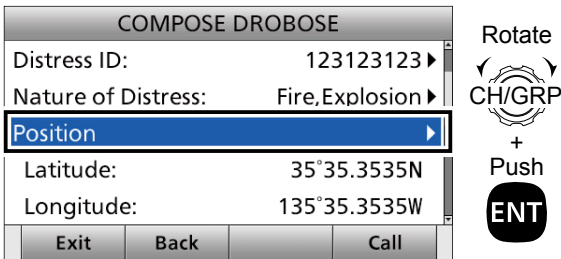
• The Latitude Position Entry screen is displayed.
• Your position data and time are displayed.

12. Enter the position data and time of the ship in distress.
After entering, select "Done" and push [ENT].
ⓘ See page 27 for position entering details.

13. Select "Call Frequency."

COMPOSE DROBOSE
Longitude:	130˚00.0000W
UTC:	09:00
Call Frequency	▶
RX Frequency:	2187.5
TX Frequency:	2187.5
Exit	Back		Call

Rotate
CH/GRP
+
Push
ENT

14. Select an option.
(Example: 2187.5 kHz)

CALL FREQUENCY
| ✓ 2187.5 kHz |
| 4207.5 kHz |
| 6312.0 kHz |
| 8414.5 kHz |
| 12577.0 kHz |
| 16804.5 kHz |
| Exit | Back | | Enter |

Rotate
CH/GRP
+
Push
ENT

15. Push [Call] 🔲 to send the Distress Relay call.

COMPOSE DROBOSE
TX Frequency:	2187.5
Mode:	Telephony
Comm Frequency	
RX Frequency:	2182.0
TX Frequency:	**2182.0**
Exit	Back		Call

🔲 Push

DISTRESS RELAY

Transmitting
Distress Relay

16. After sending, the following screen is displayed.

RX   ✉   MMSI:234567890
Distress Relay (Individual)
Waiting for ACK	SIMP J3E
Elapsed: 00:00:03	RX
Distress ID	**2.182.0**
123123123	TX **2.182.0**
Hold	Next Task	DEL Task	Standby Mode	▶

ⓘ See page 29 for details of the software key function in the DSC Task mode.
17. Hold down [PTT] to communicate with a maritime station.
18. Push [Standby Mode] 🔲 to return to the Standby mode.

To transmit the Distress Relay call with "Distress Call Log":

You can relay a distress call after receiving the distress call.

Distress Relay Transmission

Coast Station

Your ship

Distress Transmission

Ship in Distress

1. Push [Compose DROBOSE] ▬.

RX MMSI:234567890
DSC Scan
Distress: Routine:
2M 4M 2.177.0
4.219.5
6.331.0
16M 6M 8.436.5
12.657.0
12M 8M 16.903.0
35°35.3535N
135°35.3535W
09:00 Manual
Compose Distress | Compose Non-Distress | Compose DROBOSE | Task Mode

▬ Push

2. Select "Message Type."

COMPOSE DROBOSE
Message Type: Individual ▶
Address: ————— ▶
Distress ID: ————— ▶
Nature of Distress: Undesignated ▶
Position ▶
Exit | Back | Call

Rotate CH/GRP + Push ENT

3. Select a message type. (Example: Individual)

MESSAGE TYPE
✓ Individual
Geographical
Exit | Back | Enter

Rotate CH/GRP + Push ENT

4. Select "Address."

COMPOSE DROBOSE
Message Type: Individual ▶
Address: ————— ▶
Distress ID: ————— ▶
Nature of Distress: Undesignated ▶
Position ▶
Exit | Back | Call

Rotate CH/GRP + Push ENT

5. Select a coast station address or "Manual Input." (Example: COAST A)

ADDRESS
✓ Manual Input ▶
COAST A
STATION A
STATION B
STATION C
Exit | Back | Enter

Rotate CH/GRP + Push ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter an Individual ID.
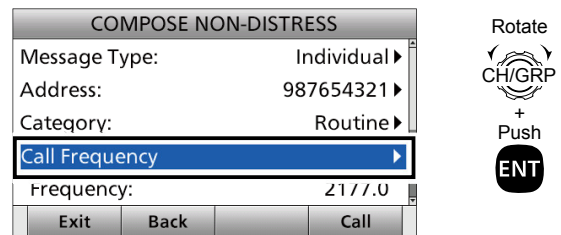
6. Select "Distress ID."

COMPOSE DROBOSE
Message Type: Individual ▶
Address: COAST A ▶
Distress ID: ————— ▶
Nature of Distress: Undesignated ▶
Position ▶
Exit | Back | Call

Rotate CH/GRP + Push ENT

7. Select a Distress ID from the list.
ⓘ Distress Call Log is displayed after receiving the Distress Call.

DISTRESS ID
✓ Manual Input ▶
STATION A
STATION A
STATION A
STATION A
Exit | Back | Enter

Rotate CH/GRP + Push ENT

■ Sending a Distress call

◇ Sending a Distress Relay call (continued)

8. Select "Call Frequency."

COMPOSE DROBOSE	
UTC:	No Time
Call Frequency	▶
RX Frequency:	2187.5
TX Frequency:	2187.5
Mode:	Telephony
Exit	Back		Call

Rotate
CH/GRP
+
Push
ENT

9. Select an option.
   (Example: 2187.5 kHz)

CALL FREQUENCY
✓ 2187.5 kHz
4207.5 kHz
6312.0 kHz
8414.5 kHz
12577.0 kHz
16804.5 kHz
Exit	Back		Enter

Rotate
CH/GRP
+
Push
ENT

10. Push [Call] 	 to send the Distress Relay call.

COMPOSE DROBOSE	
TX Frequency:	2187.5
Mode:	Telephony
Comm Frequency	
RX Frequency:	2182.0
TX Frequency:	2182.0
Exit	Back		Call

Push

DISTRESS RELAY
Transmitting
Distress Relay

11. After sending, the following screen is displayed.

RX	✉	MMSI:234567890
Distress Relay (Individual)		
Waiting for ACK		SIMP J3E
Elapsed: 00:00:13		RX 2.182.0
Distress ID		TX 2.182.0
STATION A		
Hold	Next Task	DEL Task	Standby Mode

ⓘ See page 29 for details of the software key function in the DSC Task mode.

12. Hold down [PTT] to communicate with a coast station.

13. Push [Standby Mode] 	 to return to the Standby mode.

◇ **Sending a Distress Relay acknowledgement**

Only when the Distress Relay call is received, you can send the Distress Relay acknowledgement.

Quick ACK:
1. When a Distress Relay call is received:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▭.

   RX   MMSI:123456789
   DSC Scan
   Received Distress Relay
   From: STATION B
   Fire,Explosion
   Elapsed: 00:00:04
   09:00 Manual   12M   8M   16.903.0
   Alarm Off

   Push any

2. Push [Accept] ▭.
   • Enters the DSC Task mode.
   • "✔" is displayed on the Task tab.

   RX   MMSI:123456789
   DSC Scan
   Received Distress Relay
   From: STATION B
   Fire,Explosion
   New FREQ after 4 sec.
   09:00 Manual   12M   8M   16.903.0
   Hold   Pause   Accept
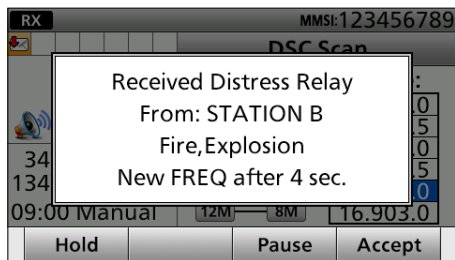
   Push

3. Push [▶] to scroll the software key function.
4. Push [ACK (Relay)] ▭.
   • The call contents screen is displayed.
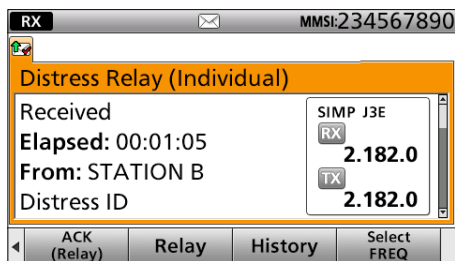
   RX   ✉   MMSI:234567890
   Distress Relay (Individual)
   Received   SIMP J3E
   Elapsed: 00:01:05   RX 2.182.0
   From: STATION B   TX 2.182.0
   Distress ID
   ACK   Relay   History   Select
   (Relay)   FREQ

   Push

   • The call contents screen is displayed.
   ⓘ Rotate [CH/ENT] to view the call contents.

5. Push [Call] ▭ to send the Distress Relay acknowledgement.

   COMPOSE DROBOSE
   TX Frequency: 2187.5
   Mode: Telephony
   Comm Frequency
   RX Frequency: 2182.0
   TX Frequency: 2182.0
   Exit   Back   Call

   Push

6. After sending, the following screen is displayed.

   RX   ✉   MMSI:123456789
   Distress Relay (Individual)
   Transmitted ACK   SIMP J3E
   Elapsed: 00:02:39   RX 2.182.0
   Distress ID   TX 2.182.0
   STATION A
   Hold   Next Task   DEL Task   Standby Mode

7. Hold down [PTT] to communicate with the ship in distress.
8. Push [Standby Mode] ▭ to return to the Standby mode.

TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.

   RX   MMSI:123456789
   DSC Scan
   Received Distress Relay
   From: STATION B
   Fire,Explosion
   Paused
   09:00 Manual   12M   8M   16.903.0
   Hold   Resume   Accept
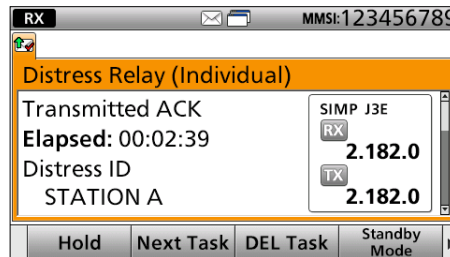
■ Sending a Non-Distress calls
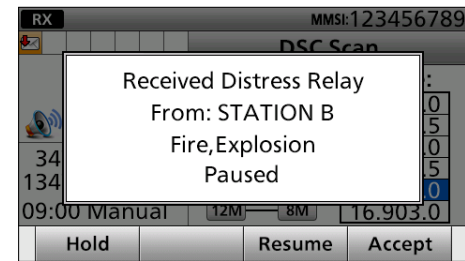
◇ Sending an Individual call

The Individual call function enables you to transmit a DSC signal to only a specific coast station or ship. After transmission, wait for an acknowledgement from the receiving station.
You can communicate by voice after receiving the acknowledgement 'ACK (able).'

1. Push [Compose Non-Distress] ▬ .
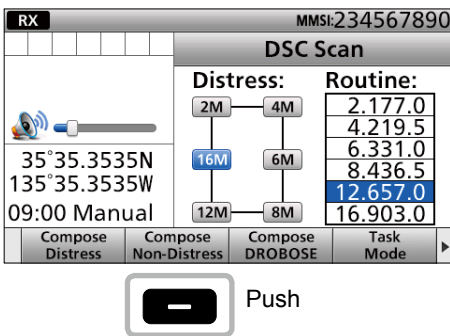
   Push

   ⓘ To display the screen from the Menu screen:
   ([MENU] > **Compose Non-Distress**)

2. Select "Address."

   Rotate
   CH/GRP
   +
   Push
   ENT
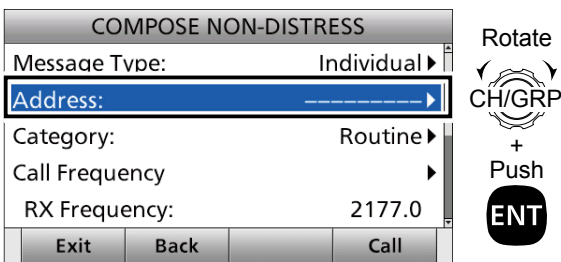
3. Select an Individual address, or "Manual Input."
   (Example: STATION A)
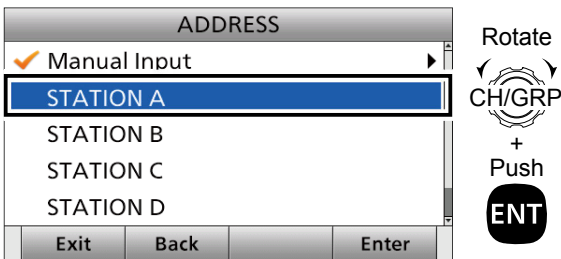
   Rotate
   CH/GRP
   +
   Push
   ENT

   NOTE: When you select "Manual Input" in this step, push the keypad to manually enter an Individual ID.

4. Select "Category."

   Rotate
   CH/GRP
   +
   Push
   ENT
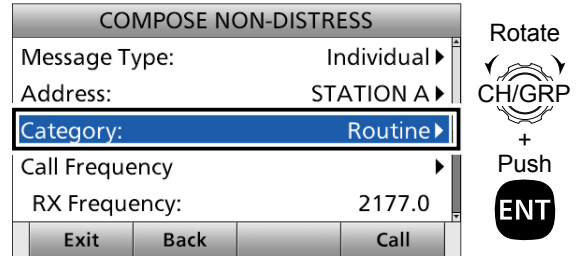
5. Select an option.
   (Example: Routine)

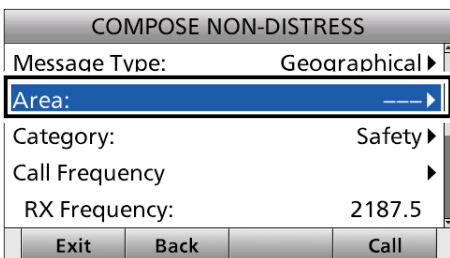   Rotate
   CH/GRP
   +
   Push
   ENT
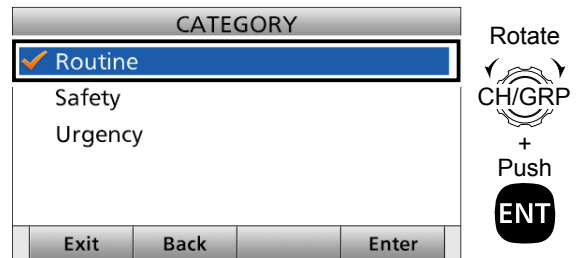
ⓘ**Information**
When you have manually entered an Individual ID, push the keypad to select the DSC call frequency.

1. Select "Call Frequency."

   Rotate
   CH/GRP
   +
   Push
   ENT

2. Select a DSC call frequency, or "Manual Input."
   (Example: INTER2-1)

   Rotate
   CH/GRP
   +
   Push
   ENT

   NOTE: When you select "Manual Input" in this step, push the keypad to manually enter the DSC call frequency.

6. Select "Comm Frequency."

COMPOSE NON-DISTRESS	
Frequency:	2177.0
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	2134.0
TX Frequency:	2134.0
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

7. Select a communication frequency, or "Manual Input."
(Example: SHIP 2M)

COMM FREQUENCY	
Manual Input	▶
SHIP 2M	
SHIP 4M	
SHIP 6M	
SHIP 8M	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
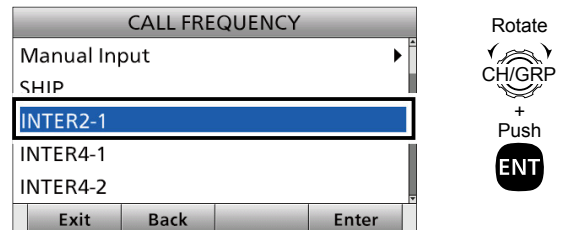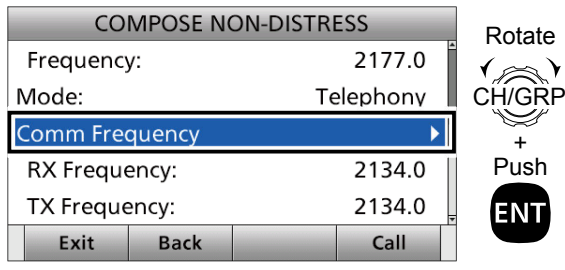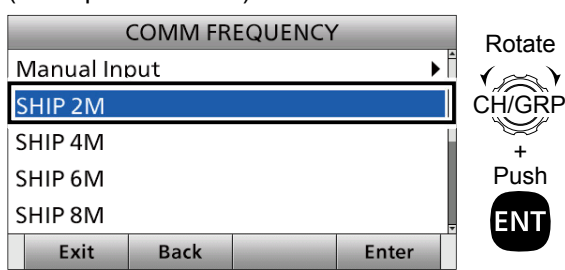
NOTE: When you select "Manual Input" in this step, push the keypad to manually enter a communication frequency.

8. Send an Individual call.
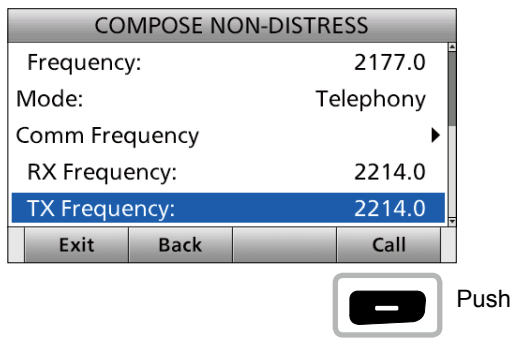
COMPOSE NON-DISTRESS	
Frequency:	2177.0
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	2214.0
TX Frequency:	**2214.0**
Exit	Back	Call

Push

9. After sending, "Waiting for ACK" is displayed.

RX ✉ MMSI:234567890

Individual Call
Waiting for ACK
Elapsed: 00:00:03
To: STATION A
Routine

Hold | Next Task | DEL Task | Standby Mode
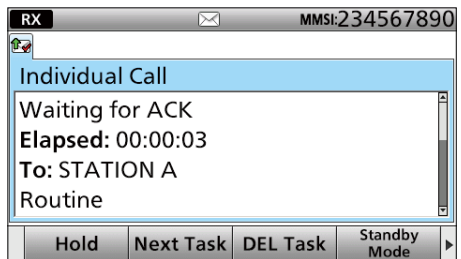
10. When receiving the acknowledgement:
• Alarm sounds.
• The following window is displayed.
(Example: ACK (Able))
Push any [Alarm Off] ▬.

RX ✉ MMSI:234567890

Received Individual ACK
From: STATION A
Elapsed: 00:00:01

Alarm Off
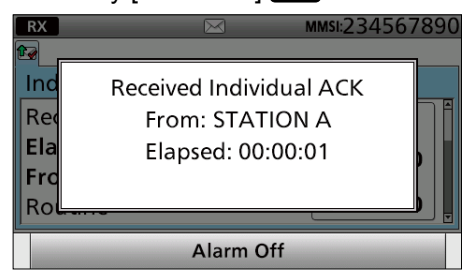
11. Push any [Close Call RCVD Window] ▬.
12. Hold down [PTT] to communicate.
13. Push [Standby Mode] ▬ to return to the Standby mode.

■ Sending a Non-Distress calls

◇ Sending an Individual acknowledgement

When receiving an Individual call, you can send an acknowledgement ('Able,' 'Unable,' or 'New CH') by using the on-screen prompts.

1. When an Individual call is received:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▬.
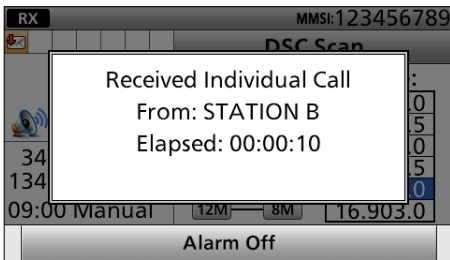
   Push

2. Push [Accept] ▬.
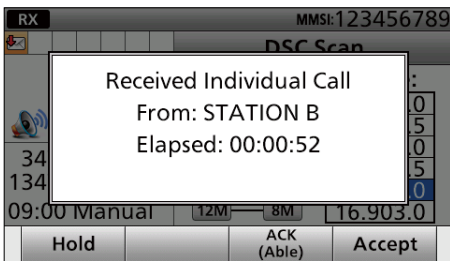
   Push

   • Enters the DSC Task mode.
   • "✔" is displayed on the Task tab.

3. Push [▶] to scroll the software key function.
4. Push a key to select an acknowledgement option.
   (Example: ACK (Able))

   Push
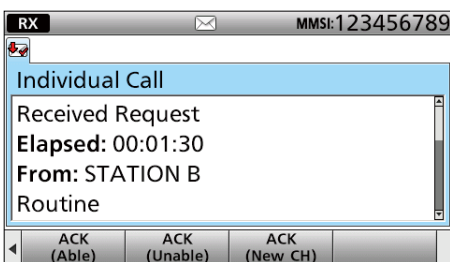
   ⓘ**Information**
   ACK (Able):
   Send an acknowledgment without any changes.
   ACK (Unable):
   Send an acknowledgment, but you cannot make a communication.
   ACK (New CH):
   Send an acknowledgment. You can specify the Voice Communication channel.

• The call contents screen is displayed.

5. Rotate [CH/GRP] to confirm the contents.
6. Push [Call] ▬ to send the Individual acknowledgement.
7. Hold down [PTT] to communicate.
8. Push [Exit] ▬ to return to the Main screen.

◇ Sending a Group call

You can transmit a DSC signal to only a specific group.
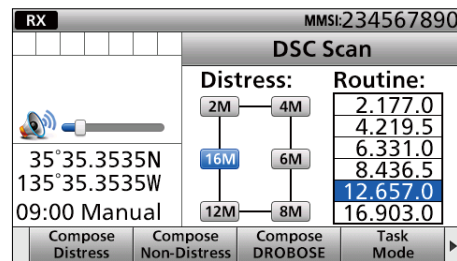
1. Push [Compose Non-Distress] ▬.

   Push

   ⓘ To display the screen from the Menu screen:
   ([MENU] > **Compose Non-Distress**)

2. Select "Message Type."

   Rotate
   CH/GRP
   +
   Push
   ENT

3. Select "Group."

   Rotate
   CH/GRP
   +
   Push
   ENT

4. Select "Address."

   Rotate
   CH/GRP
   +
   Push
   ENT
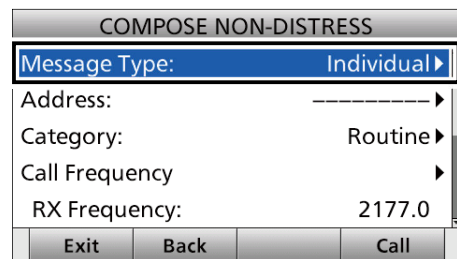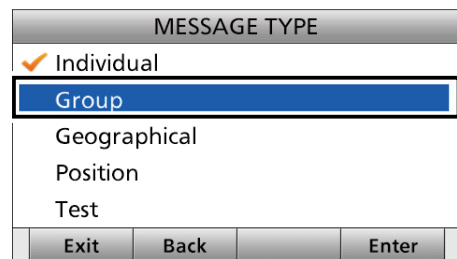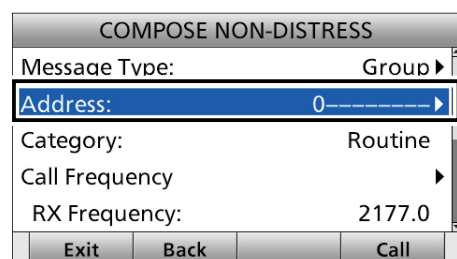
5. Select a Group ID, or "Manual Input."
   (Example: GROUP 1)

ADDRESS	
✓ Manual Input	▶
GROUP 1	
GROUP 2	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
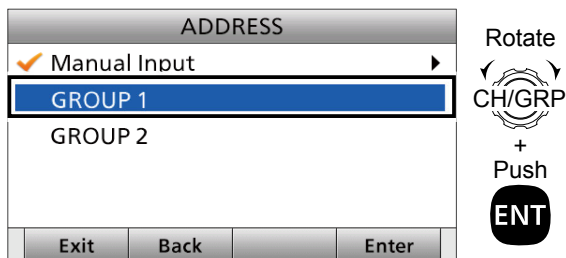
NOTE: When you select "Manual Input" in this step, push the keypad to manually enter a Group ID.

ⓘ**Information**
- The "Category" is fixed to "Routine."
- When you have manually entered a Group ID, push the keypad to manually select the DSC call frequency.

1. Select "Call Frequency."

COMPOSE NON-DISTRESS	
Message Type:	Individual ▶
Address:	987654321 ▶
Category:	Routine ▶
Call Frequency	▶
Frequency:	2177.0
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

2. Select a DSC call frequency, or "Manual Input."
   (Example: INTER2-1)

CALL FREQUENCY	
Manual Input	▶
SHIP	
INTER2-1	
INTER4-1	
INTER4-2	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter the DSC call frequency.

---

6. Select "Comm Frequency."

COMPOSE NON-DISTRESS	
Category:	Routine
Call Frequency	
Frequency:	12657.0
Mode:	Telephony
Comm Frequency	▶
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

7. Select a communication frequency, or "Manual Input."
   (Example: SHIP 2M)

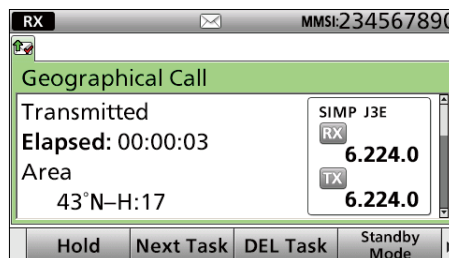| COMM FREQUENCY	
Manual Input	▶
SHIP 2M	
SHIP 4M	
SHIP 6M	
SHIP 8M	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
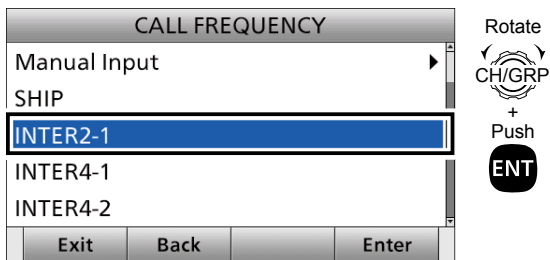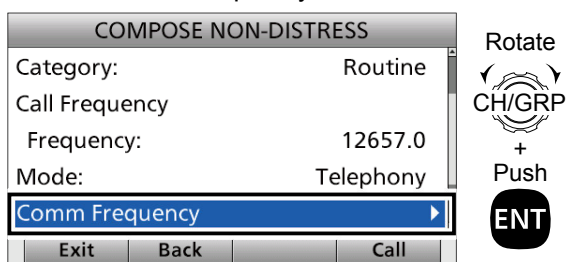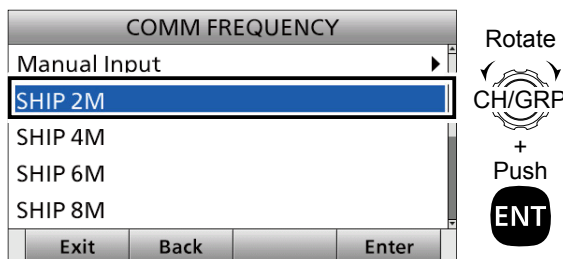
NOTE: When you select "Manual Input" in this step, push the keypad to manually enter a communication frequency.

8. Push [Call] ▬ to send the Group call.
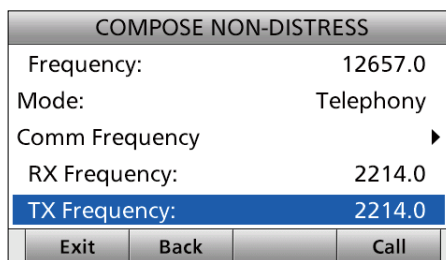
COMPOSE NON-DISTRESS	
Frequency:	12657.0
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	2214.0
TX Frequency:	**2214.0**
Exit	Back	Call

▬ Push

9. After sending, the following screen is displayed.
   ⓘ See page 29 for details of the software key functions in the DSC Task mode.

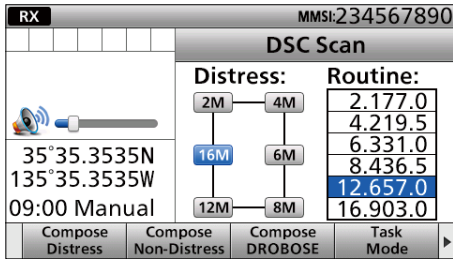| RX	✉	MMSI:234567890
Group Call		
Transmitted		SIMP J3E
Elapsed: 00:00:03		RX 2.214.0
To: GROUP 1		TX 2.214.0
Routine		
Hold	Next Task	DEL Task	Standby Mode ▶
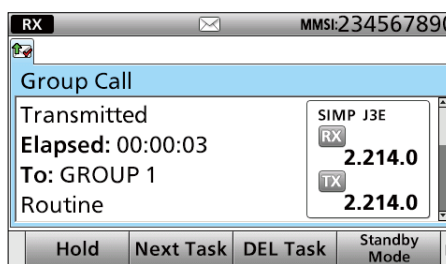
10. Hold down [PTT] to communicate.
11. Push [Standby Mode] ▬ to return to the Standby mode.

■ Sending a Non-Distress calls

◇ **Sending a Geographical call**

Send a Geographical call when urgency or safety message announcement is necessary to the ships in the particular area.

1. Push [Compose Non-Distress] ⊟.
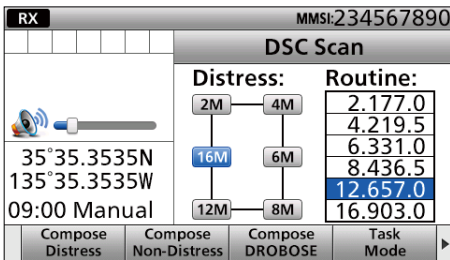
| | Push |

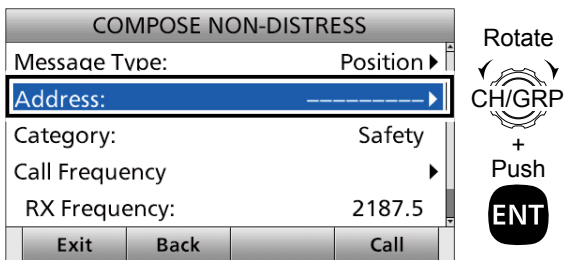ⓘ To display the screen from the Menu screen: ([MENU] > **Compose Non-Distress**)
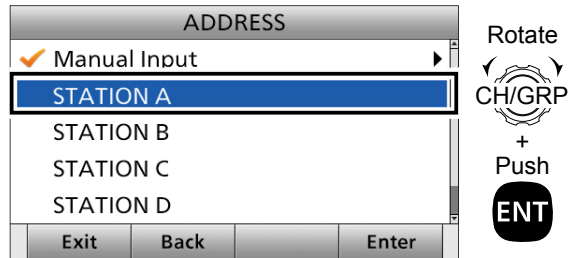
2. Select "Message Type."

Rotate CH/GRP + Push ENT

3. Select "Geographical."

Rotate CH/GRP + Push ENT

4. Select "Area."

Rotate CH/GRP + Push ENT

5. Select "Circle" or "Quadrant."

Rotate CH/GRP + Push ENT
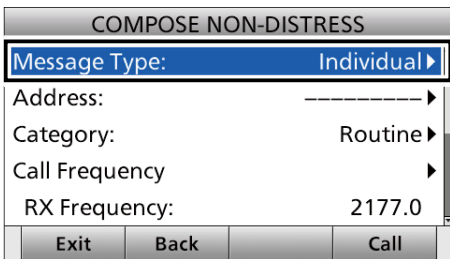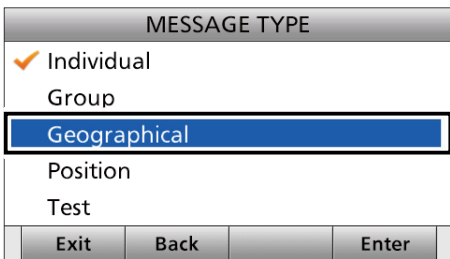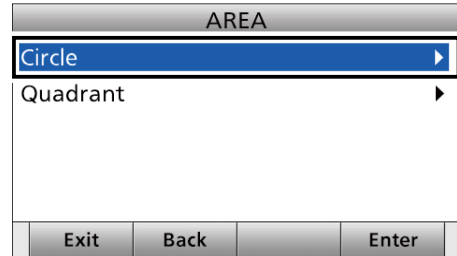
6. Enter the area information.

When selecting "Circle":
You can send a Geographical call within the area covered by a set nautical mile radius from your position.
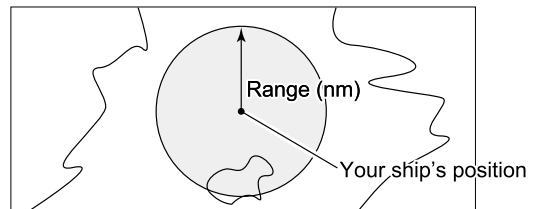
Range (nm)

Your ship's position

1 Enter the latitude of your position.
After entering, select "Done" and push [ENT].
ⓘ Displays your ship's position as default.

Push

+ Rotate CH/GRP to select a character

2 Enter the longitude of your position.
After entering, select "Done" and push [ENT].
ⓘ Displays your ship's position as default.

Push

+ Rotate CH/GRP to select a character
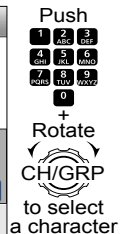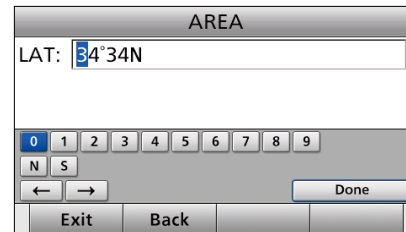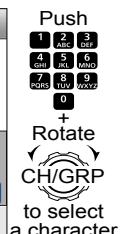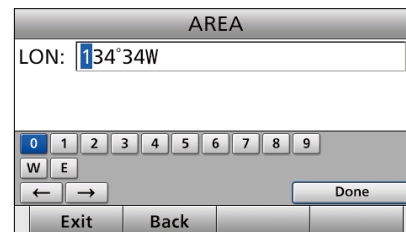
3 Enter the radius of the Geographical call area.
After entering, select "Done" and push [ENT].
(Example: 500 nm)

```
          AREA
Radius: −500 nm
LAT:   34°34N
LON: 134°34W

 0   1   2   3   4   5   6   7   8   9

 ←   →                        Done
    Exit      Back
```

Push

Rotate

CH/GRP
to select
a character

When selecting "Quadrant":
You can send a Geographical call within the square area as shown below. Your position is the upper left corner of the square.

• **Example**

Latitude: 20°N   Behind You: 10°
Longitude: 100°W   To Your Right: 20°

```
20°N/100°W                    20°N
                              80°W

      10°N                   10°N
     100°W                   80°W
```

1 Enter the latitude of your position.
After entering, select "Done" and push [ENT].

```
          AREA
LAT: 43°N

 0   1   2   3   4   5   6   7   8   9
 N   S
 ←   →                        Done
    Exit      Back
```

Push

Rotate

CH/GRP
to select
a character

2 Enter the longitude of your position.
After entering, select "Done" and push [ENT].

```
          AREA
LON: 145°W

 0   1   2   3   4   5   6   7   8   9
 W   E
 ←   →                        Done
    Exit      Back
```

Push

Rotate

CH/GRP
to select
a character

3 Enter the height of the Geographical call area.
After entering, select "Done" and push [ENT].

```
          AREA
Behind You: 17°
LAT: 43°N

 0   1   2   3   4   5   6   7   8   9

 ←   →                        Done
    Exit      Back
```

Push

Rotate

CH/GRP
to select
a character

4 Enter the width of the Geographical call area.
After entering, select "Done" and push [ENT].

```
          AREA
To Your Right: 21°
LON: 145°W

 0   1   2   3   4   5   6   7   8   9

 ←   →                        Done
    Exit      Back
```

Push

Rotate

CH/GRP
to select
a character

7. Select "Category."
   ⓘ The displayed items may differ depending on the selected option in "Area."

```
     COMPOSE NON-DISTRESS
Latitude:              43°N
Longitude:            145°W
Behind You:             17°
To Your Right:          21°
Category:            Safety ▶
    Exit      Back         Call
```

Rotate

CH/GRP

+

Push

ENT

8. Select an option.
   (Example: Safety)

```
          CATEGORY
✓ Safety
  Urgency




    Exit      Back        Enter
```

Rotate

CH/GRP

+

Push

ENT

7

■ Sending a Non-Distress calls

◇ Sending a Geographical call (continued)

9. Select "Call Frequency."
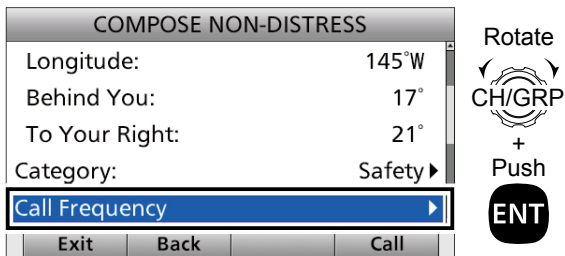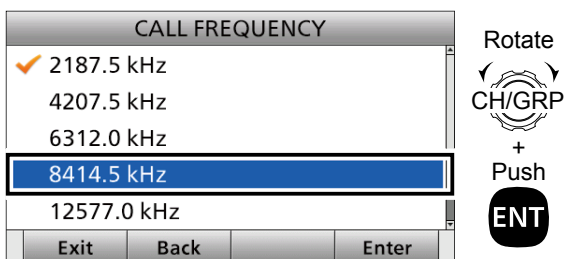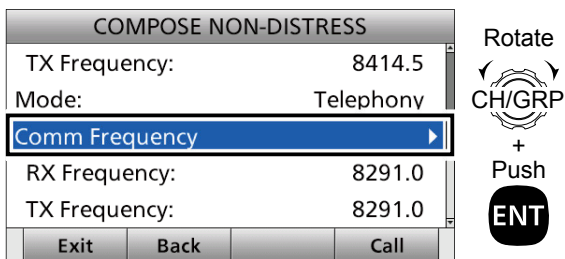
COMPOSE NON-DISTRESS	
Longitude:	145°W
Behind You:	17°
To Your Right:	21°
Category:	Safety ▶
Call Frequency	▶
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

10. Select an option. (Example: 8414.5 kHz)

CALL FREQUENCY	
✔ 2187.5 kHz	
4207.5 kHz	
6312.0 kHz	
8414.5 kHz	
12577.0 kHz	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

11. Select "Comm Frequency."

COMPOSE NON-DISTRESS	
TX Frequency:	8414.5
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	8291.0
TX Frequency:	8291.0
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

12. Select a communication frequency, or "Manual Input."
(Example: SHIP 6M)

COMM FREQUENCY	
Manual Input	▶
SHIP 2M	
SHIP 4M	
SHIP 6M	
SHIP 8M	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
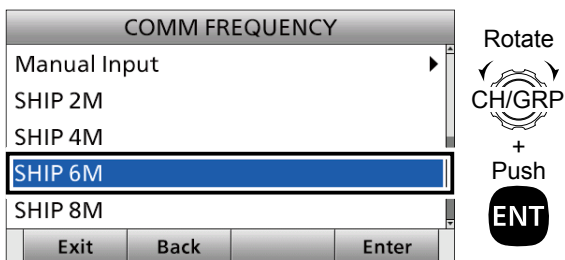
NOTE: When you select "Manual Input" in this step, push the keypad to manually enter a communication frequency.

13. Push [Call] ▬ to send the Geographical call.

COMPOSE NON-DISTRESS	
TX Frequency:	8414.5
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	6224.0
TX Frequency:	6224.0
Exit	Back	Call

▬ Push

14. After sending, the following screen is displayed.
ⓘ See page 29 for details of the software key functions in the DSC Task mode.

RX	✉	MMSI:234567890
Geographical Call		
Transmitted		SIMP J3E
Elapsed: 00:00:03		RX 6.224.0
Area		TX 6.224.0
43°N–H:17		
Hold	Next Task	DEL Task	Standby Mode

15. Hold down [PTT] to communicate.
16. Push [Standby Mode] ▬ to return to the Standby mode.

◇ Sending a Position Request call

Send a Position Request call when you want to know a specific ship's current position, and so on.

1. Push [Compose Non-Distress] ▬.

Push

ⓘ To display the screen from the Menu screen: ([MENU] > **Compose Non-Distress**)
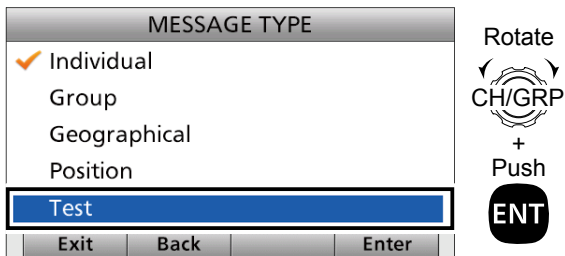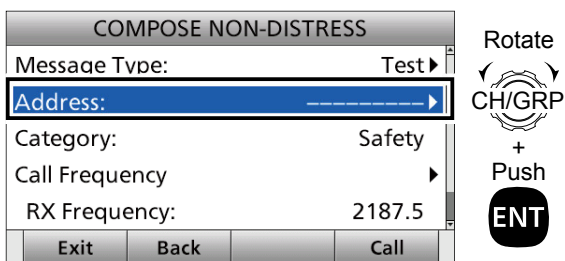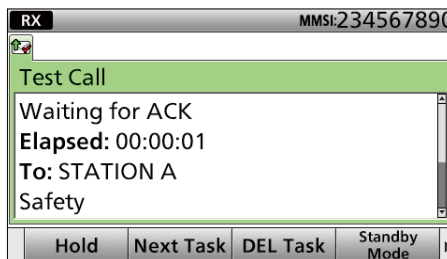
2. Select "Message Type."

Rotate CH/GRP + Push ENT

3. Select "Position."

Rotate CH/GRP + Push ENT

4. Select "Address."

Rotate CH/GRP + Push ENT

5. Select an Individual ID, or "Manual Input." (Example: STATION A)

Rotate CH/GRP + Push ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter an Individual ID.

6. Select "Call Frequency."

Rotate CH/GRP + Push ENT

7. Select an option. (Example: 8414.5 kHz)

Rotate CH/GRP + Push ENT

8. Push [Call] ▬ to send the Position Request call.

Push

7

■ Sending a Non-Distress calls

◇ Sending a Position Request call (continued)

9. After sending, the following screen is displayed.
    • See page 29 for details of the software key function in the DSC Task mode.

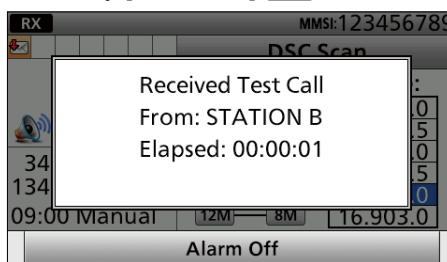RX   ✉   MMSI:234567890
Position Call
Waiting for ACK
Elapsed: 00:00:06
To: STATION A
Safety
Hold | Next Task | DEL Task | Standby Mode ▶

10. Push [Standby Mode] ⊟ to return to the Standby mode.

◇ **Sending a Position Request acknowledgement**

When receiving a Position Request call, you can send an acknowledgement.

1. When a Position Request call is received:
    • Alarm sounds.
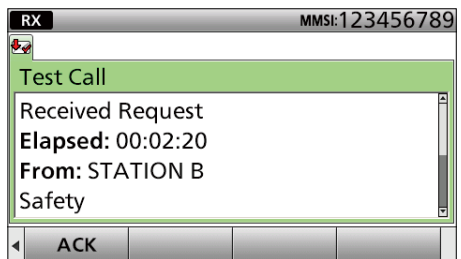   • The following screen is displayed.
    Push any [Alarm Off] ⊟.

RX   MMSI:123456789
DSC Scan
Received Position Request
From: STATION B
Elapsed: 00:00:02
34
134
09:00 Manual | 12M | 8M | 16.903.0
Alarm Off

2. Push [Accept] ⊟.

RX   MMSI:123456789
DSC Scan
Received Position Request
From: STATION B
Elapsed: 00:00:29
34
134
09:00 Manual | 12M | 8M | 16.903.0
Hold | ACK (Unable) | ACK (Able) | Accept

⊟ Push

• Enters the DSC Task mode.
• "✔" is displayed on the Task tab.

3. Push [▶] to scroll the software key function.

4. Push a key to select an acknowledgement option. (Example: ACK (Able))

RX   ✉   MMSI:123456789
Position Call
Received Request
Elapsed: 00:05:23
From: STATION B
Safety
◀ | ACK (Able) | ACK (Unable) |

⊟ Push
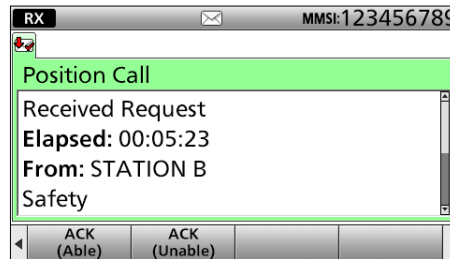
ⓘ**Information**
ACK (Able):
Send an acknowledgment with position data and time.
ACK (Unable):
Send an acknowledgment, but it does not include position data.

• The call contents screen is displayed.
ⓘ Rotate [CH/GRP] to confirm the contents.
ⓘ Change your position data, if the displayed data is invalid. (p. 27)
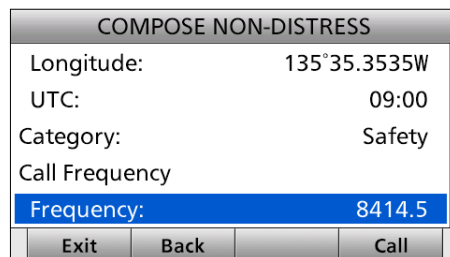
5. Push [Call] ⊟ to send the Position Request acknowledgement.

COMPOSE NON-DISTRESS
Longitude: 135°35.3535W
UTC: 09:00
Category: Safety
Call Frequency
Frequency: 8414.5
Exit | Back | Call

⊟ Push

• Your position data and time are transmitted.

6. Push [Standby Mode] ⊟ to return to the Standby mode.

TIP: When "Position ACK" is set to Auto, the transceiver automatically replies to the call. (p. 71)

◇ Sending a Polling Request acknowledgement

When a Polling Request is received, you can send an acknowledgement.
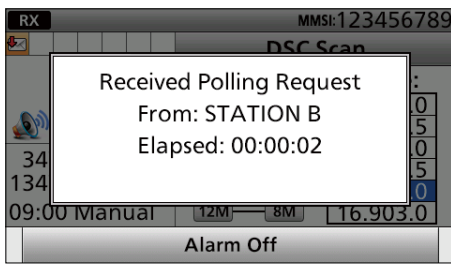
1. When a Polling Request call is received:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▭.
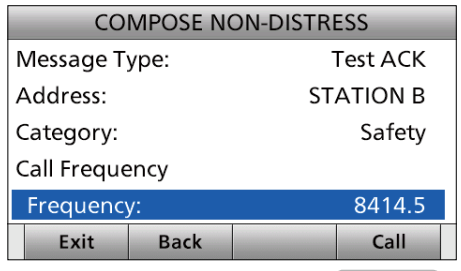

Push any

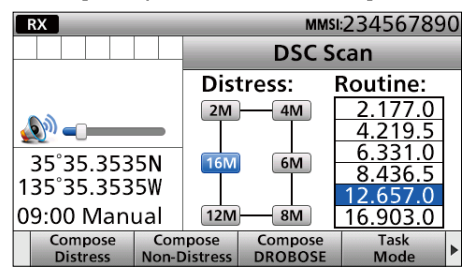2. Push [Accept] ▭.
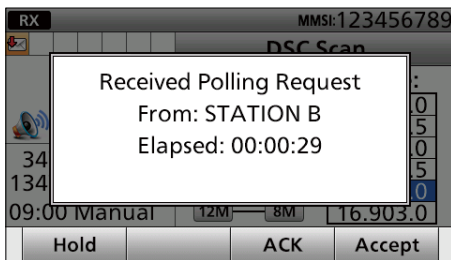
Push

   • Enters the DSC Task mode.

3. Push [▶] to scroll the software key function.
4. Push [ACK] ▭.
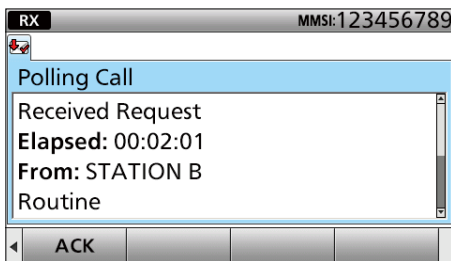
Push

   • The call contents screen is displayed.
   • Rotate [CH/GRP] to confirm the contents.

5. Push [Call] ▭ to send the Polling Request acknowledgement.
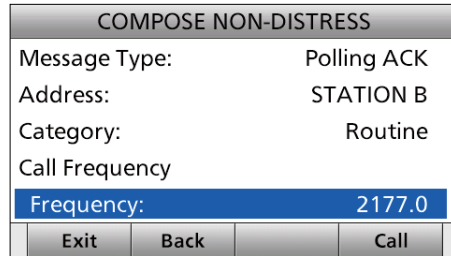
Push

   • Your position data and time are transmitted.
6. Push [Standby Mode] ▭ to return to the Standby mode.

◇ Sending a Test call

Testing on the exclusive DSC Distress and Safety calling frequencies should be avoided as much as possible by using other methods.
Normally the test call would require no further communications between the 2 stations involved.
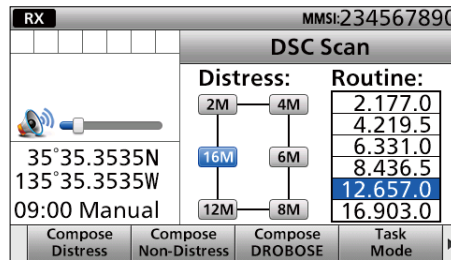
1. Push [Compose Non-Distress] ▭.

Push

   ⓘ To display the screen from the Menu screen:
   ([MENU] > **Compose Non-Distress**)

2. Select "Message Type."

Rotate
CH/GRP
+
Push
ENT
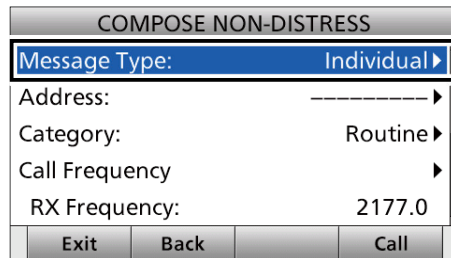
■ Sending a Non-Distress calls

◇ Sending a Test call (continued)

3. Select "Test."

MESSAGE TYPE	
✔ Individual	
Group	
Geographical	
Position	
Test	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

4. Select "Address."

COMPOSE NON-DISTRESS	
Message Type:	Test ▶
Address:	---------- ▶
Category:	Safety
Call Frequency	▶
RX Frequency:	2187.5
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

5. Select an Individual ID, or "Manual Input."
   (Example: STATION A)

ADDRESS	
✔ Manual Input	▶
STATION A	
STATION B	
STATION C	
STATION D	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter an Individual ID.

6. Select "Call Frequency."

COMPOSE NON-DISTRESS	
Message Type:	Test ▶
Address:	STATION A ▶
Category:	Safety
Call Frequency	▶
Frequency:	2187.5
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

7. Select an option. (Example: 8414.5 kHz)

CALL FREQUENCY	
✔ 2187.5 kHz	
4207.5 kHz	
6312.0 kHz	
8414.5 kHz	
12577.0 kHz	
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

8. Push [Call] ▬ to send the Test call.

COMPOSE NON-DISTRESS	
Message Type:	Test ▶
Address:	STATION A ▶
Category:	Safety
Call Frequency	▶
Frequency:	8414.5
Exit	Back	Call

▬ Push

9. After sending, the following screen is displayed.
   ① See page 29 for details of the software key function in the DSC Task mode.

RX	MMSI:234567890
Test Call	
Waiting for ACK	
Elapsed: 00:00:01	
To: STATION A	
Safety	
Hold	Next Task	DEL Task	Standby Mode ▶

10. Push [Standby Mode] ▬ to return to the Standby mode.

◇ Sending a Test call acknowledgement

When a Test call is received, you can send an acknowledgement.

1. When a Test call is received:
   • Alarm sounds.
   • The following screen is displayed.
   Push any [Alarm Off] ▬.

RX	MMSI:123456789
	DSC Scan
	Received Test Call
	From: STATION B
34	Elapsed: 00:00:01
134	
09:00 Manual	12M 8M 16.903.0
Alarm Off	

▬ ▬ ▬ ▬ Push any

2. Push [Accept] ⬛.

Received Test Call
From: STATION B
Elapsed: 00:00:37

Hold　　　　　　Accept

⬛ Push

• Enters the DSC Task mode.

3. Push [▶] to scroll the software key function.
4. Push [ACK] ⬛.

Test Call
Received Request
Elapsed: 00:02:20
From: STATION B
Safety

ACK
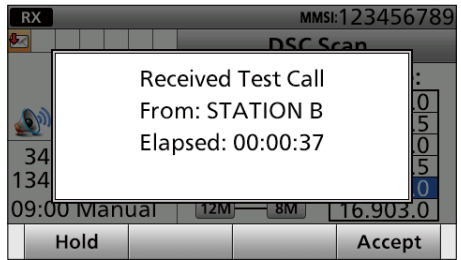
⬛ Push

• The call contents screen is displayed.
• Rotate [CH/GRP] to confirm the contents.

5. Push [Call] ⬛ to send the Test call acknowledgement.

COMPOSE NON-DISTRESS
Message Type:　　　　Test ACK
Address:　　　　　　STATION B
Category:　　　　　　Safety
Call Frequency
　Frequency:　　　　8414.5
Exit　　Back　　　　Call

⬛ Push

6. Push [Standby Mode] ⬛ to return to the Standby mode.

TIP: When "Test ACK" is set to Auto, the transceiver automatically replies to the call. (p. 71)

◇ **Sending a Medical Transports call or Ships and Aircraft call**

The Medical Transports call informs all ships, by urgency priority, that your ship is carrying a patient in need of medical treatment.

The Ships and Aircraft call informs all ships that your ship is a neutral (not a participant) in armed conflict. Be sure to send the call **BEFORE** entering an area of armed conflict.

NOTE: You should set the "Medical Transports" or "Ships and Aircraft" item to ON in advance. (p. 72)

1. Push [Compose Non-Distress] ⬛.

DSC Scan
Distress:　　Routine:
35°35.3535N
135°35.3535W
09:00 Manual
Compose Distress　Compose Non-Distress　Compose DROBOSE　Task Mode

⬛ Push

ⓘ To display the screen from the Menu screen: ([MENU] > **Compose Non-Distress**)

2. Select "Message Type."

COMPOSE NON-DISTRESS
Message Type:　　　　Individual▶
Address:　　　　　　─────▶
Category:　　　　　　Routine▶
Call Frequency　　　　　　　▶
　RX Frequency:　　　　2177.0
Exit　　Back　　　　Call

Rotate CH/GRP + Push ENT
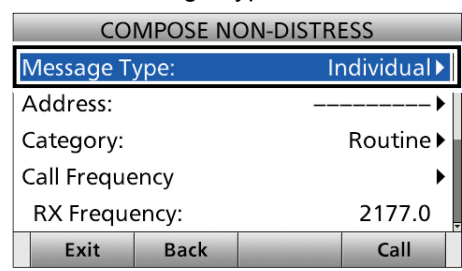
3. Select "Medical Transports" or "Ships and Aircraft." (Example: Medical Transports)

MESSAGE TYPE
Position
Polling
Test
Medical Transports
Ships and Aircraft
Exit　　Back　　　　Enter

Rotate CH/GRP + Push ENT
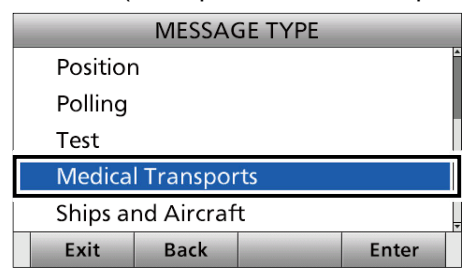
► Continued on the next page.

■ Sending a Non-Distress calls

◇ Sending a Medical Transports call or Ships and Aircraft call (continued)

4. Select "Area."
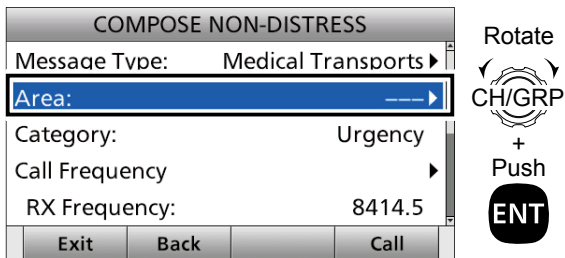
COMPOSE NON-DISTRESS	
Message Type:	Medical Transports ▶
Area:	–––▶
Category:	Urgency
Call Frequency	▶
RX Frequency:	8414.5
Exit	Back	Call

Rotate
CH/GRP
+
Push
ENT

5. Select "Circle" or "Quadrant."

AREA	
Circle	▶
Quadrant	▶
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT
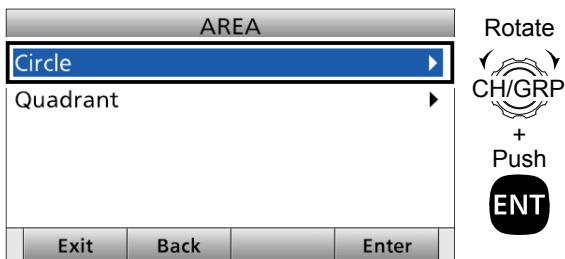
6. Enter the area information.

When selecting "Circle":
You can send a Medical Transports call or Ships and Aircraft call within the area covered by a set nautical mile radius from your position.
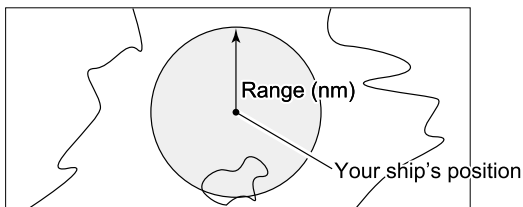
Range (nm)
Your ship's position

1   Enter the latitude of your position.
After entering, select "Done" and push [ENT].
ⓘ Displays your ship's position as default.

AREA
LAT: 34°34N
0 1 2 3 4 5 6 7 8 9
N S
← → Done
Exit	Back	

Push
1 2 3
4 5 6
7 8 9
0
+
Rotate
CH/GRP
to select a character

2   Enter the longitude of your position.
After entering, select "Done" and push [ENT].
ⓘ Displays your ship's position as default.
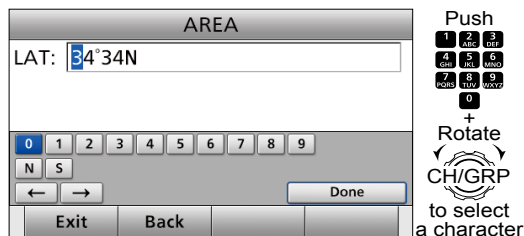
AREA
LON: 134°34W
0 1 2 3 4 5 6 7 8 9
W E
← → Done
Exit	Back	

Push
1 2 3
4 5 6
7 8 9
0
+
Rotate
CH/GRP
to select a character
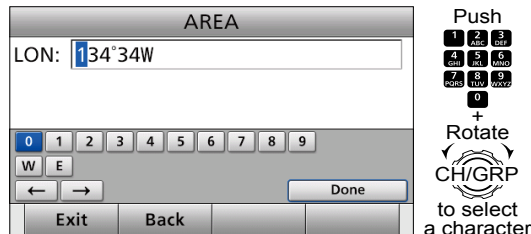
3   Enter the radius of the Medical Transports call or Ships and Aircraft call area.
After entering, select "Done" and push [ENT].
(Example: 500 nm)

AREA
Radius: –500 nm
LAT: 34°34N
LON: 134°34W
0 1 2 3 4 5 6 7 8 9
← → Done
Exit	Back	

Push
1 2 3
4 5 6
7 8 9
0
+
Rotate
CH/GRP
to select a character
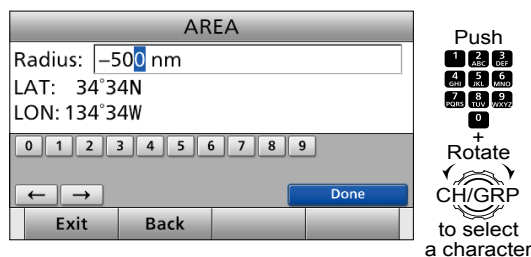
When selecting "Quadrant":
You can send a Medical Transports call or Ships and Aircraft call within the square area as shown below. Your position is the upper left corner of the square.

• **Example**
Latitude: 20°N   Behind You: 10°
Longitude: 100°W   To Your Right: 20°

20°N/100°W
20°N
80°W
10°N
100°W
10°N
80°W

1   Enter the latitude of your position.
After entering, select "Done" and push [ENT].

AREA
LAT: 43°N
0 1 2 3 4 5 6 7 8 9
N S
← → Done
Exit	Back	

Push
1 2 3
4 5 6
7 8 9
0
+
Rotate
CH/GRP
to select a character

2 Enter the longitude of your position.
After entering, select "Done" and push [ENT].
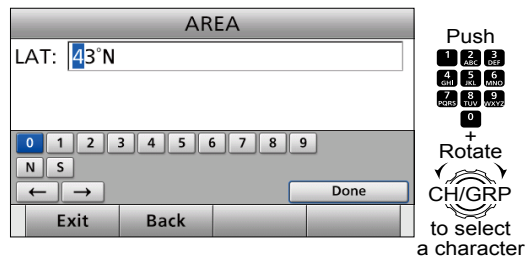
AREA
LON: 145°W
0 1 2 3 4 5 6 7 8 9
W E
← → Done
Exit Back

Push
Rotate CH/GRP
to select a character

3 Enter the height of the Medical Transports call area. After entering, select "Done" and push [ENT].

AREA
Behind You: 17°
LAT: 43°N
0 1 2 3 4 5 6 7 8 9
← → Done
Exit Back

Push
Rotate CH/GRP
to select a character

4 Enter the width of the Medical Transports call area. After entering, select "Done" and push [ENT].

AREA
To Your Right: 21°
LON: 145°W
0 1 2 3 4 5 6 7 8 9
← → Done
Exit Back

Push
Rotate CH/GRP
to select a character

7. Select "Call Frequency."

COMPOSE NON-DISTRESS	
Latitude:	34°34N
Longitude:	134°34W
Radius:	500 nm
Category:	Urgency
Call Frequency	▶
Exit Back	Call

Rotate CH/GRP
+
Push
ENT

8. Select an option.
(Example: 8414.5 kHz)

CALL FREQUENCY
✓ 2187.5 kHz
4207.5 kHz
6312.0 kHz
8414.5 kHz
12577.0 kHz
Exit Back Enter

Rotate CH/GRP
+
Push
ENT

9. Select "Comm Frequency."

COMPOSE NON-DISTRESS	
TX Frequency:	8414.5
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	8291.0
TX Frequency:	8291.0
Exit Back	Call

Rotate CH/GRP
+
Push
ENT

10. Select a communication frequency, or "Manual Input."
(Example: SHIP 8M)

COMM FREQUENCY	
Manual Input	▶
SHIP 2M	
SHIP 4M	
SHIP 6M	
SHIP 8M	
Exit Back	Enter

Rotate CH/GRP
+
Push
ENT

NOTE: When you select "Manual Input" in this step, push the keypad to manually enter a communication frequency.

11. Push [Call] ▬ to send the Medical Transports or Ships and Aircraft call.
(Example: Medical Transports call)

COMPOSE NON-DISTRESS	
TX Frequency:	8414.5
Mode:	Telephony
Comm Frequency	▶
RX Frequency:	8294.0
TX Frequency:	8294.0
Exit Back	Call

▬ Push

12. After sending, the following screen is displayed.
ⓘ See page 29 for details of the software key functions in the DSC Task mode.

RX ✉ MMSI:234567890	
Medical Transports	
Transmitted	SIMP J3E
Elapsed: 00:00:02	RX 8.294.0
Area	TX 8.294.0
43°N–H:17	
Hold Next Task DEL Task Standby Mode ▶	

13. Hold down [PTT] to communicate.
14. Push [Standby Mode] ▬ to return to the Standby mode.

7

■ Receiving DSC calls

NOTE: After receiving a DSC call
- "📥" is continuously displayed when the transceiver has DSC calls.
- "✉" continuously blinks when the transceiver has an unread DSC message in the Received Call Log. (p. 69)

IMPORTANT:
You should stop Distress call reception after one sequence because the coast station should send back an acknowledgement to the ship.
If the Distress call continues, the coast station may not be receiving the call.
In such cases, you should contact the ship via the phone.
When the ship requires a 'Distress Relay' call or the ship appears not to reply, you should transmit 'Distress Relay.' (p. 37)

◇ Receiving a Distress Call

1. When a Distress call is received:
   - Alarm sounds.
   - The following screen is displayed and the backlight blinks.
   - "📥" is displayed and "✉" blinks.
   Push [Alarm Off] ▬.
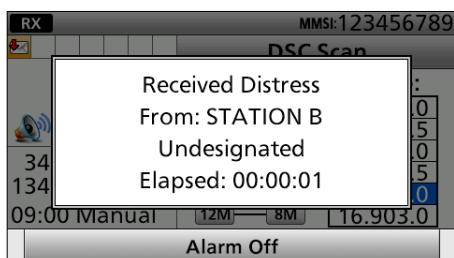
2. Select your desired action.
   ⓘ To send an acknowledgement, push [Accept] ▬.
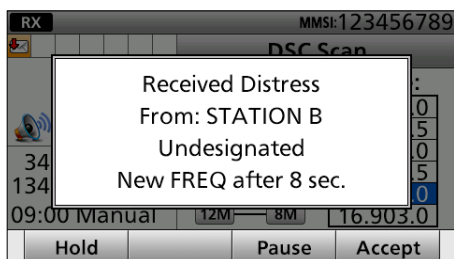
[Hold]: Push [Hold] ▬ to return to the Main screen.
[Pause]: Push [Pause] ▬ to pause the countdown.
[Accept]: Push [Accept] ▬ to enter the DSC Task mode.
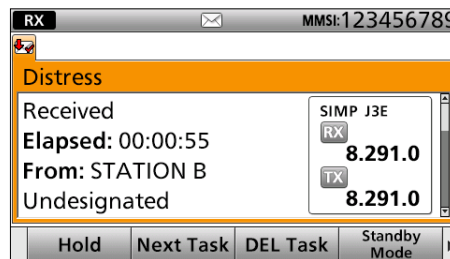
ⓘInformation
- One of the Emergency frequencies is automatically selected. Monitor it, because a coast station may require assistance.
- Rotate [CH/GRP] to confirm the call contents.
- See page 29 for details of the software key functions in the DSC Task mode.
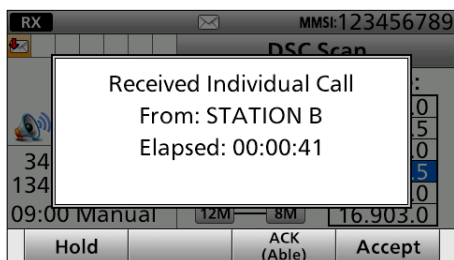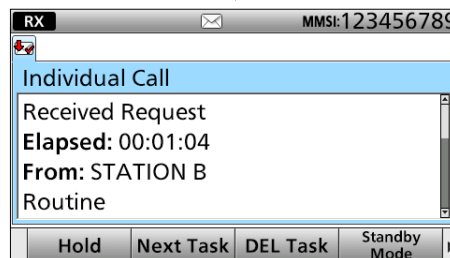
NOTE: When you select [Accept] ▬ in step 2, you can send the Relay call in the DSC Task mode.
To send the Relay call, go to step 3.
If you return to the Main screen without sending the Relay call, go to step 10.

3. Push [►] to scroll the software key functions.
4. Push [Relay] ▬.
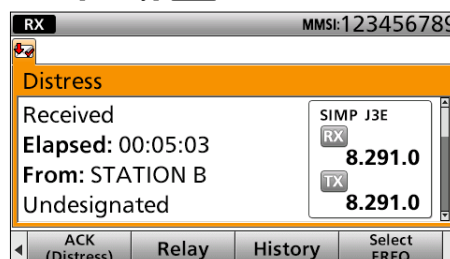
5. When the confirmation screen is displayed, push [OK].
6. Select "Address," then push [ENT].
7. Select the desired Individual address, or "Manual Input," then push [ENT].

8. Select your desired Individual ID, or "Manual Input." (Example: STATION A)

ADDRESS	
✔ Manual Input	▶
STATION A	
STATION B	
STATION C	
STATION D	
Exit	Back	Enter

Rotate

CH/GRP

+

Push

ENT
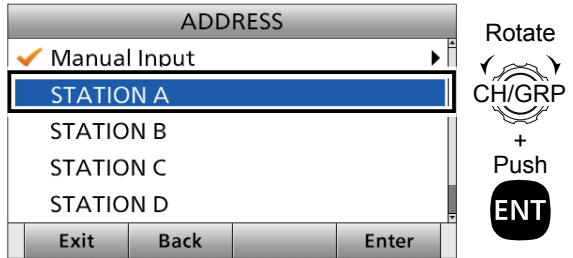
> **NOTE:** When you select "Manual Input" in this step, push the keypad to manually enter your desired Individual ID.

9. Push [Call] to send the Relay call.
10. Push [Standby Mode] 🔲 to return to the Standby mode.

> **TIP:** See page 36 for details of sending an acknowledgement.

> **TIP:** When you push [Pause] 🔲 in step 2, the countdown will be paused. Push [Resume] 🔲 to restart the countdown.
>
> RX MMSI:123456789
> DSC Scan
> Received Distress
> From: STATION B
> Undesignated
> Paused
> 34
> 134
> 09:00 Manual 12M 8M 16.903.0
> Hold | Resume | Accept
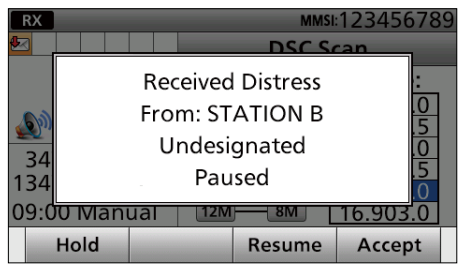
◇ Receiving a Distress acknowledgement

1. When a Distress Acknowledgement is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • " " is displayed.
   Push [Alarm Off] 🔲.

> RX MMSI:234567890
> Received Distress ACK
> From: STATION A
> Undesignated
> Elapsed: 00:00:01
> Alarm Off

Push any

2. Push [Close Call RCVD Window] 🔲.

> RX MMSI:234567890
> Received Distress ACK
> From: STATION A
> Undesignated
> Elapsed: 00:00:34
> Close Call RCVD Window

Push any

> RX MMSI:234567890
> **Distress**
> Received ACK
> **Elapsed:** 00:00:50
> **From:** STATION A
> Distress ID
> SIMP J3E
> RX 2.182.0
> TX 2.182.0
> Hold | Next Task | DEL Task | Standby Mode ▶

ⓘ**Information**
   • The communication frequency is automatically selected. Monitor it, because a coast station may require assistance.
   • Rotate [CH/GRP] to confirm the call contents.
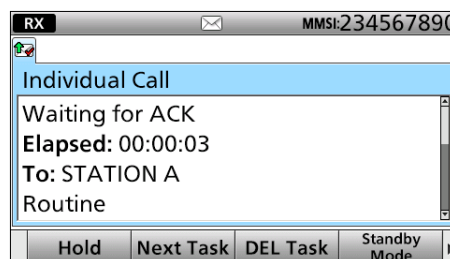   • See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] 🔲 to return to the Standby mode.

7
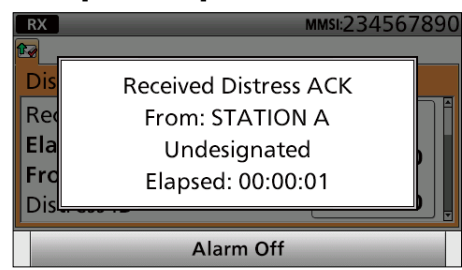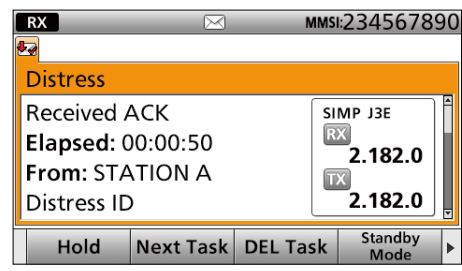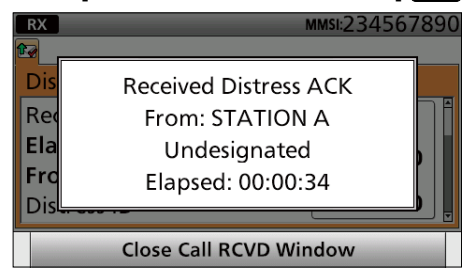
■ Receiving DSC calls

◇ **Receiving a Distress Cancel call**

1. When a Distress Cancel call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed and "✉" blinks.
   Push [Alarm Off] ▬.

	Push any

2. Select your desired action.
   ⓘ To send an acknowledgement, push [Accept] ▬.

[Hold]: Push [Hold] ▬ to return to the Main screen.
[Pause]: Push [Pause] ▬ to pause the countdown.
[Accept]: Push [Accept] ▬ to enter the DSC Task mode.

ⓘ**Information**
   • The communication frequency is automatically selected. Monitor it, because a coast station may require assistance.
   • Rotate [CH/GRP] to confirm the call contents.
   • See page 29 for details of the software key functions in the DSC Task mode.

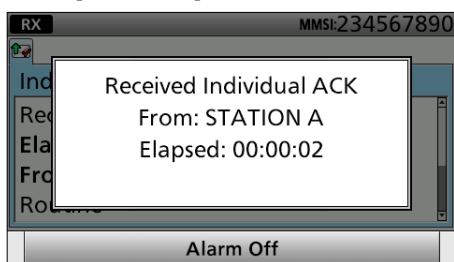3. Push [Standby Mode] ▬ to return to the Standby mode.

TIP: When you push [Pause] ▬ in step 2, the countdown will be paused. Push [Resume] ▬ to restart the countdown.

◇ **Receiving a Distress Relay call**

1. When a Distress Relay call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed and "✉" blinks.
   Push [Alarm Off] ▬.

	Push any

2. Select your desired action.
   ⓘTo send an acknowledgement, push [Accept] ▬.

[Hold]: Push [Hold] ▬ to return to the Main screen.
[Pause]: Push [Pause] ▬ to pause the countdown.
[Accept]: Push [Accept] ▬ to enter the DSC Task mode.

ⓘ**Information**
- The communication frequency is automatically selected. Monitor it, because a coast station may require assistance.
- Rotate [CH/GRP] to confirm the call contents.
- See page 29 for details of the Software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.

TIP: See page 42 for details of sending acknowledgement.

TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.
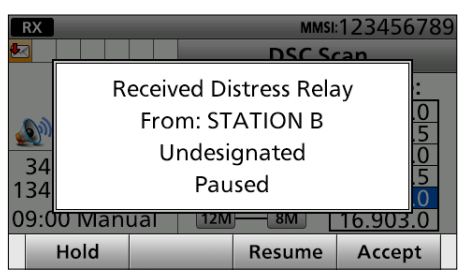
◇ **Receiving a Distress Relay acknowledgement**

1. When a Distress Relay Acknowledgement is received:
   - Alarm sounds.
   - "▭" is displayed.
   - The following screen is displayed and the backlight blinks.

   Push [Alarm Off] ▭.
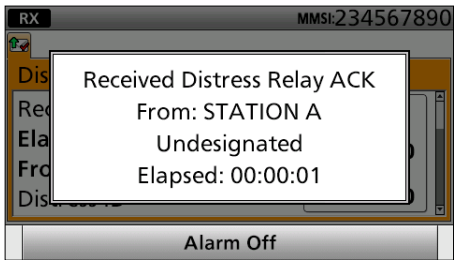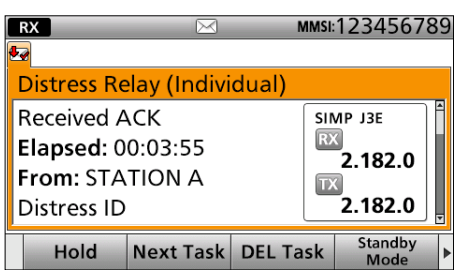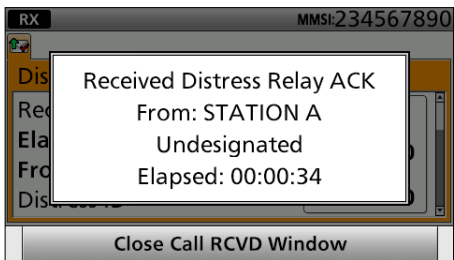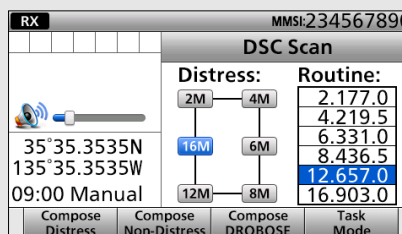

   Push any

2. Push [Close Call RCVD Window] ▭.

   Push any

ⓘ**Information**
- The communication frequency is automatically selected. Monitor it, because a coast station may require assistance.
- Rotate [CH/GRP] to confirm the call contents.
- See page 29 for details of the Software key functions in the DSC Task mode.

3. Hold down [PTT] to announce your situation.
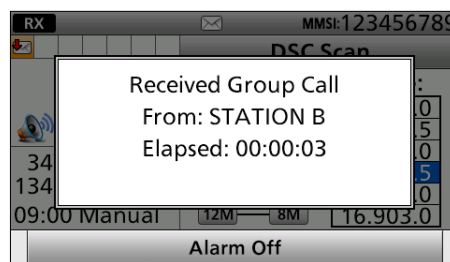4. Push [Standby Mode] ▭ to return to the Standby mode.

■ Receiving DSC calls

◇ **Receiving an Individual call**

NOTE: When the "Individual ACK" item is set to Auto, the transceiver automatically sends an acknowledgement. In that case, both the TX and RX calls are stored in the Transmitted and Received Call Logs. (p. 69)

NOTE: To receive an Individual call, push [D-SCAN] to enter the DSC watch mode.
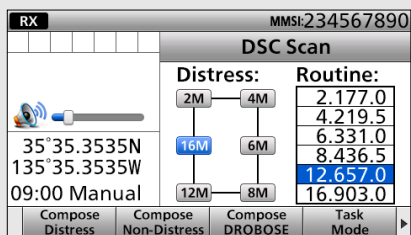
1. When an Individual call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "   " is displayed and "   " blinks.

   Push [Alarm Off]   .

   Push any
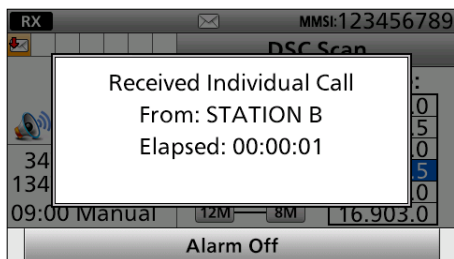
2. Select your desired action.
   ⓘ To send an acknowledgement, push [Accept]   .

[Hold]: Push [Hold]   to return to the Main screen.
[ACK (Able)]: Push [ACK (Able)]   to send an acknowledgment without any changes.
[Accept]: Push [Accept]   to enter the DSC Task mode.

ⓘ Rotate [CH/ENT] to confirm the call contents.
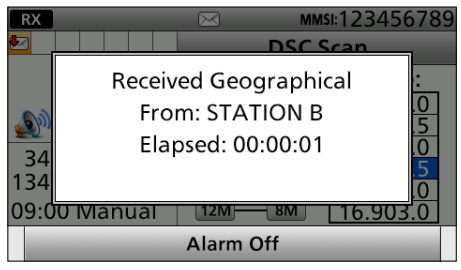ⓘ See page 29 for details of the Software key functions in the DSC Task mode.

NOTE: When you select "Accept" in step 2, you can send the acknowledgement in the DSC Task mode. To send the acknowledgement, go to step 3. If you return to the Main screen without sending the acknowledgement, go to step 7.

3. Push [▶] to scroll the software key function.
4. Push a desired key to select an acknowledgement option.
5. Push [Call]   to send the Individual acknowledgement.
6. Hold down [PTT] to communicate.
7. Push [Standby Mode]   to return to the Standby mode.

TIP: When you send the acknowledgement, select one of 3 options, depending on your situation. See page 45 for details of the Individual acknowledgement procedure.

◇ **Receiving an Individual acknowledgement**

After sending an Individual call, while the screen shown below is displayed, you can receive an Individual acknowledgement.

When receiving "ACK (able)":

You can make the voice communication on the frequency that you specified when you sent the call.

1. When an Individual acknowledgement "ACK (able)" is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed.
   Push [Alarm Off] ▭.

Push any

2. Push [Close Call RCVD Window] ▭.

Push any
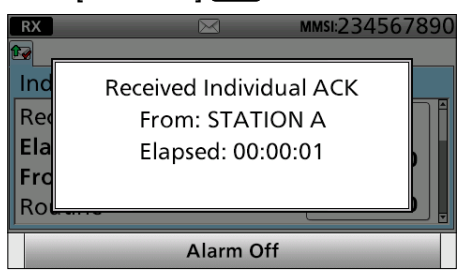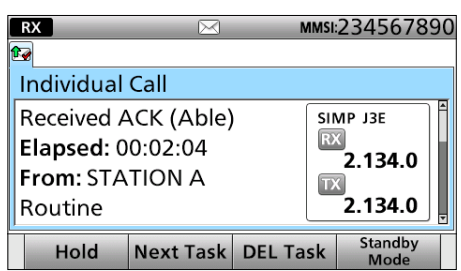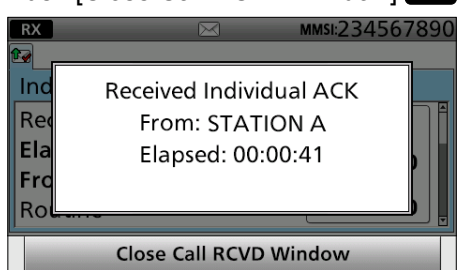
   • Automatically selects the communication frequency that you specified when sending the call.
   • Rotate [CH/GRP] to confirm the call contents.
   • See page 29 for details of the software key functions in the DSC Task mode.
3. Hold down [PTT] to communicate.
4. Push [Standby Mode] ▭ to return to the Standby mode.

When receiving "ACK (unable)":

You cannot make the voice communication.

1. When an Individual acknowledgement "ACK (unable)" is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed.
   Push [Alarm Off] ▭.

Push any

2. Push [Close Call RCVD Window] ▭.

Push any
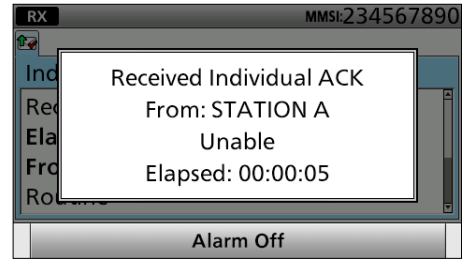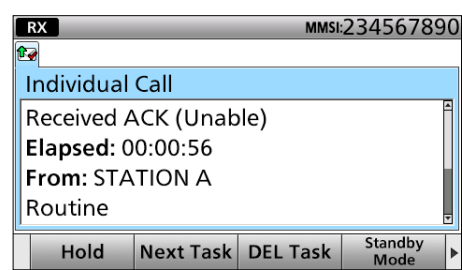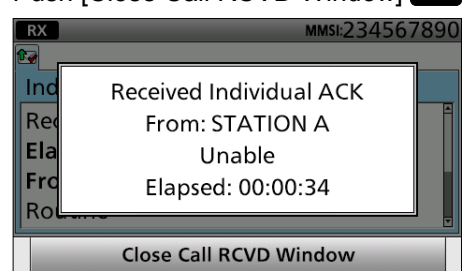
   • Rotate [CH/GRP] to confirm the call contents.
   • See page 29 for details of the Software key functions in the DSC Task mode.
3. Push [Standby Mode] ▭ to return to the Standby mode.

■ Receiving DSC calls

◇ Receiving an Individual acknowledgement
  (continued)

When receiving "ACK (New CH)":

1. When an Individual acknowledgement "ACK
   (New CH)" is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight
     blinks.
   • "⬇️✉️" is displayed.
   Push [Alarm Off] ▭.

   Received Individual ACK
   From: STATION A
   Elapsed: 00:00:02

   Alarm Off

   Push any

2. Push [Close Call RCVD Window] ▭.

   Received Individual ACK
   From: STATION A
   Elapsed: 00:00:41

   Close Call RCVD Window

   Push any

   Individual Call
   Received ACK (Able)   SIMP J3E
   Elapsed: 00:02:04   RX 2.134.0
   From: STATION A   TX 2.134.0
   Routine

   Hold | Next Task | DEL Task | Standby Mode
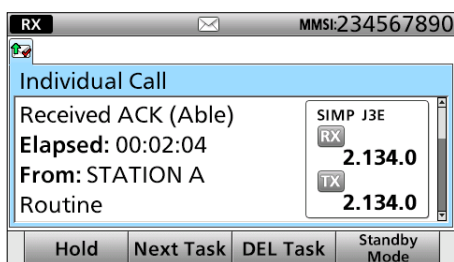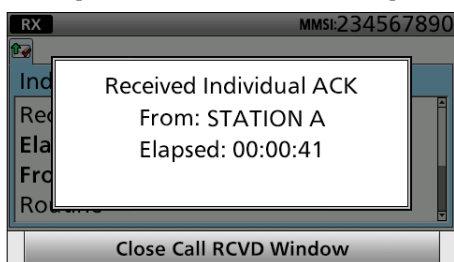
ⓘ**Information**
   • Automatically selects the communication frequency
     that specified by the called station.
   • Rotate [CH/GRP] to confirm the call contents.
   • See page 29 for details of the software key functions
     in the DSC Task mode.

3. Hold down [PTT] to communicate.

4. Push [Standby Mode] ▭ to return to the
   Standby mode.

◇ **Receiving a Group call**

NOTE: To receive a Group call, push [D-SCAN] to
enter the DSC watch mode.

   DSC Scan
   Distress: Routine:
   2M   4M   2.177.0
                    4.219.5
   16M 6M   6.331.0
   35°35.3535N   8.436.5
   135°35.3535W   12.657.0
   12M 8M   16.903.0
   09:00 Manual
   Compose | Compose | Compose | Task
   Distress | Non-Distress | DROBOSE | Mode

1. When a Group call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight
     blinks.
   • "⬇️✉️" is displayed and "✉️" blinks.
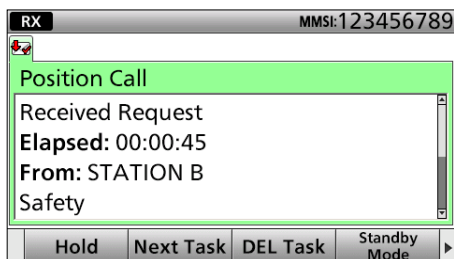   Push [Alarm Off] ▭.

   Received Group Call
   From: STATION B
   Elapsed: 00:00:03

   Alarm Off

   Push any

2. Select your desired action.

   Received Group Call
   From: STATION B
   New FREQ after 10 sec.

   Hold | Pause | Accept

   [Hold]:   Push [Hold] ▭ to return to the Main
             screen.
   [Pause]: Push [Pause] ▭ to pause the
             countdown.
   [Accept]: Push [Accept] ▭ to enter the DSC
             Task mode.

ⓘInformation
• Monitors the communication frequency specified by the calling station for an announcement from the calling station.
• Rotate [CH/GRP] to confirm the call contents.
• See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.


TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.

◇ Receiving a Geographical Area call

1. When a Geographical Area call (for the area you are in) is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • ""⬇📧" is displayed and "📧" blinks.
   Push [Alarm Off] ▭.

Push any

---

2. Select your desired action.

[Hold]:   Push [Hold] ▭ to return to the Main screen.
[Pause]:   Push [Pause] ▭ to pause the countdown.
[Accept]: Push [Accept] ▭ to enter the DSC Task mode.

ⓘInformation
• Monitors the communication frequency specified by the calling station for an announcement from the calling station.
• Rotate [CH/GRP] to confirm the call contents.
• See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.

TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.

■   Receiving DSC calls

◇ Receiving a Position Request call

NOTE: When "Position ACK" is set to "Auto," the transceiver automatically replies to the call. In that case, both the TX and RX calls are stored in the Transmitted and Received Call Logs. (Default: Manual)
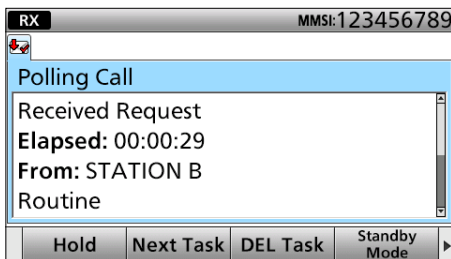
1. When a Position Request call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed and "✉" blinks.
   Push [Alarm Off] ▬.

   RX   MMSI:123456789
   DSC Scan
   Received Position Request
   From: STATION B
   Elapsed: 00:00:02
   34
   134
   09:00 Manual 12M   8M   16.903.0
   Alarm Off

2. Select your desired action.

   RX   MMSI:123456789
   DSC Scan
   Received Position Request
   From: STATION B
   Elapsed: 00:00:41
   34
   134
   09:00 Manual 12M   8M   16.903.0
   Hold   ACK   Accept

   [Hold]:   Push [Hold] ▬ to return to the Main screen.
   [ACK]   Push [ACK] ▬ to send an acknowledgement.
   [Accept]: Push [Accept] ▬ to enter the DSC Task mode.

   RX   MMSI:123456789
   Position Call
   Received Request
   Elapsed: 00:00:45
   From: STATION B
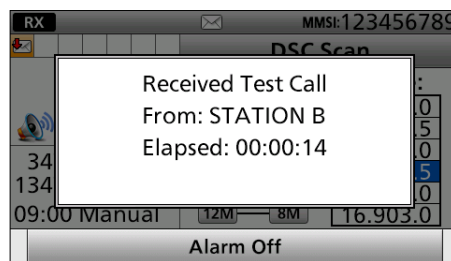   Safety
   Hold Next Task DEL Task Standby Mode
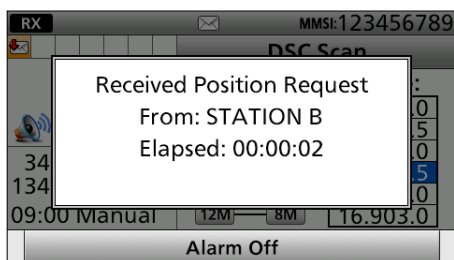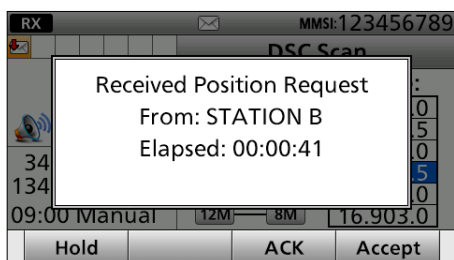
   ⓘ Rotate [CH/GRP] to confirm the call contents.
   ⓘ See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] ▬ to return to the Standby mode.

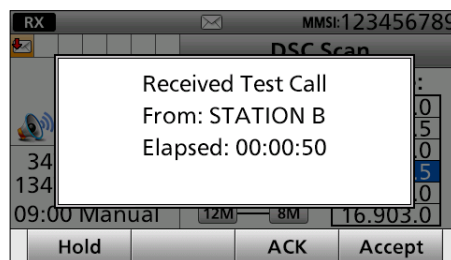**TIP:** See page 51 for details on sending an acknowledgement.

◇ Receiving a Position Request acknowledgement

1. When a Position Request acknowledgement is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇✉" is displayed.
   Push [Alarm Off] ▬.

   RX   MMSI:234567890
   Tes
   Re   Received Position ACK
   Ela From: STATION A
   Fro Elapsed: 00:00:01
   Saf
   Alarm Off

2. Push [Close Call RCVD Window] ▬.
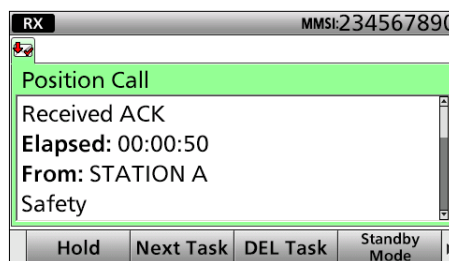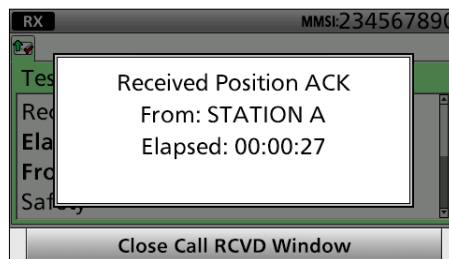
   RX   MMSI:234567890
   Tes
   Re   Received Position ACK
   Ela From: STATION A
   Fro Elapsed: 00:00:27
   Saf
   Close Call RCVD Window

   ▬ ▬ ▬ ▬   Push any

   RX   MMSI:234567890
   Position Call
   Received ACK
   Elapsed: 00:00:50
   From: STATION A
   Safety
   Hold Next Task DEL Task Standby Mode ▶

   ⓘ Rotate [CH/GRP] to confirm the call contents.
   ⓘ See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] ▬ to return to the Standby mode.

◇ Receiving a Polling Request call

NOTE: When "Polling ACK" is set to "Auto," the transceiver automatically replies to the call. In that case, both the TX and RX calls are stored in the Transmitted and Received Call Logs. (Default: Auto)
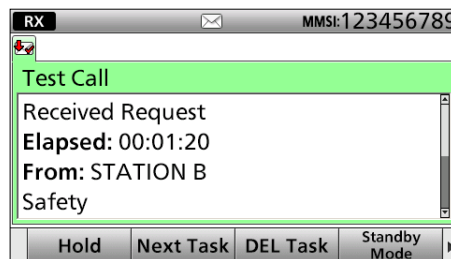
1. When a Polling Request call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
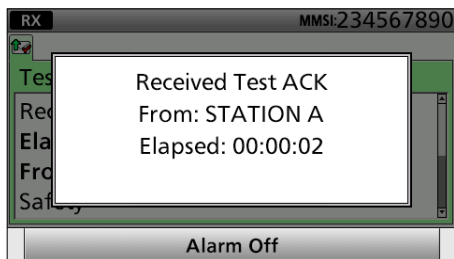   • "⬇📩" is displayed and "📩" blinks.
   Push [Alarm Off] ▭
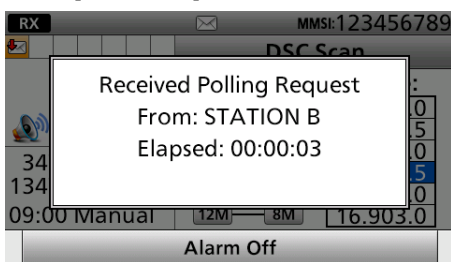
2. Select your desired action.
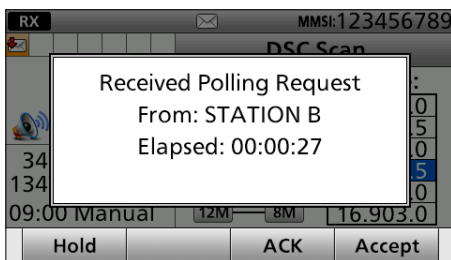
   [Hold]: Push [Hold] ▭ to return to the Main screen.
   [ACK] Push [ACK] ▭ to send an acknowledgement.
   [Accept]: Push [Accept] ▭ to enter the DSC Task mode.

   ⓘ Rotate [CH/GRP] to confirm the call contents.
   ⓘ See page 29 for details of the Software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.

   TIP: See page 52 for details on sending an acknowledgement.

◇ Receiving a Test call

NOTE: When "Test ACK" is set to "Auto," the transceiver automatically replies to the call. In that case, both the TX and RX calls are stored in the Transmitted and Received Call Logs. (Default: Auto)

1. When a Test call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
   • "⬇📩" is displayed and "📩" blinks.
   Push [Alarm Off] ▭ .

    Push any

2. Select your desired action.

   [Hold]: Push [Hold] ▭ to return to the Main screen.
   [ACK] Push [ACK] ▭ to send an acknowledgement.
   [Accept]: Push [Accept] ▭ to enter the DSC Task mode.

   ⓘ Rotate [CH/GRP] to confirm the call contents.
   ⓘ See page 29 for details of the Software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.

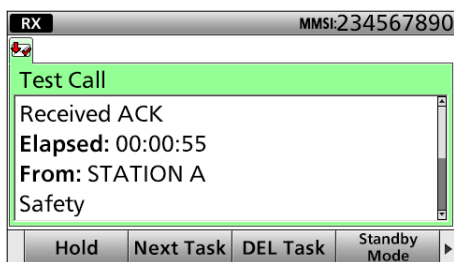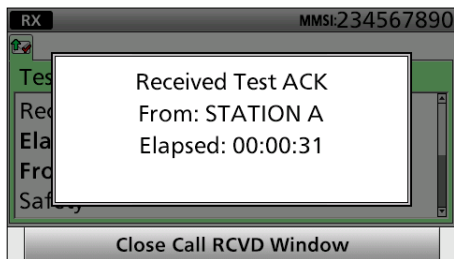   TIP: See page 53 for details on sending an acknowledgement.

■   Receiving DSC calls

◇ **Receiving a Test acknowledgement**

1.   When a Test acknowledgement is received:
      • Alarm sounds.
      • The following screen is displayed and the backlight blinks.
      • "📩" is displayed.
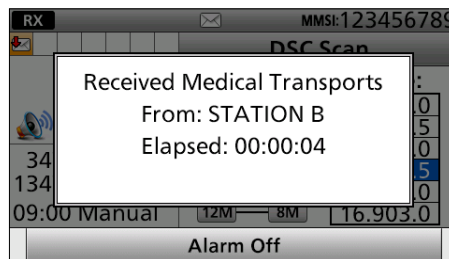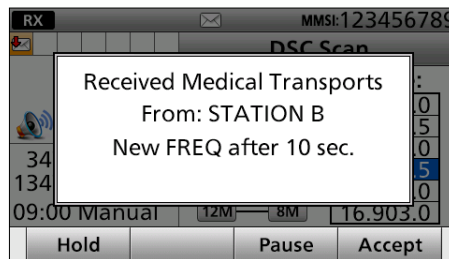   Push [Alarm Off] ▬.

> **RX**   MMSI:234567890
>
> Tes
> Rec   Received Test ACK
> Ela   From: STATION A
> Fro   Elapsed: 00:00:02
> Saf
>
> **Alarm Off**

Push any

2.   Push [Close Call RCVD Window] ▬.

> **RX**   MMSI:234567890
>
> Tes
> Rec   Received Test ACK
> Ela   From: STATION A
> Fro   Elapsed: 00:00:31
> Saf
>
> **Close Call RCVD Window**

Push any

⬇

> **RX**   MMSI:234567890
>
> **Test Call**
> Received ACK
> **Elapsed:** 00:00:55
> **From:** STATION A
> Safety
>
> Hold | Next Task | DEL Task | Standby Mode

      • Rotate [CH/GRP] to confirm the call contents.
      • See page 29 for details of the Software key functions in the DSC Task mode.
3.   Push [Standby Mode] ▬ to return to the Standby mode.

◇ **Receiving a Medical Transports call**

1.   When a Medical Transports call is received:
      • Alarm sounds.
      • The following screen is displayed and the backlight blinks.
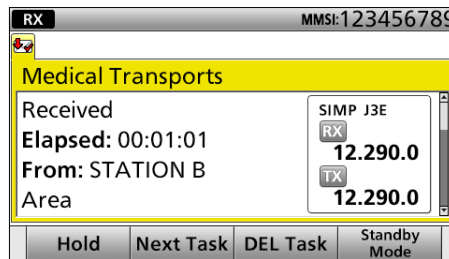   • "📩" is displayed and "✉" blinks.
      Push [Alarm Off] ▬.

> **RX**   MMSI:123456789
>   DSC Scan
>   Received Medical Transports   :
>   From: STATION B   0
>   Elapsed: 00:00:04   5
>   0
> 34   5
> 134   0
> 09:00 Manual   12M — 8M   16.903.0
>
> **Alarm Off**

Push any

2.   Select your desired action.

> **RX**   MMSI:123456789
>   DSC Scan
>   Received Medical Transports   :
>   From: STATION B   0
>   New FREQ after 10 sec.   5
>   0
> 34   5
> 134   0
> 09:00 Manual   12M — 8M   16.903.0
>
> Hold | | Pause | Accept

[Hold]:   Push [Hold] ▬ to return to the Main screen.
[Pause]:   Push [Pause] ▬ to pause the countdown.
[Accept]: Push [Accept] ▬ to enter the DSC Task mode.

> **RX**   MMSI:123456789
>
> **Medical Transports**
> Received   SIMP J3E
> **Elapsed:** 00:01:01   RX
> **From:** STATION B   12.290.0
> Area   TX
>   12.290.0
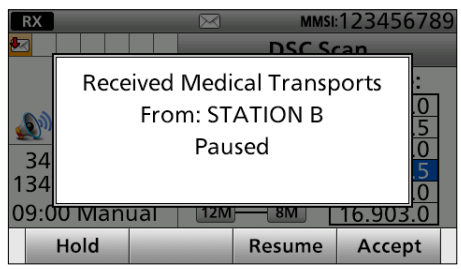> Hold | Next Task | DEL Task | Standby Mode

ⓘ**Information**
      • Monitors the communication frequency specified by the calling station for an announcement from the calling station.
      • Rotate [CH/GRP] to confirm the call contents.
      • See page 29 for details of the Software key functions in the DSC Task mode.
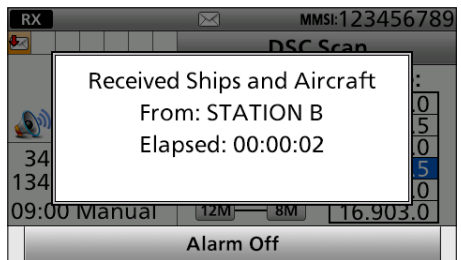3.   Push [Standby Mode] ▬ to return to the Standby mode.

TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.
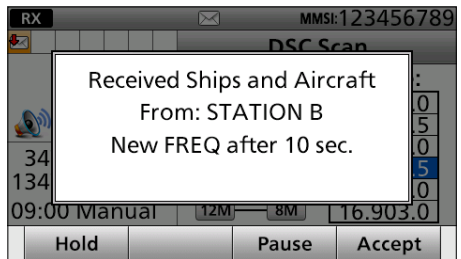

◇ Receiving a Ships and Aircraft call

1. When a Ships and Aircraft call is received:
   • Alarm sounds.
   • The following screen is displayed and the backlight blinks.
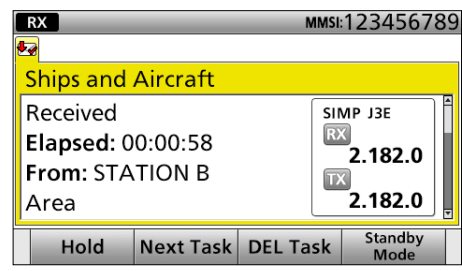   • "⬇✉" is displayed and "✉" blinks.
   Push [Alarm Off] ▭.
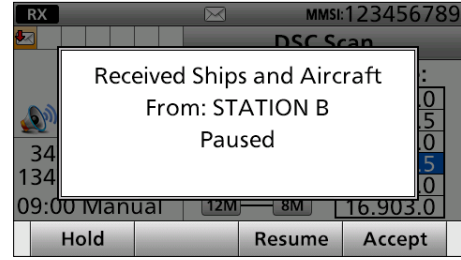

Push any

2. Select your desired action.

[Hold]: Push [Hold] ▭ to return to the Main screen.

[Pause]: Push [Pause] ▭ to pause the countdown.

[Accept]: Push [Accept] ▭ to enter the DSC Task mode.

ⓘ**Information**
   • Monitors the communication frequency specified by the calling station for an announcement from the calling station.
   • Rotate [CH/GRP] to confirm the call contents.
   • See page 29 for details of the software key functions in the DSC Task mode.

3. Push [Standby Mode] ▭ to return to the Standby mode.

TIP: When you push [Pause] ▭ in step 2, the countdown will be paused. Push [Resume] ▭ to restart the countdown.

■ Received Call log

The transceiver automatically stores up to 50 distress messages and 50 other messages, and they can be used as a supplement to your logbook.

ⓘ**Information**
Software key functions in the RECIEVED CALL LOG screen:
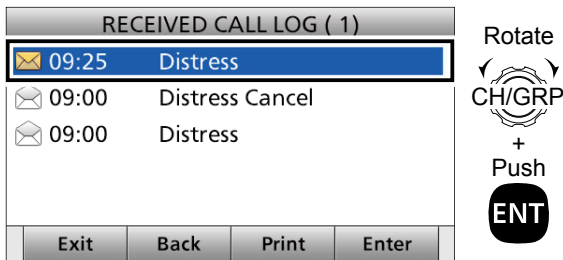[Exit]: Push to return to the Main screen.
[Back]: Push to return to the previous screen.
[Print]: Push to print out the selected message when a printer is connected to the transceiver.
[Enter]: Push to go to the next screen.
[Delete]: Push to delete the selected message.

◇ Distress message

1. Push [DSC Log] ▭ to display the RECIEVED CALL LOG screen.
2. Select "Distress," then push [ENT].
3. Select your desired item.

| RECEIVED CALL LOG (1)	
✉ 09:25	Distress
✉ 09:00	Distress Cancel
✉ 09:00	Distress
Exit	Back	Print	Enter

Rotate
CH/GRP
+
Push
ENT

4. Rotate [CH/GRP] to confirm the message contents.
5. Push [Standby Mode] ▭ to return to the Standby mode.
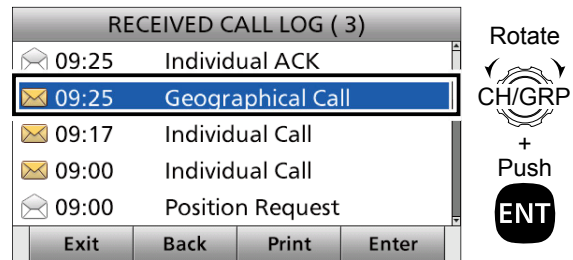
■ Transmitted Call log

The transceiver automatically stores up to 50 transmitted calls, and the logs can be used as a supplement to your logbook.

1. Push [MENU].
2. Select "Transmitted Call Log."
   (DSC Log > **Transmitted Call Log**)

DSC LOG	
Received Call Log	▶
Transmitted Call Log	▶
Exit	Back	Enter

Rotate
CH/GRP
+
Push
ENT

NOTE:
• When there is an unread DSC message, "✉" blinks on the information area of the LCD.
• The Distress messages are stored in "Distress."
• "✉" is displayed when there are unread DSC messages.
• "✉" is displayed when there are no unread DSC messages.
• No icon is displayed when there are no DSC messages.
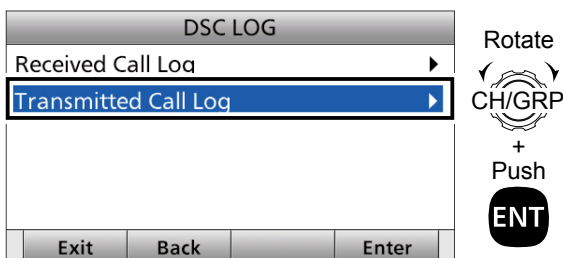
◇ Other messages

1. Push [DSC Log] ▭ to display the RCVD CALL LOG screen.
2. Select "Others," then push [ENT].
3. Select your desired item.

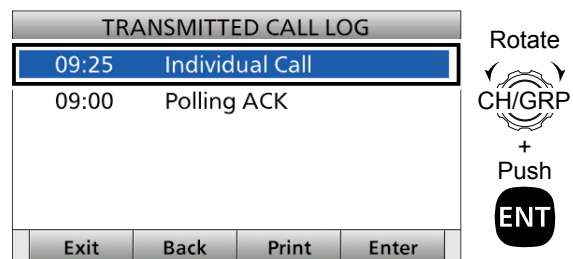| RECEIVED CALL LOG (3)	
✉ 09:25	Individual ACK
✉ 09:25	Geographical Call
✉ 09:17	Individual Call
✉ 09:00	Individual Call
✉ 09:00	Position Request
Exit	Back	Print	Enter

Rotate
CH/GRP
+
Push
ENT

4. Rotate [CH/GRP] to confirm the message contents.
5. Push [Standby Mode] ▭ to return to the Standby mode.

ⓘ**Information**
Software key functions in the TRANSMITTED CALL LOG screen:
[Exit]: Push to return to the Main screen.
[Back]: Push to return to the previous screen.
[Print]: Push to print out the selected message when a printer is connected to the transceiver.
[Enter]: Push to go to the next screen.
[Delete]: Push to delete the selected message.

3. Select your desired item.

TRANSMITTED CALL LOG	
09:25	Individual Call
09:00	Polling ACK
Exit	Back	Print	Enter

Rotate
CH/GRP
+
Push
ENT

4. Rotate [CH/GRP] to confirm the message contents.
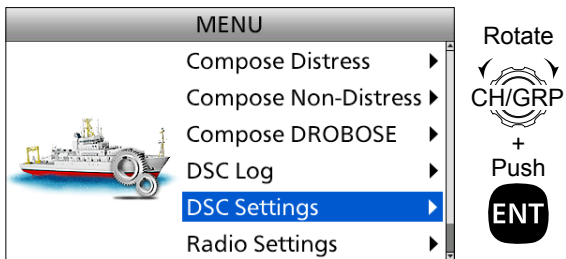5. Push [Standby Mode] ▭ to return to the Standby mode.

■ DSC Settings

◇ Position Input (See page 27)

◇ Individual ID (See page 23)
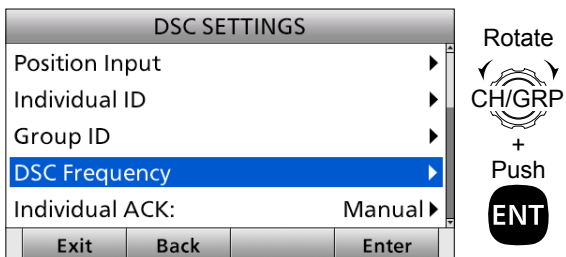
◇ Group ID (See page 25)

◇ DSC Frequency

This set frequencies are selectable when you want to send an Individual call, Group call, Geographical Area call, Position Request call, or Test call. Usually your dealer has set all the DSC frequencies to use.
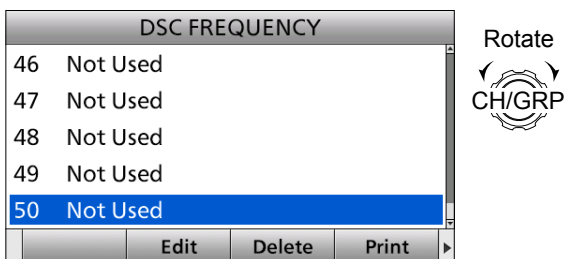
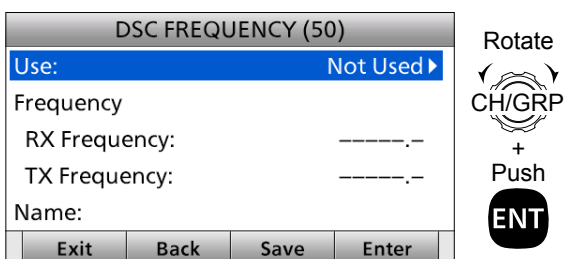**To add a new DSC frequency:**
1. Push [MENU].
2. Select "DSC Settings."

Rotate CH/GRP + Push ENT
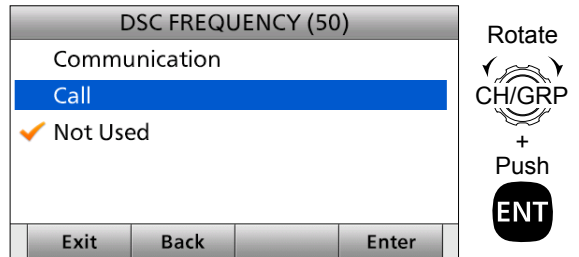
3. Select "DSC Frequency."

Rotate CH/GRP + Push ENT

4. Select a DSC frequency number and push [Edit] ▬.
   (Example: 50)

Rotate CH/GRP

▬ Push

5. Select "Use:."
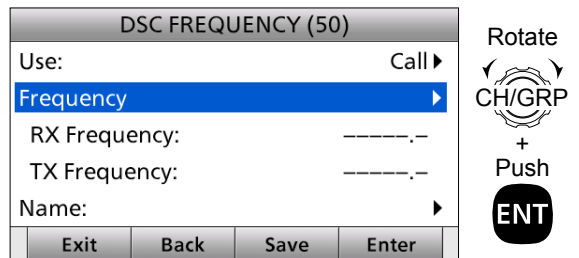

Rotate CH/GRP + Push ENT

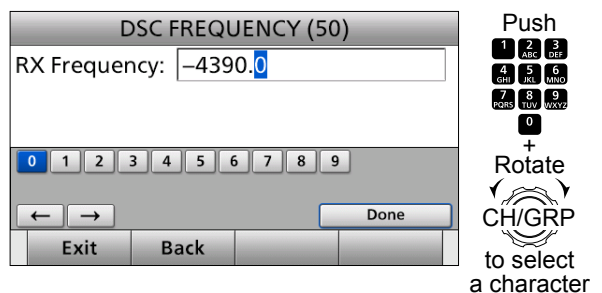6. Select an option. (Example: Call)

Rotate CH/GRP + Push ENT

- Communication: Communication frequency that is used to talk with other station after DSC call communications.
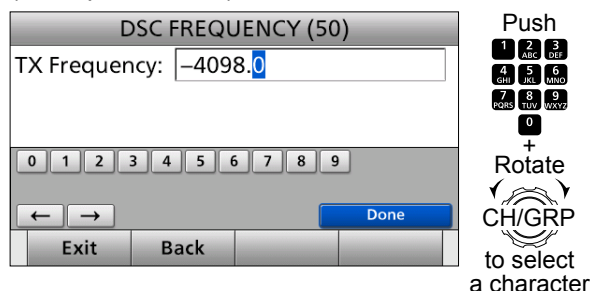- Call: DSC call frequency that is used to send DSC calls.

7. Select "Frequency."

Rotate CH/GRP + Push ENT

8. Enter an RX frequency.
   After entering, select "Done" and push [ENT].
   (Example: 4.390.0)

Push

+ Rotate CH/GRP to select a character

9. Enter a TX frequency.
   After entering, select "Done" and push [ENT].
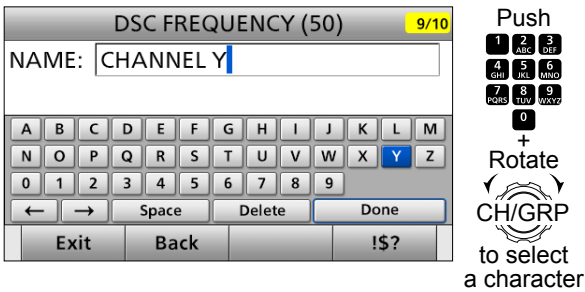   (Example: 4.098.0)

Push

+ Rotate CH/GRP to select a character

■ DSC Settings

◇ DSC Frequency (Continued)

10. Select "Name."

```
DSC FREQUENCY (50)
Use:                           Call ▶
Frequency                          ▶
 RX Frequency:              4390.0
 TX Frequency:              4098.0
Name:                              ▶
   Exit      Back      Save     Enter
```
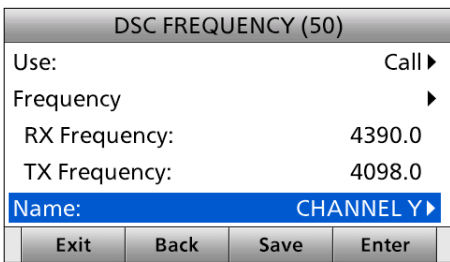
Rotate
↶ CH/GRP ↷
+
Push
ENT
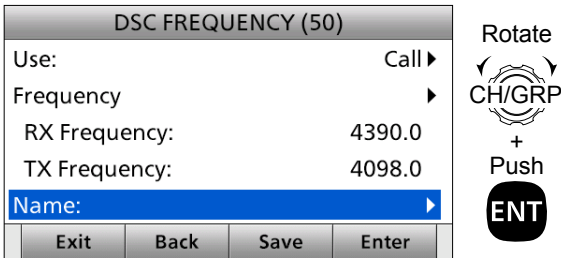
11. Enter a DSC frequency name.
    After entering, select "Done" and push [ENT].

```
DSC FREQUENCY (50)              9/10
NAME:  CHANNEL Y

A  B  C  D  E  F  G  H  I  J  K  L  M
N  O  P  Q  R  S  T  U  V  W  X  Y  Z
0  1  2  3  4  5  6  7  8  9
←  →    Space     Delete     Done
   Exit        Back              !$?
```

Push
[1][2 ABC][3 DEF]
[4 GHI][5 JKL][6 MNO]
[7 PQRS][8 TUV][9 WXYZ]
[0]
+
Rotate
↶ CH/GRP ↷
to select
a character

12. Push [Save] ▭.

```
DSC FREQUENCY (50)
Use:                           Call ▶
Frequency                          ▶
 RX Frequency:              4390.0
 TX Frequency:              4098.0
Name:               CHANNEL Y ▶
   Exit      Back      Save     Enter
```
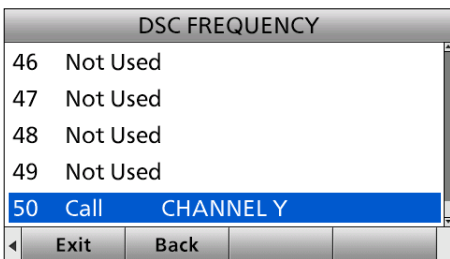
▭ Push

• "Are You Sure?" is displayed.
13. Push [OK] ▭ to save the content.
14. Push [▶] to scroll the Software key functions.
15. Push [Exit] ▭ to return to the Main screen.

```
DSC FREQUENCY
 46   Not Used
 47   Not Used
 48   Not Used
 49   Not Used
 50   Call     CHANNEL Y
   Exit        Back
```
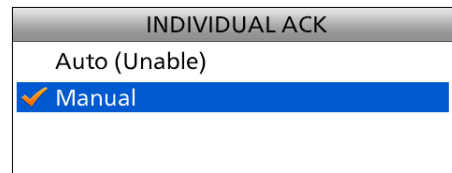
▭ Push

◇ **Automatic acknowledgement**

These items set the Automatic Acknowledgement function. When you receive an Individual call, Position Request call, Polling Request call or Test call, the transceiver automatically sends each acknowledgement, if "Auto" is set.

NOTE: When you set the "Individual ACK" item to "Auto (Unable)," and receive the Individual call, the transceiver automatically sends the acknowledgment including "ACK (Unable)" (No Reason Given).

1. Push [MENU].
2. Select an item.
   (DSC Settings > **Individual ACK, Position ACK, Polling ACK, Test ACK**)
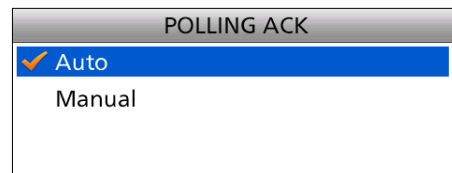3. Select an option, and then push [ENT].
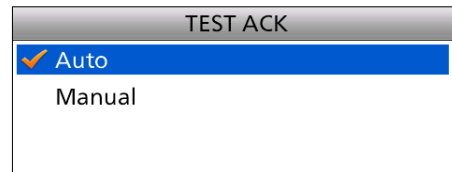   **Individual ACK** (Default: Manual)

```
INDIVIDUAL ACK
   Auto (Unable)
 ✓ Manual
```

Position ACK (Default: Manual)

```
POSITION ACK
   Auto
 ✓ Manual
```
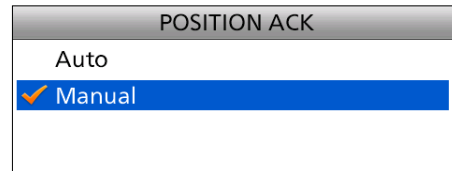
Polling ACK (Default: Auto)

```
POLLING ACK
 ✓ Auto
   Manual
```

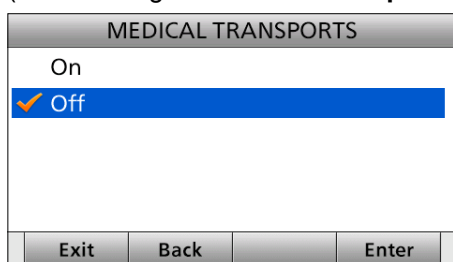**Test ACK** (Default: Auto)

```
TEST ACK
 ✓ Auto
   Manual
```

4. Push [MENU] to return to the Main screen.

◇ **Setting the "Medical Transports" item display option**

You can select whether or not the "Medical Transports" item is displayed in the COMPOSE NON-DISTRESS screen.

1. Push [MENU].
2. Select "Medical Transports," then push [ENT]. (DSC Settings > **Medical Transports**)

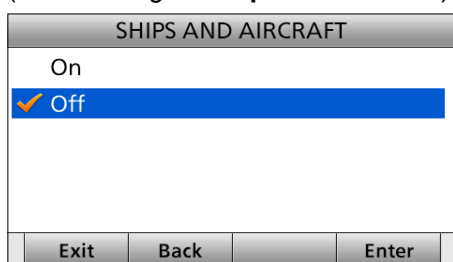| MEDICAL TRANSPORTS	
On	
✔ Off	
Exit	Back	Enter

3. Select an option, then push [ENT].
   • On: Displayed in the COMPOSE NON-DISTRESS screen.
   • Off: Not displayed in the COMPOSE NON-DISTRESS screen. (Default)
4. Push [MENU] to return to the Main screen.

◇ **Setting the "Ships and Aircraft" item display option**

You can select whether or not the "Ships and Aircraft" item is displayed in the COMPOSE NON-DISTRESS screen.

1. Push [MENU].
2. Select "Ships and Aircraft," then push [ENT]. (DSC Settings > **Ships and Aircraft**)

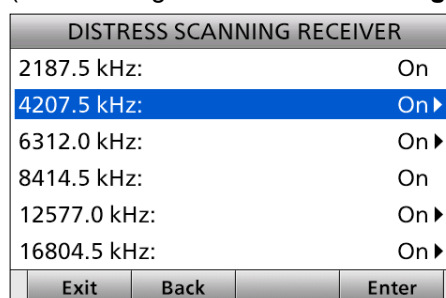| SHIPS AND AIRCRAFT	
On	
✔ Off	
Exit	Back	Enter

3. Select an option, then push [ENT].
   • On: Displayed in the COMPOSE NON-DISTRESS screen.
   • Off: Not displayed in the COMPOSE NON-DISTRESS screen. (Default)
4. Push [MENU] to return to the Main screen.
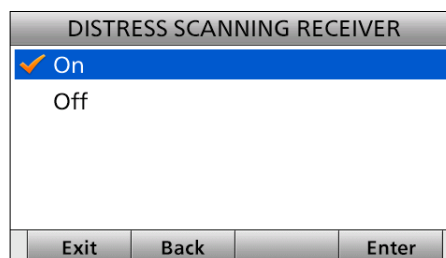
◇ **Distress Scanning Receiver**

You can turn the Distress Scanning Receiver function ON or OFF on each Emergency frequency.

NOTE: You cannot turn OFF the function on 2187.5 kHz and 8414.5 kHz, and 1 of the remaining 4 frequencies.

1. Push [MENU].
2. Select "Distress Scanning Receiver," then push [ENT].
   (DSC Settings > **Distress Scanning Receiver**)

DISTRESS SCANNING RECEIVER	
2187.5 kHz:	On
4207.5 kHz:	On ▶
6312.0 kHz:	On ▶
8414.5 kHz:	On
12577.0 kHz:	On ▶
16804.5 kHz:	On ▶
Exit	Back	Enter

3. Select a frequency then push [ENT].

DISTRESS SCANNING RECEIVER	
✔ On	
Off	
Exit	Back	Enter

4. Select an option, then push [ENT].
   • On: The Emergency frequency is scanned during the Distress scan.
   • Off: The Emergency frequency is skipped during the Distress scan.
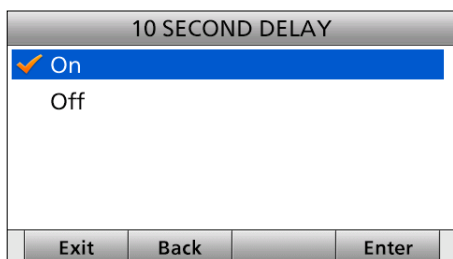5. Push [MENU] to return to the Main screen.

7

■   DSC Settings

◇ **Setting the 10 Second Delay**

Select whether or not the transceiver automatically switches to the displayed frequency 10 seconds after receiving a DSC call.
By regulation, after receiving a DSC call, the transceiver automatically switches the operating channel to the displayed frequency. However, when you set this function to "OFF", the transceiver remains on the operating channel, even after receiving a DSC call.

1.   Push [MENU].
2.   Select "10 Second Delay," then push [ENT].
   (DSC Settings > **10 Second Delay**)

10 SECOND DELAY
✔ On
Off
Exit   Back   Enter

3.   Select an option, then push [ENT].
      • On: When receiving a DSC call with a specified frequency, the transceiver automatically switches the operating channel to the displayed frequency. (Default)
      • Off: The transceiver remains on the operating channel until you push [Active] ▬ to enter the DSC Task mode.
4.   Push [MENU] to return to the Main screen.

◇ **Setting the Alarm Status**

Safety/Routine
Select whether or not to sound an alarm when receiving the Safety or Routine DSC call.

1.   Push [MENU].
2.   Select an item, then push [ENT].
      (DSC Settings > Alarm Status > **Safety**)
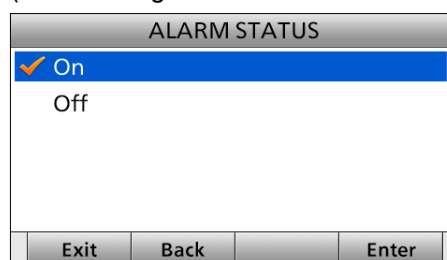   (DSC Settings > Alarm Status > **Routine**)
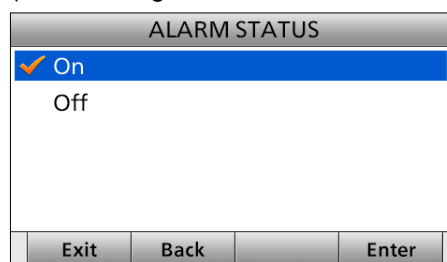
ALARM STATUS
✔ On
Off
Exit   Back   Enter

3.   Select an option, then push [ENT].
      • On: Alarm sounds. (Default)
      • Off: Alarm does not sound.
4.   Push [MENU] to return to the Main screen.

Warning
Select whether or not to sound an alarm:
• When no MMSI code is entered.
• When the position data has not been updated for 10 minutes.
• When the position data has not been manually updated for 4 hours.
• After the invalid GPS position data or manually entered position data has not updated for 23.5 hours.

1.   Push [MENU].
2.   Select "Warning," then push [ENT].
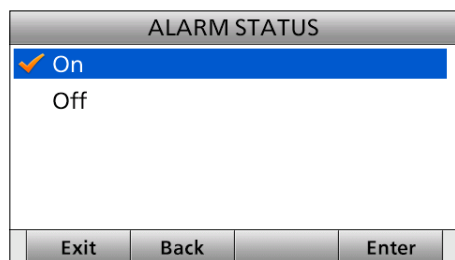   (DSC Settings > Alarm Status > **Warning**)

ALARM STATUS
✔ On
Off
Exit   Back   Enter

3.   Select an option, then push [ENT].
      • On: Alarm sounds. (Default)
      • Off: Alarm does not sound.
4.   Push [MENU] to return to the Main screen.

Self-Terminate

Select whether or not to sound an alarm when receiving the same Distress call.

1. Push [MENU].
2. Select "Self-Terminate," then push [ENT].
   (DSC Settings > Alarm Status > **Self-Terminate**)

```
          ALARM STATUS
  ✔ On
    Off



    Exit    Back           Enter
```

3. Select an option, then push [ENT].
   • On: Alarm sounds. (Default)
   • Off: Alarm does not sound.
4. Push [MENU] to return to the Main screen.

Discrete

Select whether or not to sound an alarm when receiving a lower priority DSC call while receiving a higher priority call.

1. Push [MENU].
2. Select "Discrete," then push [ENT].
   (DSC Settings > Alarm Status > **Discrete**)
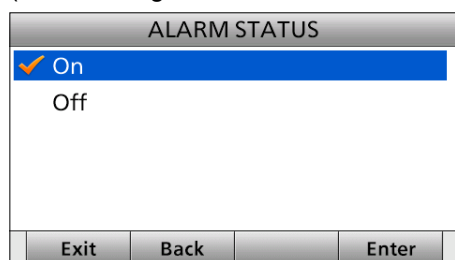
```
          ALARM STATUS
  ✔ On
    Off



    Exit    Back           Enter
```

3. Select an option, then push [ENT].
   • On: Alarm sounds. (Default)
   • Off: Alarm does not sound.
4. Push [MENU] to return to the Main screen.

◇ Auto Print

Select whether or not to enable the Automatic Print Out function when a DSC call is received.
The received DSC call content is printed out if a printer is connected to the transceiver.

1. Push [MENU].
2. Select "Auto Print," then push [ENT].
   (DSC Settings > **Auto Print**)

```
          AUTO PRINT
    On
  ✔ Off



    Exit    Back           Enter
```
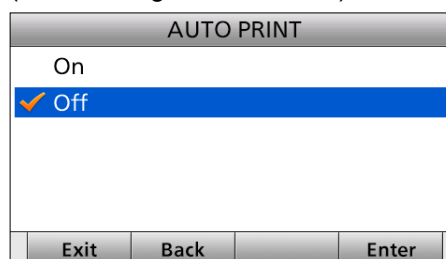
3. Select an option, then push [ENT].
   • On: The received DSC call contents is printed out.
   • Off: The received DSC call contents is not printed out. (Default)
4. Push [MENU] to return to the Main screen.

◇ DSC Loop Test

The DSC loop test function sends transmit DSC signals to the receive AF circuit to compare and check the TX and RX signals at the AF level.

1. Push [MENU].
2. Select "DSC Loop Test," then push [ENT].
   (DSC Settings > **DSC Loop Test**)
3. Push [ENT] to start the DSC loop test.

```
          DSC LOOP TEST

       Push  ENT  to Start



    Exit    Back           Enter
```
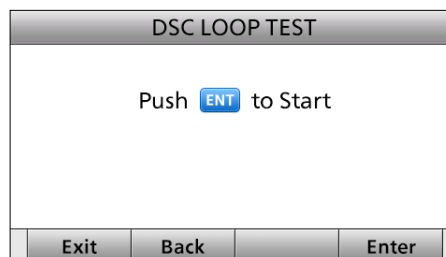
   • When the transmit DSC and receive DSC signals match, "OK" is displayed.
4. Push [MENU] to return to the Main screen.

NOTE: If "Failed" is displayed in step 3, contact your dealer.

7

■ Menu items

The Menu screen is constructed in a tree structure. (p. 9)

NOTE: See page 10 about how to select each Menu item.

The following items are described in each section. Refer to the pages in parenthesis for details.

■ Radio Settings

◇ **User CHAN (p. 18)**

◇ **ITU Simplex CHAN (p. 18)**

◇ **Max User CHAN**

Set the number of the maximum User channels from 1 ~ 160.

MAX USER CHAN	
CHAN:	160 ⬍

◇ **Auto Tune**

Turn the Auto Tune function ON or OFF.
The Auto Tune function starts tuning automatically when an optional automatic antenna tuner is connected.

AUTO TUNE
On
✓ Off

◇ **Scan > Type**

Select a Scan type to locate signals.
• **CHAN/CHAN Resume:**
  Searches for 20 channels between 1 ~ 20, 21 ~ 40 and 41 ~ 60 that include the scan start channel, or searches for all ITU channels in the band when an ITU channel is selected.
• **Program:**
  Searches for signals within the frequency range. Searches slower When the squelch is open, and searches faster when squelch is closed.

SCAN
✓ CHAN
CHAN Resume
Program

◇ **Compose Non-Distress**

• Individual calls (p. 43)
• Group calls (p. 45)
• Geographical calls (p. 47)
• Position Request calls (p. 50)
• Test calls (p. 52)

◇ **Compose DROBOSE (p. 37)**

◇ **DSC Log (p. 69)**

◇ **DSC Settings (p. 70)**

◇ **Radio Settings (p. 75)**

◇ **Configuration (pp. 76, 77)**

◇ **Scan > Speed**

Set the scanning speed (rate at which channels are searched) from 1 (fast) to 10 (slow).

SCAN
1
2
3
✓ 4
5

◇ **Voice SQL**

Turn the Voice Squelch function ON or OFF for when operating in the J3E and H3E modes.

When this function is OFF, the squelch operates as an S-meter squelch for the J3E and H3E modes.

VOICE SQL
✓ On
Off

■ Configuration

◇ Key Beep
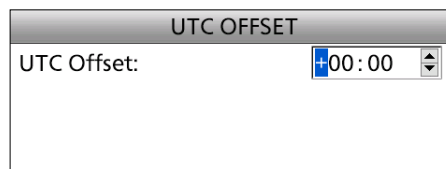
Turn the Key Beep function ON or OFF.
• On: When you push a key, a beep sounds. (Default)
• Off: Turns OFF the function for silent operation.

KEY BEEP
✔ On
Off

◇ NMEA Data Output

Set the NMEA 0183 Output functions.

DSC Data Output
Select an option for the DSC Data Output function. When receiving a DSC call, the transceiver outputs the NMEA sentences (DSC and DSE) from the NMEA 0183 output port to an external device.
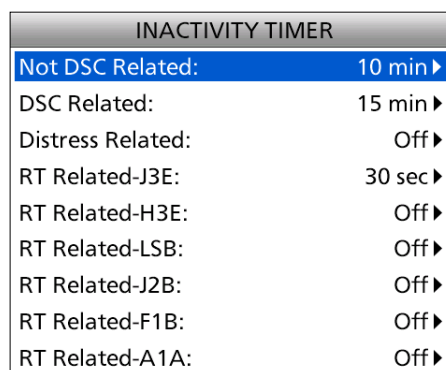• All Stations: Outputs the NMEA sentences.
• Station List: Outputs the NMEA sentences when you receive a call from the station whose address is entered in your Individual ID list.
• Off: Does not output the NMEA sentences. (Default)

NMEA DATA OUTPUT
All Stations
Station List
✔ Off

◇ Assignment

You can assign some functions to the software keys to create a convenient shortcuts. See page 20 about how to assign.

◇ UTC Offset

Set the offset time between UTC (Universal Time Coordinated) and your local time to between –14:00 and +14:00 (in 1 minute steps). (Default: 00:00)

UTC OFFSET	
UTC Offset:	+00:00
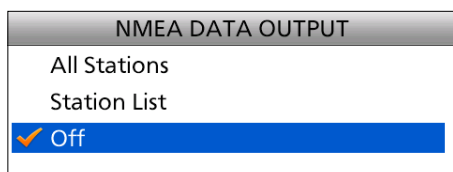
◇ Inactivity Timer

Set the inactivity timer.
The count down alarm sounds 10 seconds before the Inactive timer activates.

INACTIVITY TIMER	
Not DSC Related:	10 min ▶
DSC Related:	15 min ▶
Distress Related:	Off ▶
RT Related-J3E:	30 sec ▶
RT Related-H3E:	Off ▶
RT Related-LSB:	Off ▶
RT Related-J2B:	Off ▶
RT Related-F1B:	Off ▶
RT Related-A1A:	Off ▶

• **For Non DSC Related, DSC Related, and Distress Related:**
Set the inactivity timer to between 1 and 15 minutes (in 1 minute steps) or OFF.

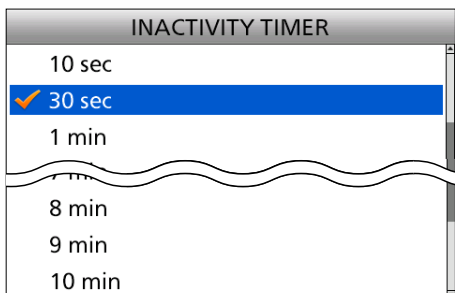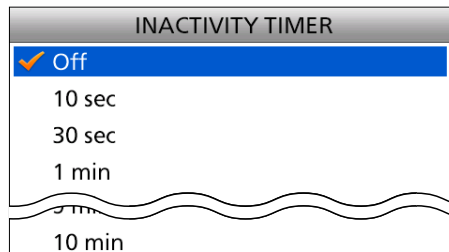| INACTIVITY TIMER |
|---|
| Off |
| 1 min |
| 9 min |
| ✔ 10 min |
| 11 min |
| 14 min |
| 15 min |

8

Not DSC Related
(Configuration > Inactivity Timer > **Not DSC Related**)
The transceiver automatically returns to the Main screen if you push no key for this set time period. (Default: 10 min)

This setting is for when the LCD displays a screen other than the Main screen, or one that is not related to DSC.

DSC Related
(Configuration > Inactivity Timer > **DSC Related**)
The transceiver automatically returns to the Main screen if you push no key for this set time period. (Default: 15 min)

This setting is for when the LCD displays a screen related to DSC.

Distress Related
(Configuration > Inactivity Timer > **Distress Related**)
The transceiver automatically returns to the Main screen if you push no key for this set time period. (Default: Off)

This setting is for when the LCD displays a screen related to the Distress calls

• For RT Related (J3E):
Set the inactivity timer to 10 sec, 30 sec, or to between 1 and 10 min (in 1 minute steps).

INACTIVITY TIMER
10 sec
✔ 30 sec
1 min
8 min
9 min
10 min

(Configuration > Inactivity Timer > **RT Related-J3E**)
The transceiver automatically cancels the RT mode task if you push no key for this set time period. (Default: 30 sec)

This setting is for when the LCD displays a screen related to the Radio Telephone mode.

• For RT Related (except J3E):
Set the inactivity timer 10 sec, 30 sec, between 1 and 10 min (in 1 minute steps), or OFF.

INACTIVITY TIMER
✔ Off
10 sec
30 sec
1 min
10 min

(Configuration > Inactivity Timer > **RT Related-H3E/ LSB/J2B/F1B/A1A**)
The transceiver automatically cancels the RT mode task if you push no key for this set time period. (Default: OFF)

This setting is for when the LCD displays a screen related to the Radio Telephone mode.

◇ **MIC Key**

Select the microphone key function ON or OFF. When you select "ON," you can use the keys on the optional HM-214H microphone ([P], [UP], [DOWN] and [D-Scan]).
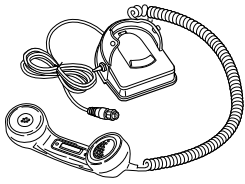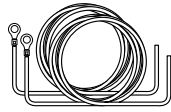
MIC KEY
✔ On
Off
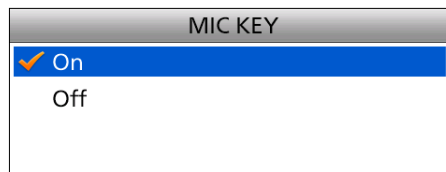
◇ **Software Version**

This item displays the transceiver's software version number.

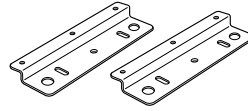| SOFTWARE VERSION |
| --- |
| **SW Ver:** |
| **Front SW Ver:** |
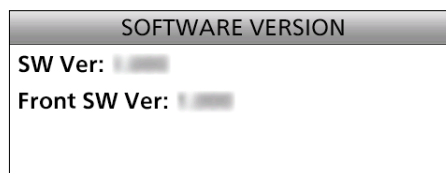
■ Supplied accessories
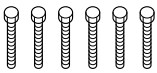
Handset

DC power cable
(Red and Black)

RCA cable
(for the GPS connection)

Mounting plates
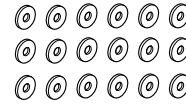for the main unit

Rubber feet

Hex head bolts
(M6×50)

Hex head bolts
(M6×15)

Spring washers (M6)

Flat washers (M6)
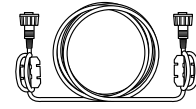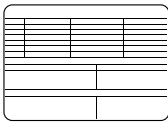
Hex nuts (M6)

Weatherproof caps

Tuner connector kit

Spare fuses (FGB 5 A)

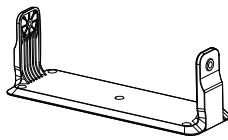Ferrite EMI filter
(for the DC power
cable)

Remote control cable

Emergency frequency
sticker

Mounting bracket kit for the remote controller
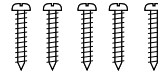
Mounting bracket   Self-tapping screws (M5)

Spring washers (M5)

Flat washers (M5)

Knobs

■ Basic connections

CAUTION:
• After connecting an antenna, tuner control cables, external speaker, or GPS receiver, cover the connectors with rubber vulcanizing tape, as shown below. Covering with the tape prevents water from seeping into the connector.
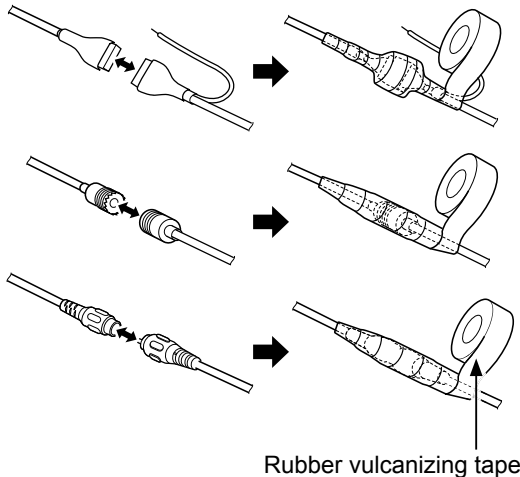
Rubber vulcanizing tape

• **DO NOT** pull the antenna and control cable receptacles.
This may cause cable disconnection (in the tuner unit), damage inside the connector, or a bad connection.
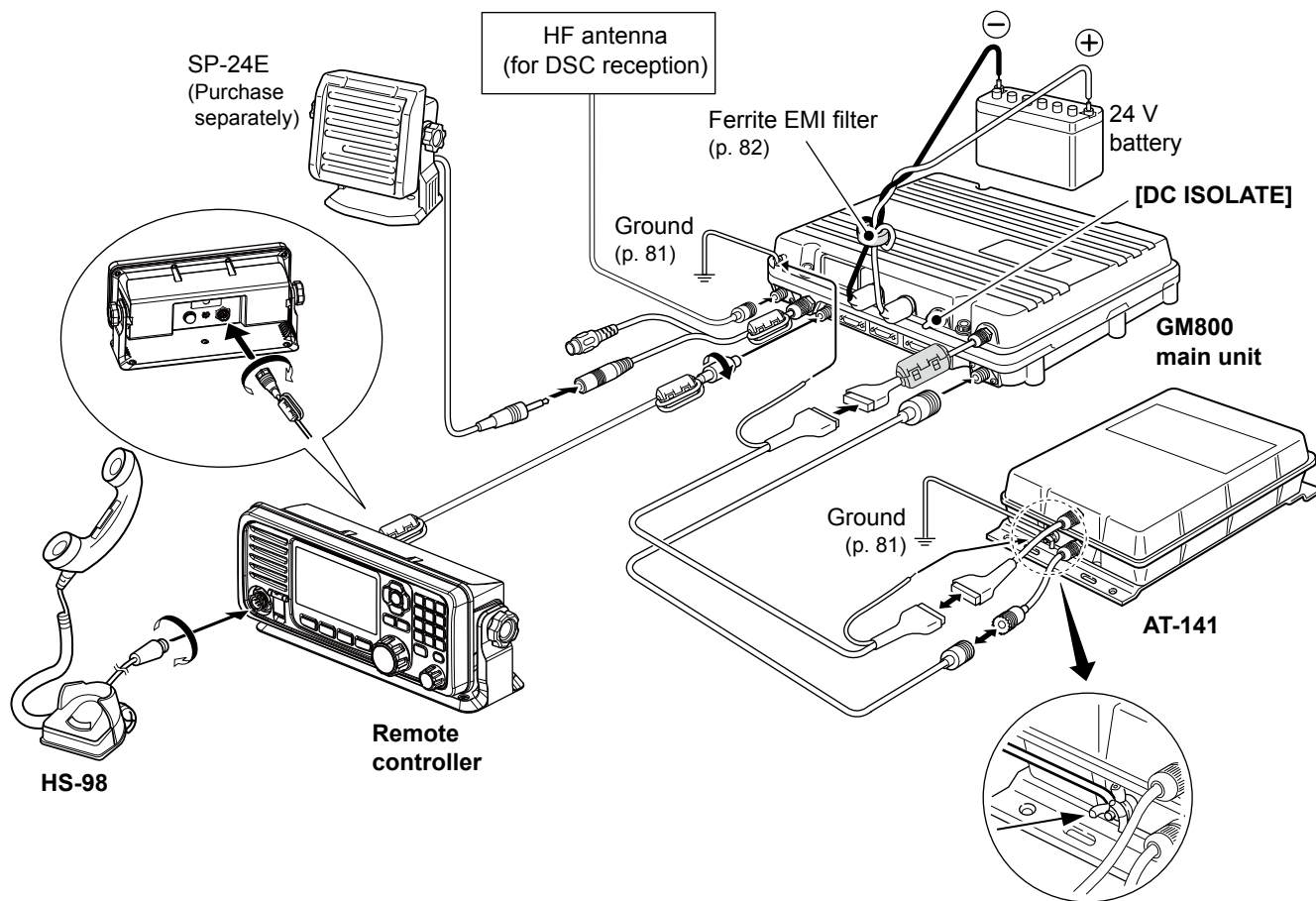
NOTE: Turn OFF [DC ISOLATE] on the GM800 main unit, or charge the battery while at anchor, otherwise the battery may become exhausted.
The GM800 has a high-stability ovenheater type crystal oscillator, and the oscillator's heater is directly connected to the DC power terminals. It keeps its temperature to at a specified level, even if you turn OFF the power by holding down [⏻] on the remote controller.
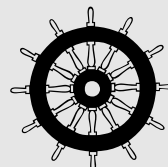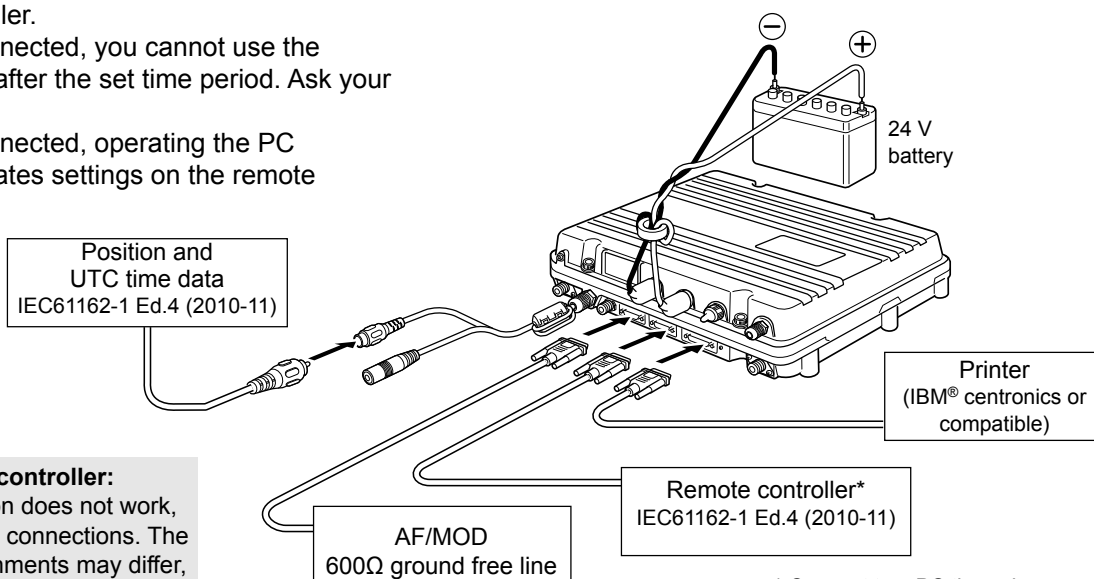
GM800
NOTE: Must be used with the
ICOM AT-141.

8

9

■ Basic connections

SP-24E
(Purchase
separately)

HF antenna
(for DSC reception)

Ferrite EMI filter
(p. 82)

24 V
battery

[DC ISOLATE]

Ground
(p. 81)

GM800
main unit

Ground
(p. 81)

AT-141

Remote
controller

HS-98

■ Advanced connections

• When a PC is connected, the PC has priority over the remote controller.
• When a PC is connected, you cannot use the remote controller after the set time period. Ask your dealer for details.
• When a PC is connected, operating the PC automatically updates settings on the remote controller.

24 V
battery

Position and
UTC time data
IEC61162-1 Ed.4 (2010-11)

Printer
(IBM® centronics or
compatible)

NOTE for a remote controller:
If the initial connection does not work, try reversing the wire connections. The RS-422A's pin assignments may differ, depending on the manufacturer.
See pages 87 and 88 for connector information details.

Remote controller*
IEC61162-1 Ed.4 (2010-11)

AF/MOD
600Ω ground free line

* Connect to a PC through an RS-422A cable (D-sub 9-pin) for remote control.

■ Ground connection

The transceiver and antenna tuner must have an adequate RF ground connection. Otherwise, the efficiency of the transceiver and antenna tuner may be reduced. Also, electrolysis, electrical shocks and interference from other equipment may occur.
For the best results, use a 50 or 75 mm wide copper strap, and make the connection as short as possible. Ground the transceiver and antenna tuner to one ground point, otherwise the voltage difference (at the RF level) between the 2 ground points may cause electrolysis.

⚠**WARNING!** When grounding to a metal hull Use Zinc anodes to protect the hull from electrolysis. Ask your dealer or installer for RF grounding details.

CAUTION:
• **NEVER** connect the transceiver to a "positive-grounded ship," otherwise the transceiver will not function.
• Any external units, such as PC, printer and so on, must be properly grounded. We suggest using a wide copper strap.

Ground system example

Best ground points
• External ground plate
• Copper screen
• Copper foil

Acceptable ground points
• Stainless steel stanchion
• Through mast
• Through hull
• Metal water tank

Undesirable ground points
• Engine block
• Ship's DC battery ground

Unusable ground points
(these connections may cause an explosion or electrical shock)
• Gas or electrical pipe
• Fuel tank or oil catch pan

GND
Wide Copper strap
GND
Copper pipe   Metal object   Copper screen
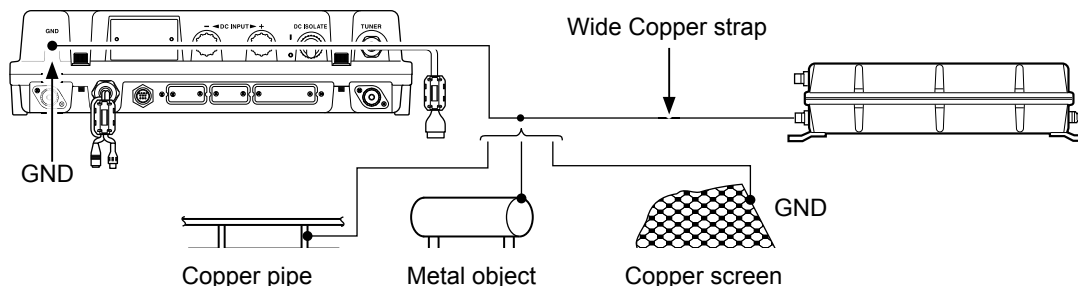
■ Software maintenance

The Icom customer support center provides the firmware file for transceiver maintenance. You can update the transceiver's firmware through a PC.

OPC-478UC
To the [MAINTENANCE] connector
Remote controller
To a USB port
PC
To the [MAIN UNIT] connector
To the main unit
Remote control cable
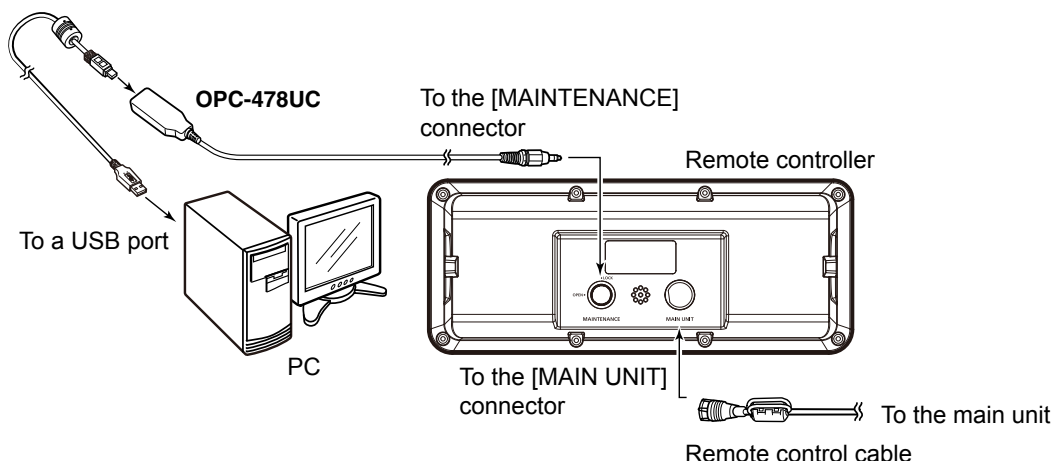
■ Power source

The transceiver requires a regulated DC power source of 26.4 V and at least 30 A.
Connect a transceiver directly to a 24 V battery in your ship using the supplied DC power cable.

⚠**WARNING! NEVER** reverse the polarity when connecting the transceiver to a DC power source. This will damage the transceiver.
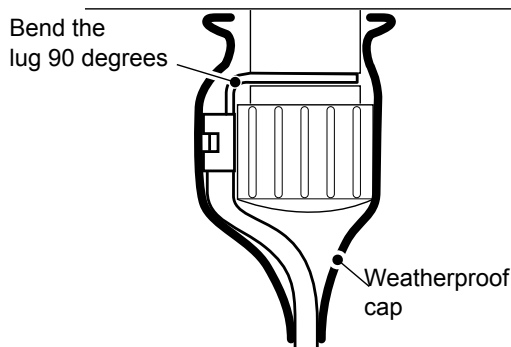
CAUTION: BE SURE to use a 24 V battery.

• **Connecting the DC power cable**

NOTE: Terminate the cable ends as illustrated below.
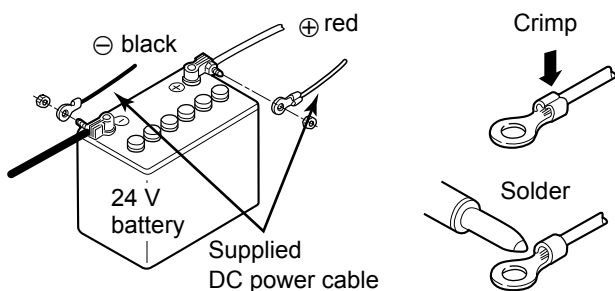
• **Attaching the weatherproof cap**
Attach the supplied weatherproof cap for each positive and negative line at the DC power terminal as shown below.

• **Attaching the DC power cable ferrite EMI filter**
The DC power cables should be connected to the transceiver's main unit through the supplied ferrite EMI filter, as shown below.
The ferrite EMI filter must be placed as near as possible to the main unit.
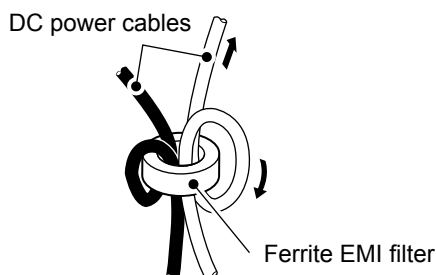
■ Antenna

Most stations operate with a whip or long wire antenna. However, those antennas cannot be connected directly to the transceiver since their impedance will not match the transceiver's impedance. Use the AT-141 to connect antennas.
For details about antenna connections and installation, see the supplied AT-141 Instruction manual.

⚠**DANGER! HIGH VOLTAGE!**
**NEVER** touch the antenna element or wire while tuning or transmitting.
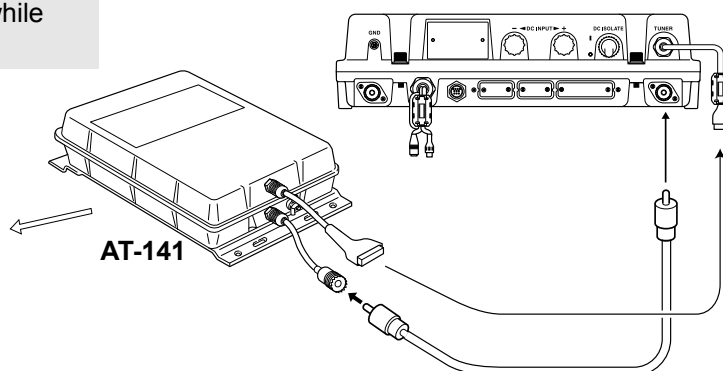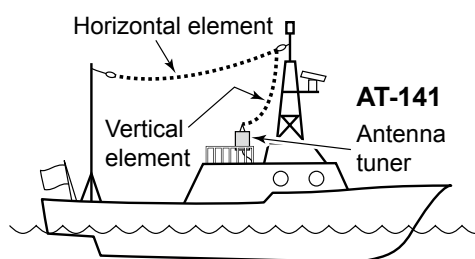
■ Mounting

◇ Mounting location

Select a location that provides easy access to the remote controller for navigation safety, has good ventilation and is not exposed to sea spray. The remote controller should be at 90 degrees to your line of sight when operating it.

NOTE: **BE SURE** to turn OFF [DC ISOLATE] on the GM800 main unit when mounting the transceiver.

Adjust the display angle to be easy-to-read.
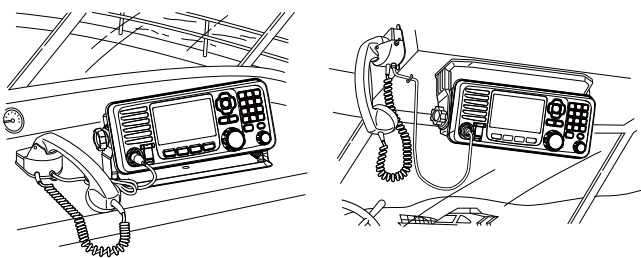
Put the supplied Emergency frequency sticker to where you can always see when operating the transceiver.
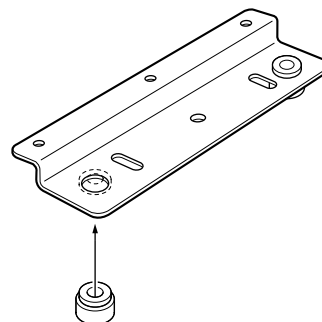

◇ Mounting the remote controller

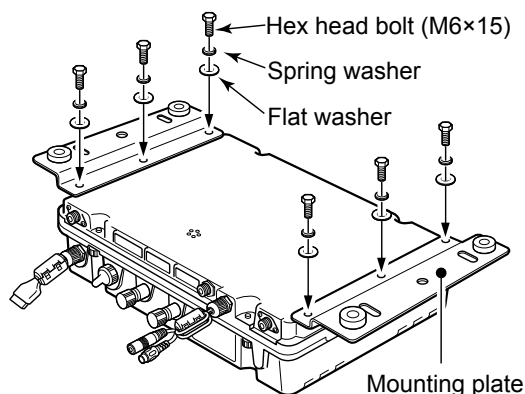Mount the remote controller using the supplied mounting bracket kit.
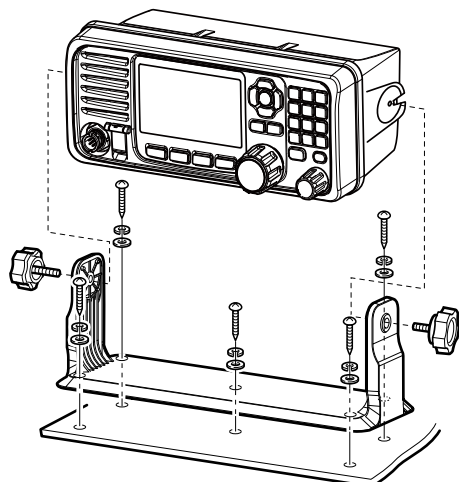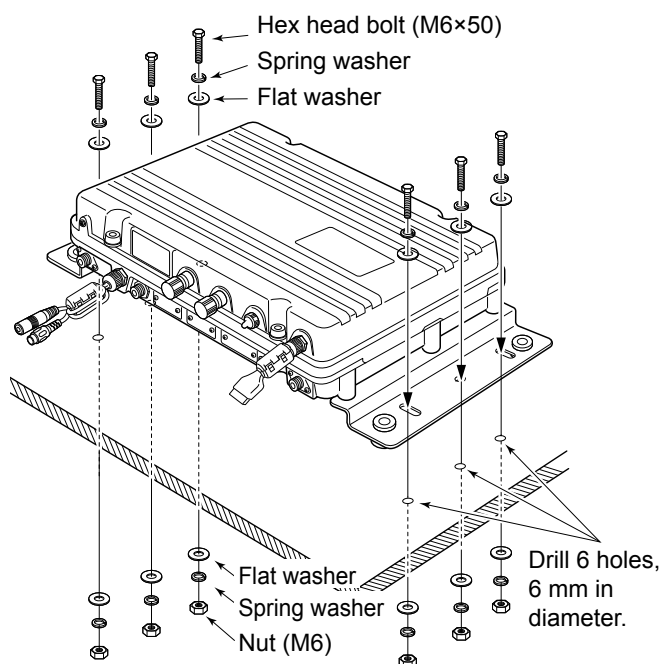

◇ Attaching the mounting plates

1. Attach the supplied rubber feet to the mounting plate, if desired.

2. Attach the mounting plates using the supplied hex head bolts (M6×15), flat and spring washers, as shown below.

- Hex head bolt (M6×15)
- Spring washer
- Flat washer

Mounting plate

◇ Mounting the main unit

- Hex head bolt (M6×50)
- Spring washer
- Flat washer

Flat washer
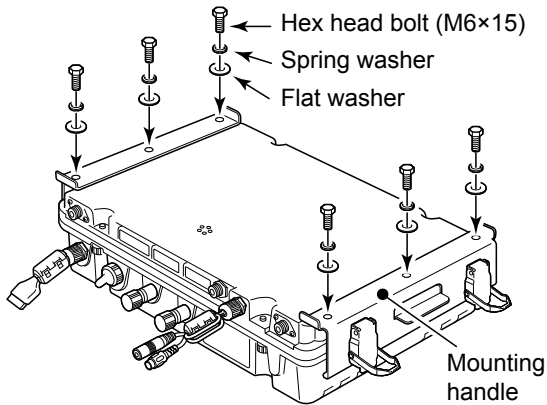Spring washer
Nut (M6)

Drill 6 holes, 6 mm in diameter.

■ Using the optional MB-108

The optional MB-108 mounting bracket can be used to mount the transceiver's main unit. The MB-108 provides one-touch attachment or detachment.

> **CAUTION:** Wear gloves when installing the MB-108. The edges of the MB-108 may be sharp and may easily cut your fingers or hands.

1. Attach the mounting handles with the supplied hex head bolts (M6×15), spring and flat washers, as shown below.

Hex head bolt (M6×15)
Spring washer
Flat washer

Mounting handle

2. Drill 7 holes, 6 ~ 8 mm in diameter, using the template supplied with the MB-108.
3. Attach the mounting base to a flat surface using the hex head bolts (M6×50), spring and flat washers, and nuts, supplied with the MB-108, as shown below.

Hex head bolt (M6×50)
Spring washer

Flat washer

Mounting base

Flat washer
Spring washer
Nut (M6)
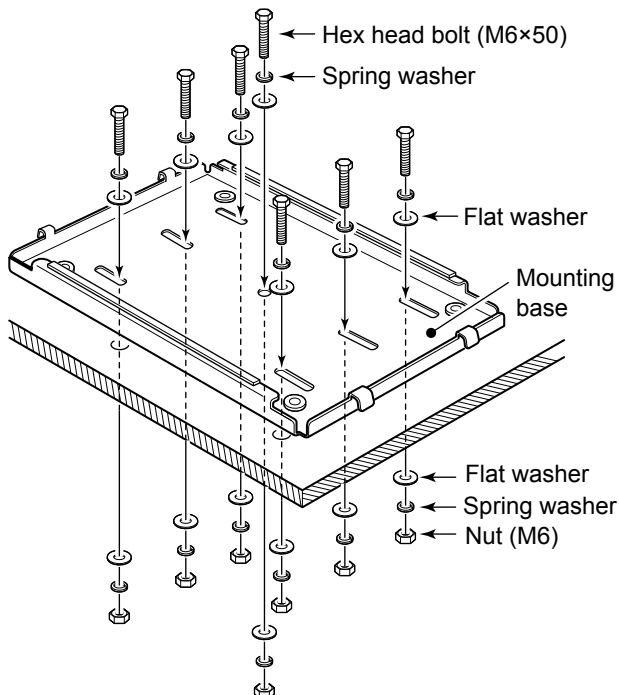
4. Mount the transceiver main unit with the mounting handles attached, to the mounting base.
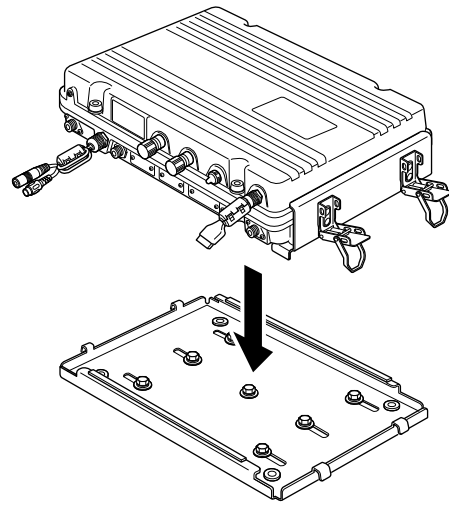
5. Lock the main unit in place by closing the 4 latches on the mounting handles.
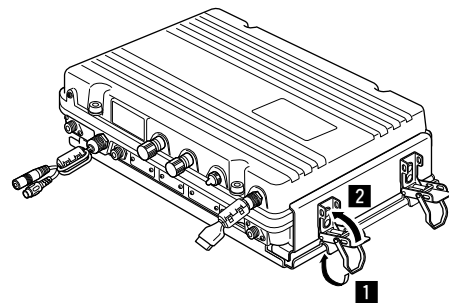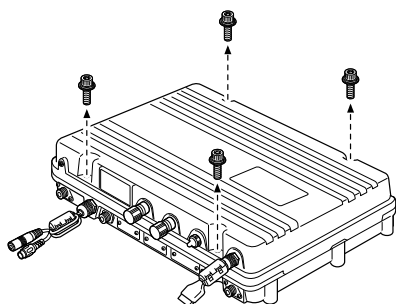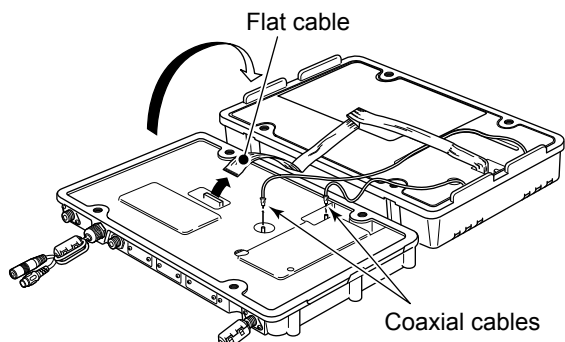
■ Replacing fuses

The transceiver has 2 fuses to protect internal circuitry.
If the transceiver stops functioning, and only after confirming a fuse is probably blown, check the fuses below.
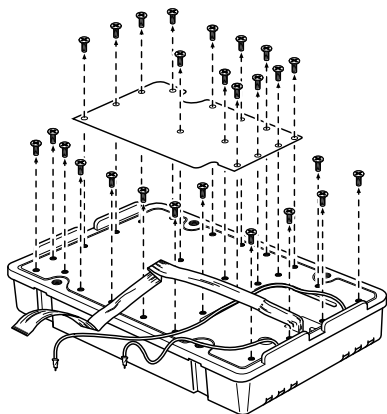• DC-DC converter unit ....FGB 5 A
• PA unit .... FGB 5 A

CAUTION: Disconnect the DC power cable from the transceiver before replacing a fuse.

1. Unscrew 4 cap bolts from the top case. Use a 6 mm Allen wrench.
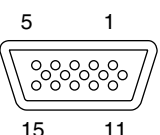
4. Replace the circuitry fuse, as shown below. Use the supplied or same rated FGB 5 A fuse.

Fuse in DC-DC converter unit

Fuse in PA unit

2. Open the transceiver's main unit, then disconnect 1 flat and 2 coaxial cables, as shown below.

Flat cable

Coaxial cables

3. Unscrew the 26 screws from the shield covers, then open the covers.
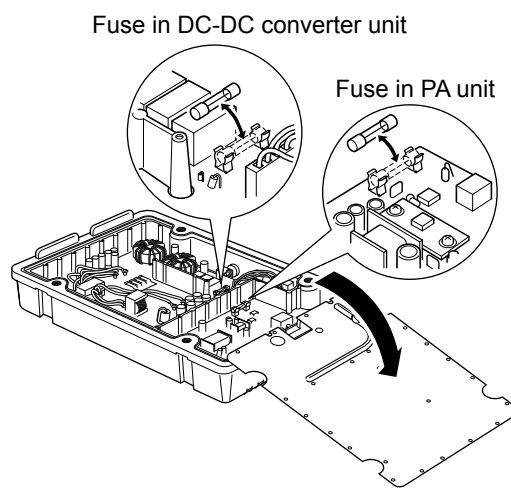
5. Reattach the shield covers, flat cable, coaxial cables and top case to their original position.

9
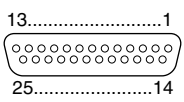
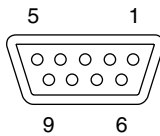## ■ Connector information

MICROPHONE	Pin	Pin name	Description	Specification
	1	MIC (+)	Audio input from the mic element.	Input impedance: 2.4 kΩ
	2	MIC SW	Key detection.	–
	3	AF1	AF output controlled by [VOL].	–
	4	AF2	Ground for AF1.	–
	5	PTT	PTT switch input. Transmits when grounded.	–
Front panel view	6	GND	Connected to ground.	–
	7	MIC (−)	Coaxial ground for MIC (+).	–
	8	AF (−)	Coaxial ground for AF1 and AF2.	–

| AF/MOD	Pin	Pin name	Description	Specification
	1~4	NC	**NOTE:** Do not connect to these pins.	–
	5	DSSW	Remote alarm input When connected to GND, the transceiver sends a Distress call. Can be used as an external Distress switch.	–
	6, 7	NC	**NOTE:** Do not connect to these pins.	–
Front panel view	8	DSLD	Remote alarm output Connect external equipment such as a lamp or buzzer that needs a power source, between this pin and GND. When receiving a Distress call*, the key backlight blinks and the internal relay intermittently connects between this pin and GND.	Applicable voltage: Less than 30 V Current flow: Less than 1 A
	9, 10	GND	Ground	–
	11	MOD (+)	Modulation input from an external unit for the SSB.	Input impedance: 600 Ω Input level: Approximately 0.77 V rms
	12	MOD (−)	Coaxial ground for MOD (+).	Input impedance: 600 Ω
	13	AF (+)	AF detector output for an external unit for SSB.	Output impedance: 600 Ω Output level: 0.25 ~ 2.5 V rms
	14	AF (−)	Coaxial ground for AF (+).	Output impedance: 600 Ω
	15	SEND	Transmission control line for an external unit for SSB (transmits when grounded).	Output level: −0.5 ~ 0.8 V Input level: Less than 20 mA

* A DSC call that is related to "Distress" as described below
  • Distress call
  • Distress acknowledgement
  • Distress Relay call
  • Distress Relay acknowledgement
  • Distress Cancel call
  • DSC call whose category is "Distress"

PRINTER	Pin	Pin name	Description
	1	STROBE	Outputs a strobe pulse after data output.
	2~9	DATA1~8	Outputs 8 bit parallel data.
	10	ACKNLG	Receives a 'Low' pulse from the printer when the printer can accept more data.
13.........................1 25.......................14	11	BUSY	The printer sets this pin to 'High' when it can not accept data, such as when the printer is 'off line.'
	12~14	NC	**NOTE:** Do not connect to these pins.
	15	ERROR	The printer sets this pin to 'Low' when an error occurs, such as when the printer has no paper.
	16~17	NC	**NOTE:** Do not connect to these pins.
	18~25	GND	Ground terminals.

REMOTE	Pin	Pin name	Description	Specification
	1	DATA-OUT (−)	Ground for DATA-OUT (+) terminal.	–
	2	DATA-OUT (+)	IEC61162-1 Ed.4 (2010-11) data output.	Input level: 5V, 40mA maximum (at 2 V applied)
5 1 9 6	3	DATA-IN (+)	IEC61162-1 Ed.4 (2010-11) data input.	Output level: Less than 2 mA (RS-422A balanced type)
	4	DATA-IN (−)	Ground for DATA-IN (+) terminal.	–
	5	GND	Connected to ground.	–
	6~9	NC	**NOTE:** Do not connect to these pins.	–

■ **Transceiver dimensions**

10 SPECIFICATIONS AND OPTIONS
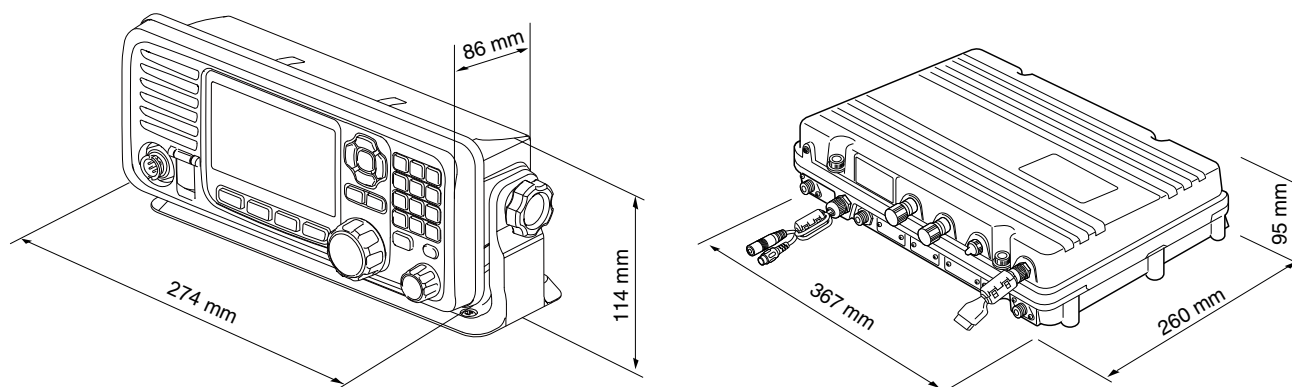
■ Specifications

◇ General

• Frequency coverage:
  RX   0.5 ~ 29.9999 MHz
  TX   1.6 ~ 2.9999 MHz, 4.0 ~ 4.9999 MHz
         6.0 ~ 6.9999 MHz, 8.0 ~ 8.9999 MHz
         12.0 ~ 13.9999 MHz, 16.0 ~ 17.9999 MHz
         18.0 ~ 19.9999 MHz, 22.0 ~ 22.9999 MHz
         25.0 ~ 27.5000 MHz
  DSC(RX)
         2.1875 MHz, 4.2075 MHz,
         6.3120 MHz, 8.4145 MHz,
         12.5770 MHz, 16.8045 MHz

• Mode:
  RX/TX   J3E (USB), F1B (FSK)
  RX only J3E (LSB), J2B (AFSK), A1A (CW), H3E
         (AM)

• Antenna impedance:
       50 Ω (unbalanced)

• Frequency stability:
       ±10 Hz (after 30 minutes from turning ON
          the main power)

• Power supply requirement:
       21.6~31.2 V (24 V DC)

• Current drain (with 1.1 kHz and 1.7 kHz AF input):
  RX   Less than 3 A (24 V)
         at Maximum audio output
  TX   Less than 20 A (24 V)
         at Maximum output power

• Usable temperature range:
       –15 ~ +55°C

• Dimension (projections not included):
  Main unit
       367 (W) × 95 (H) × 260 (D) mm
  Controller
       274 (W) × 114 (H) × 86 (D) mm

• Weight:
  Main unit
       8.6 kg
  Controller
       760 g

NOTE: The usable temperature range of the antenna tuner AT-141 is different from the GM800. The range is –20 ~ +55°C.

◇ Transmitter

• Output power:
  At radio terminal   150 W PEP into 50 Ω
  At tuner output   1.6~3.9999 MHz 85 W PEP
                    4.0~27.5000 MHz 125 W PEP

• Spurious emissions (at Maximum power):
        43 dB below peak output power

• Carrier suppression (at Maximum power):
        40 dB below peak output power

• Unwanted sideband suppression
  (at Maximum power):
        55 dB below peak output power

◇ Receiver

• RX/TX sensitivity:
  J3E, A1A
        0.5~1.5999 MHz 30 dBµV emf
        (20 dB SINAD)
        1.6~3.9999 MHz 16 dBµV emf
        (20 dB SINAD)
        4.0~29.9999 MHz 11 dBµV emf
        (20 dB SINAD)
  J2B,F1B
        1.6~2.0999 MHz 3 dBµV emf
        (1% error rate)
        2.1~27.5000 MHz 0 dBµV emf
        (1% error rate)
  H3E
        0.5~1.5999 MHz 44 dBµV emf
        (20 dB SINAD)
        1.6~3.9999 MHz 30 dBµV emf
        (20 dB SINAD)

• DSC sensitivity:
  J2B   2.1875 MHz, 4.2075 MHz, 6.3120 MHz,
        8.4145 MHz, 12.5770 MHz,
        16.8045 MHz
        0 dBµV emf (1% error rate)

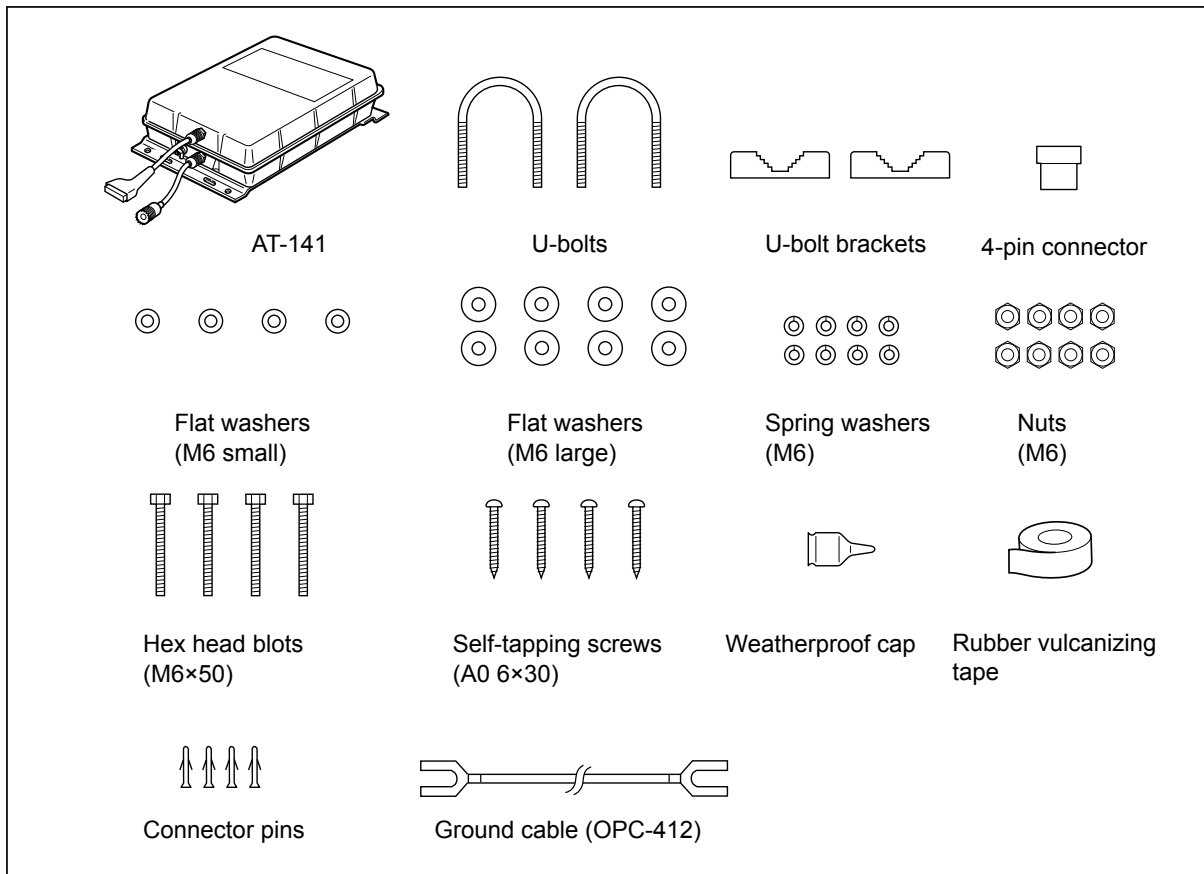• Squelch sensitivity (S-meter):
  J3E (at 12.230 MHz)
        (Threshold) Less than +20 dBµV
        (Tight) Less than +90 dBµV
  H3E (at 1.000 MHz)
        (Threshold) Less than +30 dBµV
        (Tight) Less than +110 dBµV

• Spurious response rejection:
  J3E   More than 60 dB (0.5~29.9999 MHz)
  J2B   More than 90 dBµV emf

• Clarity variable range:
       ±150 Hz

■ Options

The following items are sold as a set with the GM800.

AT-141   U-bolts   U-bolt brackets   4-pin connector

Flat washers   Flat washers   Spring washers   Nuts
(M6 small)   (M6 large)   (M6)   (M6)

Hex head blots   Self-tapping screws   Weatherproof cap   Rubber vulcanizing
(M6×50)   (A0 6×30)   tape

Connector pins   Ground cable (OPC-412)

◇ Options

- **HS-98** HANDSET
- **HM-214H** MICROPHONE
- **SP-24E** EXTERNAL SPEAKER
- **OPC-1465** ATU CONTROL CABLE
  for the AT-141
- **MB-108** MOUNTING BRACKET
  to install the GM800 main unit

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11 TROUBLESHOOTING

PROBLEM	POSSIBLE CAUSE	SOLUTION	REF.
The transceiver does not turn ON.	• Bad connection to the power supply. • Fuse is blown.	• Check the connection to the transceiver and power supply. • Find the cause, repair, then replace the fuse.	p. 80 p. 86
Little or no sound comes from the internal speaker.	• Squelch level is set too high. • Volume level is set too low. • The internal speaker is OFF.	• Set the squelch to the threshold point. • Set the volume to a suitable level. • Turn ON the internal speaker.	p. 15 p. 3 p. 5
You cannot transmit.	• Some channels are set for low power or receive only by regulations.	• Change channels.	p. 11
No beep sounds.	• The Key Beep function is OFF.	• Turn ON the Key Beep function.	p. 77
The Main screen is not displayed at power ON.	• MMSI (DSC self ID) code is not set.	• Set the MMSI (DSC self ID) code.	p. 8
Individual or Group ID cannot be set.	• The entered ID code is incorrect. The fist digit must be set to between '1' and '9' for an Individual ID. The fist digit must be set to '0' for a Group ID.	• Enter a correct ID code.	p. 23
"??" blinks instead of the position data and time.	• 4 hours have passed after you manually entered the position data. • The GPS position data is invalid.	• Enter the current position data.	p. 27
"NO POSITION" and "NO TIME" are displayed instead of the position data and time.	• A GPS receiver is not correctly connected. • The position data and time have not been manually entered.	• Check the GPS receiver connection. • Enter the current position data and time.	p. 80 p. 27
Sensitivity is too low, and only strong signals can be heard.	• The antenna is defective or the coaxial cable connector is shorted or cut.	• Repair the problem and then reconnect to the antenna connector.	p. 82
The communication cannot be established	• The antenna is defective or the coaxial cable connector is shorted or cut.	• Repair the problem and then reconnect to the antenna connector.	p. 82
The received DSC call content is not printed out.	• The printer is not correctly connected, or the paper supply is exhausted.	• Check the printer connection or add paper.	p. 80
"The transceiver cannot receive or transmit. Contact your dealer." is displayed.	• The transceiver's Phase Lock Loop is unlocked.	• Contact your dealer.	–
The transceiver is locked up, and does not respond.	• A software error has occurred.	– (The transceiver will automatically restart after approximately 10 seconds has passed.)	–

■ I/O Sentences

◇ Version number

IEC61162-1 Ed.4(2010-11)

◇ GPS Input sentences (IEC 61162-1)

GGA, GLL, GNS, and RMC

◇ GPS Input sentence description

• GGA—Global positioning system (GPS) fix data

$--GGA,<u>hhmmss.ss</u>,<u>llll.ll</u>,<u>a</u>,<u>yyyyy.yy</u>,<u>a</u>,<u>x</u>,<u>xx</u>,<u>x.x</u>,<u>x.x</u>,<u>M</u>,<u>x.x</u>,<u>M</u>,<u>x.x</u>,<u>xxxx</u>*hh<CR><LF>
        1   2 3   4   5 6 7 8 9 10 11 12 13 14

#		#	
1	UTC of position (000000.00 to 235959.99)	8	Horizontal dilution of precision (no use)
2	Latitude (0000.0000 to 9000.0000)	9	Antenna altitude above/below mean sealevel (no use)
3	N/S	10	Unit M
4	Longitude (00000.0000 to 18000.0000)	11	Geoidal separation (no use)
5	E/W	12	Unit M
6	GPS quality indicator (1 to 5)	13	Age of differential GPS data (no use)
7	Number of satellites in use (no use)	14	Differential reference station ID (no use)

• GLL—Geographic position—Latitude/longitude

$--GLL,<u>llll.ll</u>,<u>a</u>,<u>yyyyy.yy</u>,<u>a</u>,<u>hhmmss.ss</u>,<u>A</u>,<u>a</u>*hh<CR><LF>
        1 2   3   4   5   6 7

#		#	
1	Latitude (0000.0000 to 9000.0000)	5	UTC of position (000000.00 to 235959.99)
2	N/S	6	Status (A=data valid, V= data invalid)
3	Longitude (00000.0000 to 18000.0000)	7	Mode indicator (A=Autonomous, D=Differential, N=No fix, S= Simulator mode)
4	E/W		

• GNS—GNSS fix data

$--GNS,<u>hhmmss.ss</u>,<u>llll.ll</u>,<u>a</u>,<u>yyyyy.yy</u>,<u>a</u>,<u>c--c</u>,<u>xx</u>,<u>x.x</u>,<u>x.x</u>,<u>x.x</u>,<u>x.x</u>,<u>x.x</u>,<u>a</u>*hh<CR><LF>
        1   2 3   4   5   6   7 8 9 10 11 12 13

#		#	
1	UTC of position (000000.00 to 235959.99)	8	HDOP (no use)
2	Latitude (0000.0000 to 9000.0000)	9	Antenna altitude, meters (no use)
3	N/S	10	Geoidal separation, meters (no use)
4	Longitude (00000.0000 to 18000.0000)	11	Age of differential data (no use)
5	E/W	12	Differential reference station ID (no use)
6	Mode indicator (N=No fix, A=Autonomous, D=Differential, P=Precise, R=Real Time Kinematic, F=Float RTK, S=Simulator mode)	13	Navigational status indicator (no use)
7	Total number of satellites in use (no use)		

• RMC—Recommended minimum specific GNSS data

$--RMC,<u>hhmmss.ss</u>,<u>A</u>,<u>llll.ll</u>,<u>a</u>,<u>yyyyy.yy</u>,<u>a</u>,<u>x.x</u>,<u>x.x</u>,<u>xxxxxx</u>,<u>x.x</u>,<u>a</u>,<u>a</u>,<u>a</u>*hh<CR><LF>
        1   2 3 4   5   6 7 8   9   10 11 12 13

#		#	
1	UTC of position fix (000000.00 to 235959.99)	8	Course Over Ground, degrees True (0.0 to 360.0)
2	Status (A=data valid, V=navigation receiver warning)	9	Date (010100 to 311249)
3	Latitude (0000.0000 to 9000.0000)	10	Magnetic variation, degrees (no use)
4	N/S	11	E/W
5	Longitude (00000.0000 to 18000.0000)	12	Mode Indicator (A=Autonomous, D=Differential, F=Float RTK, N=No fix, P=Precise, R=Real Time Kinematic, S=Simulator mode)
6	E/W	13	Navigational status indicator (no use)
7	Speed over ground, knots (0.0 to 100.0)		

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■ I/O Sentences

◇ Remote Input and Output sentences (IEC 61162-1)

Input: FSI (Set or Query),
Output: FSI (Query receive), DSC (DSC receive), DSE (DSC receive)

◇ Remote sentence description

• FSI—Frequency set status or command

$--FSI,xxxxxx,xxxxxx,c,x,a*hh<CR><LF>
       1   2   3 4 5

1	Transmitting frequency	3	Mode of operation
2	Receiving frequency	4	Power level
		5	Sentence status flag R=Sentence is a status report of current settings (use for a reply to a query). C=Sentence is a configuration command to change settings.

• Query sentence

$--CTQ,FSI*hh<CR><LF>
→ $CTFSI,xxxxxx,xxxxxx,c,x,R*hh<CR><LF>

• DSC – Digital selective calling information

$CTDSC,xx,xxxxxxxxxx,xx,xx,xx,x.x,x.x,xxxxxxxxx,xx,a,a*hh<CR><LF>
      1   2   3 4 5 6 7   8   9 10 11

1	Format Specifier (2 digits)	7	Time or Tel. No (Maximum 16 digits)
2	Address (10 digits)	8	MMSI of ship in distress (10 digits or NULL)
3	Category (2 digits or NULL)	9	Nature of Distress (2 digits or NULL)
4	Nature of Distress or First Telecommand (2 digits or NULL)	10	Acknowledgement (R=Acknowledge request, B=Acknowledgement, S=Neither (end of sequence))
5	Type of Communication or Second Telecommand (2 digits)	11	Expansion indicator (E or NULL)
6	Position or Channel/Frequency (Maximum 16 digits)		

• DSE – Expanded Digital Selective Calling

$CTDSE,x,x,a,xxxxxxxxxx,xx,c--c,………,xx,c--c*hh<CR><LF>
      1 2 3   4   5 6   7   8 9

1	Total number of sentences (fixed value)	6	Data set '1' (code field, Enhanced position resolution, Maximum 8 characters), NULL
2	Sentence number (fixed value)	7	Additional data sets[1], NULL
3	Query/Reply flag (fixed value A=Automatic)	8	Data set 'n' (NULL)[1]
4	Vessel MMSI (10 digits)	9	Data set 'n' (NULL)[1]
5	Data set '1' (code field, fixed value 00)		

[1] This transceiver outputs only "Data set 1."

■ Schematic diagram
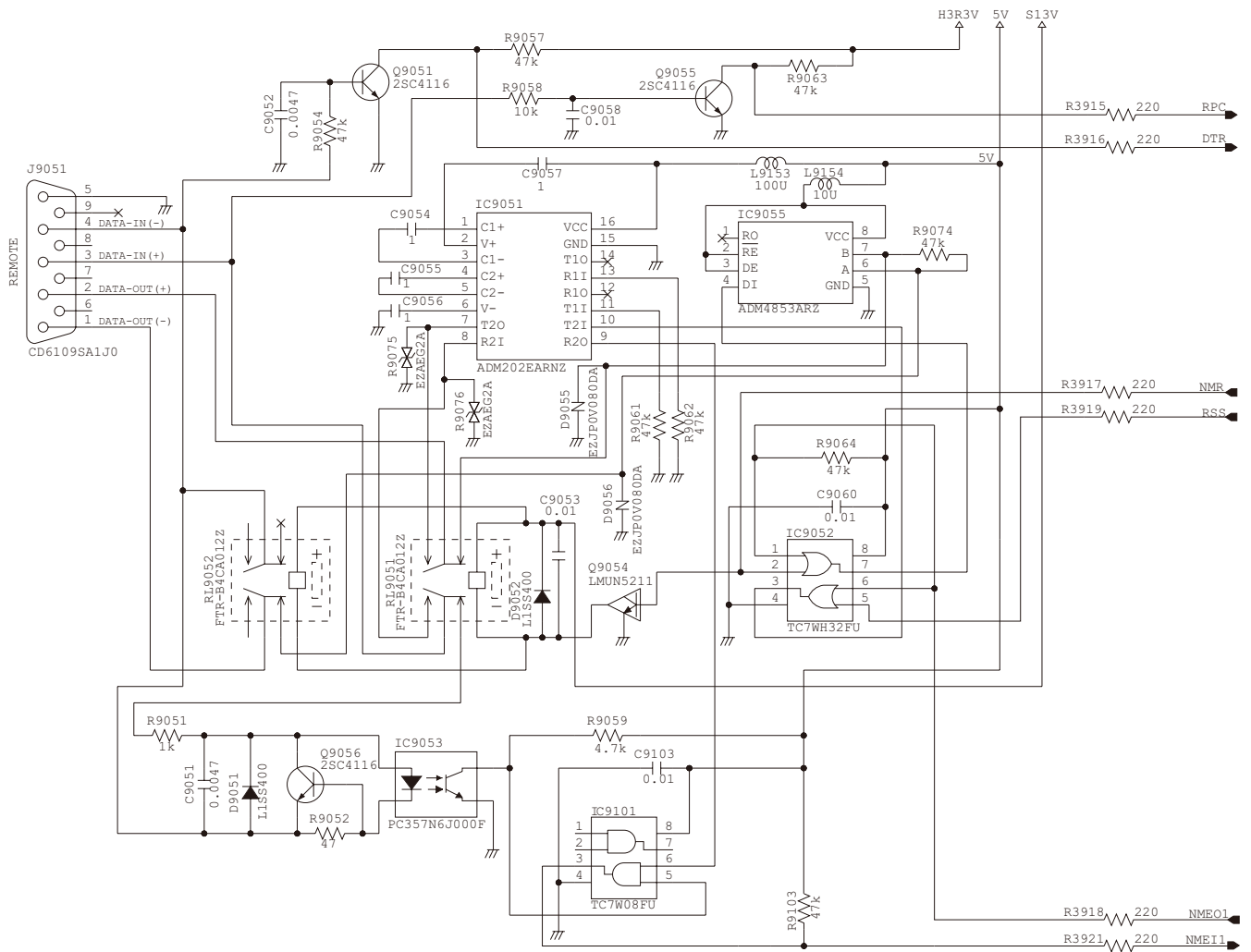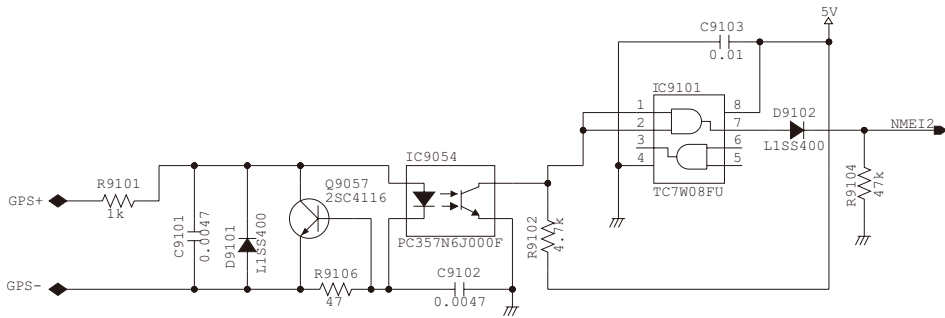
■ Hardware version

The transceiver's hardware version is described on the serial number label, as shown to the right.
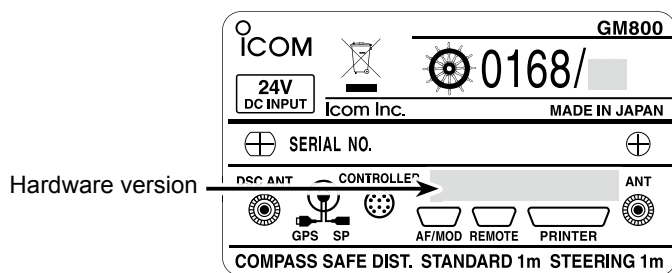
Hardware version

■ Software version

You can confirm the transceiver's software version in the Menu screen.

1. Push [MENU].
2. Select "Configuration."
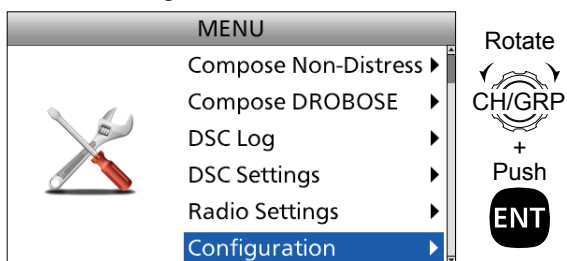
3. Select "Software Version."
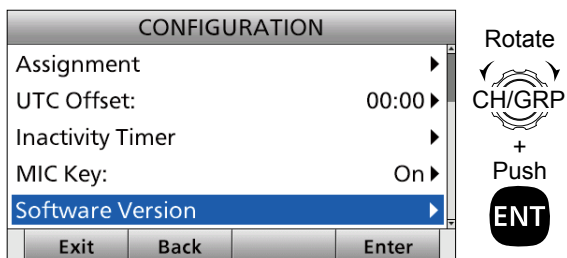
4. The transceiver's version and the front panel's software version are displayed.

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Count on us!

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