

1. Select a channel that was programmed for scrambler mode (the “” icon will appear on the display).
2. Monitor the channel before transmitting.
3. Transmit the voice message. The transmission sent will be scrambled.



8.16 DEMO MODE

This mode is used by Standard Horizon sales persons and dealers to demonstrate radio, DSC and AIS functions. Demo mode allows latitude, longitude and time to be entered to simulate radio displays. When the demo mode is enabled, the radio display will automatically switch from the NORMAL, COMPASS, WAYPOINT, AIS and GM displays.

NOTE

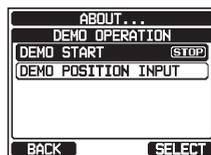
When demo mode is enabled and the radio is turned off and back on the radio will still be in the demo mode.

1.  → “**SETUP**” → “**ABOUT...**” → “**DEMO OPERATION**” → “**DEMO POSITION INPUT**”

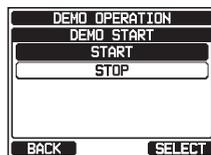
2. Enter the latitude/longitude of your vessel and your local UTC time in the 24-hour notation by the **DIAL/ENT** knob. Rotate the **DIAL/ENT** knob to select the number and press the **[SELECT]** soft key to move the cursor to the next character.



3. If a mistake was made entering in the latitude/longitude of your vessel and your local UTC time, rotate the **DIAL/ENT** knob to select “←” or “→”, press the **[SELECT]** soft key until the wrong character is selected, then perform step 2.
4. To store the data entered, press the **[FINISH]** soft key.
5. Rotate the **DIAL/ENT** knob to select “**DEMO START**”, then press the **[SELECT]** soft key.



6. Rotate the **DIAL/ENT** knob to select “**START**”, then press the **[SELECT]** soft key.



NOTE

To stop the demo mode, select “STOP” in step 6 above.

9 GPS OPERATION

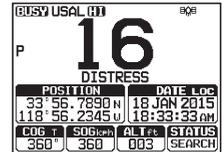
The **GX6000** has the optional **SCU-31** external GPS antenna to receive and display the position information. When the radio is connected to an external GPS device by the NMEA-0183 or NMEA2000, you may select the order of priority of the connection devices to be used when obtaining location information via the SETUP menu (Refer to section “**18.1 ORDER OF PRIORITY**”). Your position information as well as received positions can be memorized and utilized later for navigation.

9.1 DISPLAYING POSITION INFORMATION

9.1.1 GPS Information Numerical Display

1.  → “GPS” → “GPS INFO”

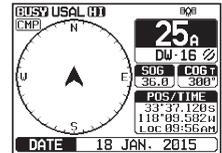
2. Display the numerical display.
3. Press the **CLEAR** key to return to radio operation.



9.1.2 GPS Information Compass Display

1.  → “GPS” → “COMPASS”

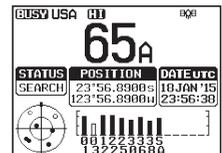
2. Display the compass display.
3. Press the **CLEAR** key to return to radio operation.
Note: Depending on the assignment of the soft keys you may switch the screen immediately from the basic display to the compass display by pressing the **[COMP]** soft key.



9.2 CHECKING GPS STATUS

1.  → “GPS” → “GPS STATUS”

2. Display the GPS status currently being received.
3. Press the **CLEAR** key to return to radio operation.



9.3 GPS LOGGER OPERATION

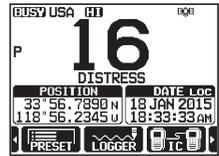
The **GX6000*** includes a logger for position information that allows you to record your location at regular intervals. (* Requires optional **SCU-31** GPS Receiver.)

1. Press the **[LOGGER]** soft key to turn the function on or off.

The recording starts and the display returns to the previous screen with the “” icon on the top of the display.

- You may change the log interval time of recording via the SETUP menu (Refer to section “**18.11.4 Logger Interval**”).

Note: To utilize the records, connect the **GX6000** to a PC and download the log data from the radio by using the PC Programming Software. Refer to section “**20 CONNECTING A USB DATA TERMINAL TO THE PC**”.



Logger operation alert:

- When the memory for log data becomes full, three beeps will sound and a warning message will be displayed. Afterwards the logger does not operate until the log data in the memory are erased.
- When the logger cannot record for some reason, three beeps will sound and a warning message will be displayed. Afterwards the logger does not operate anymore.
- An error message will be displayed when the radio cannot erase the log data in the memory during the operation following the alert of memory full (see above) or in the SETUP menu (Refer to section “**18.11.5 Log Erase**”).

10 DIGITAL SELECTIVE CALLING (DSC)

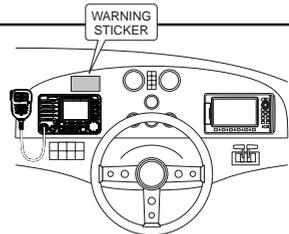
10.1 GENERAL

WARNING

This **GX6000** is designed to generate a digital maritime distress and safety call to facilitate search and rescue. To be effective as a safety device, this equipment must be used only within communication range of a shore-based VHF marine channel 70 distress and safety watch system. The range of signal may vary but under normal conditions should be approximately 20 nautical miles.

NOTE

A DSC Warning sticker is included with the **GX6000**. To comply with FCC regulations this sticker must be mounted in a location that can be easily viewed from the location of the **GX6000**.



Digital Selective Calling (DSC) is a semi-automated method of establishing a radio call, it has been designated by the International Maritime Organization (IMO) as an international standard for establishing VHF, MF and HF radio calls. It has also been designated as part of the Global Maritime Distress and Safety System (GMDSS). It is planned that DSC will eventually replace aural watches on distress frequencies and will be used to announce routine and urgent maritime safety information broadcasts.

This system allows mariners to instantly send a distress call with GPS position (when connected to the transceiver) to the Coast Guard and other vessels within range of the transmission. DSC will also allow mariners to initiate or receive Distress, Urgency, Safety, Routine, Position Request, and Position Report, Automatic Position Polling, and Group calls to or from another vessel equipped with a DSC transceiver.

10.2 DSC DISTRESS ALERT

The **GX6000** is capable of transmitting and receiving DSC distress messages to all DSC radios. Distress alert calls from the **GX6000** include the latitude and longitude of the vessel when the external GPS unit is activated.

10.2.1 Transmitting a DSC Distress Alert

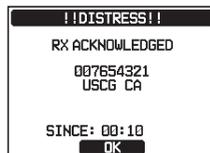
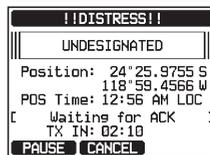
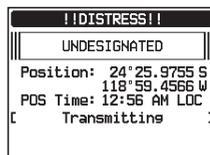
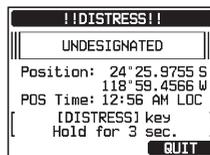
NOTE

To be able to transmit a DSC distress call, MMSI number must be programmed, refer to section “**7.6.1 Maritime Mobile Service Identity (MMSI)**”.

In order for your ship's location to be transmitted, the **GX6000** must be able to receive a valid position data from the SCU-31 external GPS antenna or other GPS device connected by NMEA 0183 or NEMA 2000. Refer to section “**7.5.3 Accessory Cables and NMEA 0183 Cables**”

Basic Operation

1. Lift the red spring loaded DISTRESS cover, press once and then press and hold the **DISTRESS** key for 3 seconds. The radio display will count down (3-2-1) and then transmit the distress call. The backlight of the display and keypad flashes while the radio's display is counting down.
2. When the distress signal is sent, the transceiver watches for a transmission on CH70 until an acknowledgment signal is received.
3. If no acknowledgment is received, the distress call is repeated in 4 minute intervals until a DSC acknowledgment is received.
4. When a DSC distress acknowledgment is received, a distress alarm sounds and Channel 16 is automatically selected. The display shows the MMSI of the ship responding to your distress.
5. Press the microphone's **PTT** switch and state your name, vessel name, number of persons on board and the distress situation, then say “**over**” and wait for a reply from the acknowledging ship.
6. To turn off the distress alarm before the radio retransmits the distress alert, press the **16/S** key or the **[QUIT]** soft key.



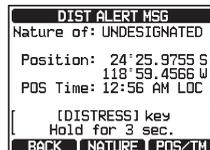
Transmitting a DSC Distress Alert with Nature of Distress

The **GX6000** is capable of transmitting a DSC distress alert with the following “Nature of Distress” categories:

Undesignated, Fire/Explosion, Flooding, Collision, Grounding, Capsizing, Sinking, Adrift, Abandoning, Piracy, MOB.

1.  → “DSC CALL” → “DIST ALERT MSG”

2. Press the **[NATURE]** soft key. The “NATURE OF” menu will appear on the display.



3. Rotate the **DIAL/ENT** knob to select the desired nature of distress category, then press the **[SELECT]** soft key.

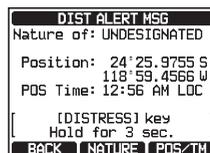
4. Press and hold the **DISTRESS** key until a distress alert is transmitted.

Transmitting a DSC Distress Alert by Manually Inputting Location and Time

In case the **GX6000** fails to get a GPS position fix, you may manually input your latitude and longitude, and time before transmitting the distress alert.

1.  → “DSC CALL” → “DIST ALERT MSG”

2. Press the **[POS/TM]** soft key.



3. Rotate the **DIAL/ENT** knob to select the first number of latitude, then press the **[SELECT]** soft key to step to the next number.

4. Repeat step 3 to set the position and time.

If a mistake was made, rotate the **DIAL/ENT** knob to select “←” or “→”, press the **[SELECT]** soft key until the wrong character is selected, then perform step 3.

5. When finished programming the position and time, press the **[FINISH]** soft key. The display will return to the previous screen.

6. Press and hold the **DISTRESS** key until a distress alert is transmitted.

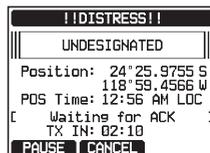


Pausing a DSC Distress Alert

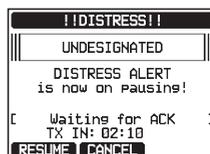
After a DSC distress call is transmitted, the DSC distress call is repeated every 4 minutes until the call is canceled by the user or until the radio is turned off and on again. The **GX6000** has the capability to suspend (pause) the retransmitting of the distress call by the procedure below.

1. After the distress call is transmitted, the radio will show the display as on the right.

Looking at this display you will notice "TX IN: 02:10", this is the time when the radio will re-transmit the DSC distress call.



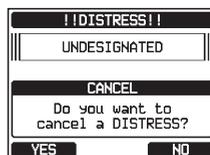
2. To suspend re-transmitting the DSC call, press the **[PAUSE]** soft key.
3. To resume counting down to transmit the DSC Distress call, press the **[RESUME]** soft key.



Canceling a DSC Distress Alert

If a DSC distress alert was sent by error the **GX6000** allows you to send a message to other vessels to cancel the distress call that was made.

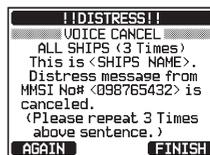
1. Press the **[CANCEL]** soft key, then press the **[YES]** soft key.



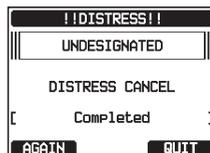
2. After the message for cancelling has been transmitted, press the **[OK]** soft key.



3. Press the **[FINISH]** soft key.

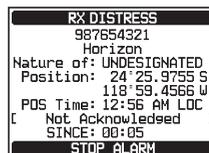


4. Press the **[QUIT]** soft key to return to radio operation.



10.2.2 Receiving a DSC Distress Alert

1. When a DSC distress call is received, an emergency alarm sounds.
2. Press any key to stop the alarm.



3. Rotate the **DIAL/ENT** knob to show information on the vessel in distress.

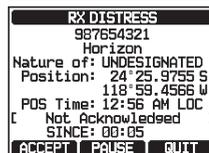
On the display you will notice 3 soft key selections. These selections are described below:

[ACCEPT]: Press this key to accept the DSC distress call and to switch to Channel 16.

Note: If a key is not pressed for 30 seconds or longer the radio will automatically switch to Channel 16. (“**AUTO CHANNEL CHANGE**” timer settings can be changed in “DSC SETUP” menu. The default setting is 30 sec.)

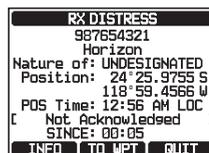
[PAUSE]: Press this key to temporarily disable automatic switching to Channel 16.

[QUIT]: Press this key to quit the automatic Channel 16 switching and revert to the last selected working channel.

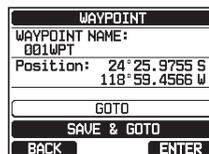


4. After accepting the call, press the **[TO WPT]** soft key to set the vessel in distress as a destination for navigation.

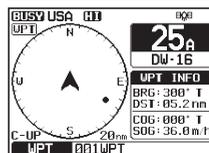
Note: You may change the waypoint name.



5. Rotate the **DIAL/ENT** knob key to select “**SAVE & GOTO**”, then press the **[SELECT]** soft key to change the display to the waypoint navigation screen. The display indicates the distance and direction of the distressed vessel, and the compass displays the distressed vessel by dot (●).



6. To stop navigating to a waypoint, press one of the soft keys, then press the **[STOP]** soft key. The radio is switched to the normal mode.



NOTE

- You must continue monitoring Channel 16 as a coast station may require assistance in the rescue attempt.
- When there is an unread distress alert, “✉” icon will appear on the display. You may review the unread distress alert from the DSC log, refer to the section “**10.11.2 Reviewing a Logged DSC RX Distress Call**”.
- Not all DSC radios can receive a DSC distress relay call.

10.3 ALL SHIPS CALL

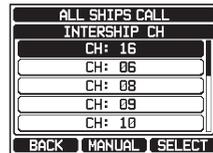
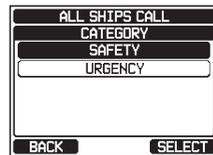
The all ships call function allows contact to be established with DSC equipped vessels without having their MMSI in the individual calling directory. Also, priority for the call can be designated as “Safety” or “Urgency”.

SAFETY Call: This type of call is used to transmit boating safety information to other vessels. This message usually contains information about an overdue boat, debris in the water, loss of a navigation aid or an important meteorological message. This call is the same as saying “Securite, Securite, Securite”.

URGENCY Call: This type of call is used when a vessel may not truly be in distress, but have a potential problem that may lead to a distress situation. This call is the same as saying “PAN PAN, PAN PAN, PAN PAN” on Channel 16.

10.3.1 Transmitting an All Ships Call

1.  → “DSC CALL” → “ALL SHIPS CALL”
2. Rotate the **DIAL/ENT** knob to select the nature of call (“**SAFETY**” or “**URGENCY**”), then press the [**SELECT**] soft key.
3. In the INTERSHIP CH list, rotate the **DIAL/ENT** knob to select the operating channel “.” on which you want to communicate, then press the [**SELECT**] soft key. To select operating channels from all voice channels, press the [**MANUAL**] soft key.
4. Press the [**YES**] soft key to transmit the selected type of all ships call.
5. After the all ships call is transmitted, the transceiver will switch to the selected channel.
6. Listen to the channel to make sure it is not busy, then key the microphone and say “PAN PAN, PAN PAN, PAN PAN” or “Securite, Securite, Securite” depending on the priority of the call.



- Press the **[QUIT]** soft key to exit the all ships call menu.



10.3.2 Receiving an All Ships Call

- When an all ships call is received, an emergency alarm will sound.

The display shows the MMSI of the vessel transmitting the all ships call and the radio will change to the requested channel after 30 seconds (the default setting of “AUTO CHANNEL CHANGE”).



- Press any key to stop the alarm.
- Monitor the requested channel until the all ships voice communication is completed.

On the display you will notice 3 soft key selections. These selections are described below:



[ACCEPT]: Press this key to accept the DSC all ships call and to switch to requested channel.

Note: If a key is not pressed for 30 seconds or longer the radio will automatically change to the requested channel (the default setting of “AUTO CHANNEL CHANGE”).

[PAUSE]: Press this key to temporarily disable automatic switching to the requested channel.

Note: In some cases, automatically switching to a requested channel might disrupt important ongoing communications. This feature allows commercial users to suspend channel switching and stay on the working channel selected before the all ships call was received.

[QUIT]: Press this key to quit the automatic channel switching and revert to the last selected working channel.

- Press the **[QUIT]** key to return to the channel display.



NOTE

When there is an unread all ships call, “” icon will appear on the display. You may review the unread all ships call from the DSC log, refer to the section “10.11.2 Reviewing a Logged DSC RX Distress Call”.

10.4 INDIVIDUAL CALL

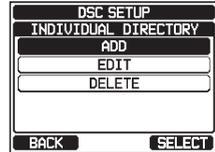
This feature allows the **GX6000** to contact another vessel with a DSC VHF radio and automatically switch the receiving radio to a desired communications channel. This feature is similar to calling a vessel on CH16 and requesting to go to another channel (switching to the channel is private between the two vessels). Up to 100 individual contacts may be programmed.

10.4.1 Setting up the Individual / Position Call Directory

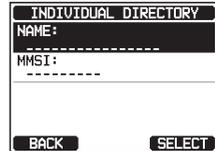
The **GX6000** has a DSC directory that allows you to store a vessel or person's name and the associated MMSI number you wish to contact via individual calls, auto polling, position request, position report, and polling transmissions. To transmit an individual call you must program this directory with information of the persons you wish to call, similar to a cellular phone's telephone directory.

1.  **“SETUP”**  **“DSC SETUP”**  **“INDIVIDUAL DIRECTORY”**

2. Rotate the **DIAL/ENT** knob to select **“ADD”**, then press the **[SELECT]** soft key.



3. Rotate the **DIAL/ENT** knob to select **“NAME:”**, then press the **[SELECT]** soft key.



4. Rotate the **DIAL/ENT** knob to scroll through the first letter of the name of the vessel or person you want to reference in the directory.



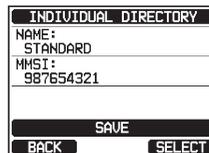
5. Press the **[SELECT]** soft key to store the first letter in the name and step to the next letter to the right.

6. Repeat steps 4 and 5 until the name is complete. The name can consist of up to fifteen characters, and if you do not use all fifteen characters, select **“→”** to move to the next space. This method can also be used to enter a blank space in the name.

If a mistake was made entering in the name, rotate the **DIAL/ENT** knob to select **“←”** or **“→”**, press the **[SELECT]** soft key until the wrong character is selected, then perform steps 4 and 5.

7. When finished entering the name (using fifteen characters or less), press the **[FINISH]** soft key to advance to the MMSI number entry.

8. Rotate the **DIAL/ENT** knob to select “**MMSI:**”, then press the **[SELECT]** soft key.
9. Rotate the **DIAL/ENT** knob to scroll through numbers, 0-9. To enter the desired number and move one space to the right by pressing the **[SELECT]** soft key. Repeat this procedure until all nine space of the MMSI number are entered.
If a mistake was made entering in the MMSI number, rotate the **DIAL/ENT** knob to select “←” or “→”, press the **[SELECT]** soft key until the wrong character is selected, then perform step 9.
10. When finished entering the MMSI number, press the **[FINISH]** soft key.
11. To store the entered data, rotate the **DIAL/ENT** knob to select “**SAVE**”, then press the **[SELECT]** soft key.
12. To enter another individual address, repeat steps 2 through 11.
13. Press the **CLEAR** key to return to radio operation.

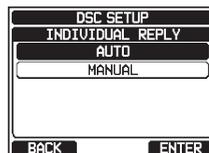


10.4.2 Setting up the Individual Call Reply

This menu item sets up the radio to automatically (default setting) or manually respond to a DSC individual call requesting you to switch to a working channel for voice communications. When “Manual” is selected the MMSI of the calling vessel is shown allowing you to see who is calling. This function is similar to caller id on a cellular phone.

1. **[MENU]** → “**SETUP**” → “**DSC SETUP**” → “**INDIVIDUAL REPLY**”

2. Rotate the **DIAL/ENT** knob to select “**AUTO**” or “**MANUAL**”.
3. Press the **[ENTER]** soft key to store the selected setting.
4. Press the **CLEAR** key to return to radio operation.

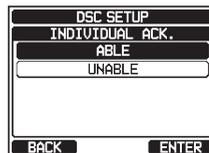


10.4.3 Enabling the Individual Call Acknowledgment

The radio can select either reply message “Able” (default) or “Unable” when the individual reply setting (described in the previous section) is set to “AUTOMATIC”.

1. **[MENU]** → “**SETUP**” → “**DSC SETUP**” → “**INDIVIDUAL ACK.**”

2. Rotate the **DIAL/ENT** knob to select “**ABLE**” or “**UNABLE**”.
3. Press the **[ENTER]** soft key to store the selected setting.
4. Press the **CLEAR** key to return to radio operation.

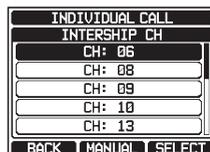
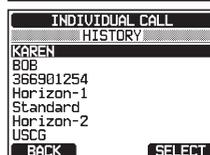
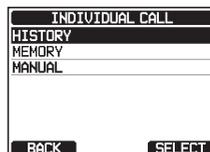


10.4.4 Transmitting an Individual Call

This feature allows the user to contact another vessel with a DSC radio. This feature is similar to calling a vessel on CH16 and requesting to go to another channel.

Individual Call using the Individual/Position Directory

1.  → “DSC CALL” → “INDIVIDUAL CALL”
2. Rotate the **DIAL/ENT** knob to select “**HISTORY**” or “**MEMORY**”, then press the **[SELECT]** soft key.
3. Rotate the **DIAL/ENT** knob to select an individual you want to contact, press the **[SELECT]** soft key.
4. In the INTERSHIP CH list, rotate the **DIAL/ENT** knob to select the operating channel on which you want to communicate, then press the **[SELECT]** soft key. To select operating channels from all voice channels, press the **[MANUAL]** soft key.
5. Press the **[YES]** soft key to transmit the individual DSC signal.
6. When an individual call acknowledgment is received, the established channel is automatically changed to the channel which is selected on step 4 above and a ringing tone sounds.
7. Press the **[QUIT]** soft key to listen to the channel to make sure it is not busy, then press the microphone’s **PTT** switch and talk into the microphone to communicate with the other vessel.

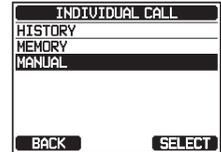


Individual Call by Manually Entering an MMSI

You may enter an MMSI number manually to contact without storing it in the individual directory.

1.  → "DSC CALL" → "INDIVIDUAL CALL"

2. Rotate the **DIAL/ENT** knob to select "**MANUAL**", then press the **[SELECT]** soft key.



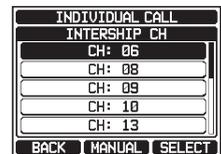
3. Rotate the **DIAL/ENT** knob to select the first number of the MMSI which you want to contact, then press the **[SELECT]** soft key to step to the next number.

4. Repeat step 3 to set the MMSI number (nine digits). If a mistake was made entering in the MMSI number, rotate the **DIAL/ENT** knob to select "←" or "→", press the **[SELECT]** soft key until the wrong character is selected, then perform step 3.



5. When finished entering the MMSI number, press the **[FINISH]** soft key.

6. In the INTERSHIP CH list, rotate the **DIAL/ENT** knob to select the operating channel on which you want to communicate, then press the **[SELECT]** soft key. To select operating channels from all voice channels, press the **[MANUAL]** soft key.



7. Press the **[YES]** soft key to transmit the individual DSC signal.



8. When an individual call acknowledgment is received, the established channel is automatically changed to the channel which is selected on step 6 above and a ringing tone sounds.



9. Press the **[QUIT]** soft key to listen to the channel to make sure it is not busy, then press the microphone's **PTT** switch and talk into the microphone to communicate with the other vessel.



10.4.5 Receiving an Individual Call

When an individual DSC call is received, the radio will automatically respond (default setting) to the calling ship, and switch to the requested channel for voice communications. Refer to section “**10.4.2 Setting up the Individual Call Reply**” to change the reply to manual if you want to see who is calling before replying to the call.

Automatic reply:

1. When an individual call is received, an individual call ringing alarm sounds.

The radio automatically switches to the requested channel. The display shows the MMSI of the vessel calling.



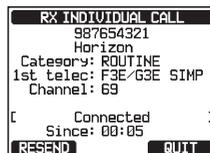
```
RX INDIVIDUAL CALL
987654321
Horizon
Category: ROUTINE
1st telec: F3E/G3E SIMP
Channel: 26
[ Connected ]
SINCE: 00:05
STOP ALARM
```

2. Press any key to stop the alarm.

3. Monitor the requested channel until the message is completed.

Press the microphone’s **PTT** switch and talk into the microphone to communicate with the vessel that initiated the individual call.

4. Press the **[QUIT]** soft key to return to radio operation.



```
RX INDIVIDUAL CALL
987654321
Horizon
Category: ROUTINE
1st telec: F3E/G3E SIMP
Channel: 69
[ Connected ]
Since: 00:05
RESEND QUIT
```

Manual reply:

1. When an individual call is received, an individual call ringing alarm sounds.

The display shows the MMSI of the vessel transmitting the individual call.



```
RX INDIVIDUAL CALL
987654321
Horizon
Category: ROUTINE
1st telec: F3E/G3E SIMP
Channel: 26
SINCE: 00:05
STOP ALARM
```

2. Press any key to stop the alarm.

3. On the display you will notice 3 soft key selections. These selections are described below:

[ACCEPT]: Press this key to accept the DSC individual call and to switch to requested channel.

[PAUSE]: Press this key to temporarily disable automatic switching to the requested channel.

Note: In some cases, automatically switching to a requested channel might disrupt important ongoing communications. This feature allows commercial users to suspend channel switching and stay on the working channel selected before the individual call was received.

[QUIT]: Press this key to quit the automatic channel switching and revert to the last selected working channel.

Note: If a key is not pressed for 30 seconds or longer the radio will automatically change to radio operation.



```
RX INDIVIDUAL CALL
987654321
Horizon
Category: ROUTINE
1st telec: F3E/G3E SIMP
Channel: 26
SINCE: 00:05
ACCEPT PAUSE QUIT
```